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LIST OF ILLUSTRATIONS.

1. Sierra, page 1.
4. The Feast from Hogarth’s “Elec-
   tive Fish.”—Seal-hunting at Derby, 116.
5. Four Evangelists, by Jordaens.
8. The Canons from Hogarth’s “Elec-
   tion,” 87.
10. Peeling the Bark from the Oak, 79.
11. Interior of Christ Church Hall, Oxford.
12. Magdalene Bridge and the Tower
   of Magdalene College, Oxford, 44.
15. Birthplace of Sir Walter Raleigh, 52.
17. Method of capturing Wild Ducks in the Fens of Lincolnshire, 60.
18. Pope’s Tree at Bishoft, Berks, 63.
19. Portrait of a Comte of La Trappe in Flanders, 68.
20. A Monk of La Trappe at his devotions, 69.
21. Portrait of Anne Coetzer, 70.
22. Tranepele, 71.
24. Egyptian Room in the British Museum, 163.
25. Shelly-sing, with interior and exterior of the shell, 164.
27. View on the Tyne, showing the
   Great Hall, Kenilworth, 166.
28. Illuminating Birds Extracting the
   Nectar and Eating Insects, 167.
29. The Horse and the Laden Ass, 177.
30. Bear and the Bees, 178.
32. Life-buoy in a Storm, 179.
33. Sir Thomas Lombe’s Silk mill at Derby, 110.
34. The Polling (‘Election’), Plate
   III., 112.
35. Mouth of a Coal-pit, 116.
36. Temple of Diana at Evora, 171.
37. Interior of Newark Castle, 197.
38. Canterbury Cathedral, 198.
39. Pit-bottom, 125.
40. Preparing to launch the Life-
   boat, and gathering the Coal, 127.
41. Pitman turning a “Reel” Drag-
   man, and Pool, and forming a
   “bob”, 127.
42. Sceawing Coals, 129.
43. Cathedral of Norwich, 130.
44. Avebury Ring, 133.
45. Battering-ram combined with
   hand, 133.
46. Bishop’s Throne, Durham Cather-
   dral, 134.
47. Pier of Monte Carlo at Rome, 135.
48. Salmon Harbour, showing the ter-
   mination of the River Thames, 134.
49. Norwich Cathedral, 135.
50. Mounts Sinai and Horeb, 136.
52. Jumping Fish, 155.
53. Jacob’s Blessing, by Rembrandt, 156.
55. The Bear and the Bees, 158.
56. Salmon Harbour, Co. Down, 159.
57. Ascent of Mount Sinai, 160.
58. Shepherds at Home, 161.
59. The Forum at Rome, 162.
60. The Dog and the Shadow, 163.
61. Hunting at the Gatehouse, 164.
62. Mounts Sinai and Horeb, 165.
63. Female Orang-outang at the
   Garden of the Fossil Eish of Ireland, 166.
64. Bathing-ram combined with hand, 167.
65. Mounts Sinai and Horeb, 168.
66. Tusk of a Sword-fish, 169.
67. Fox’s Nest, 170.
68. Jacob’s Blessing, by Rembrandt, 171.
69. View of Kenilworth Castle from the
   Gatehouse, 172.
70. Life-boats in the Fens of Lincoln-
   shire, 49.
71. Mt. of Mount Sinai (Horeb) with the
   Mounts Sinai and Horeb, 173.
72. Life-boats in the Fens of Lincoln-
   shire, 174.
73. Iceberg in the Fens of Lincolnshire, 49.
74. View on the Tyne, showing the
   Great Hall, Kenilworth, 166.
75. Illuminating Birds Extracting the
   Nectar and Eating Insects, 167.
76. The Horse and the Laden Ass, 177.
77. Bear and the Bees, 178.
78. Statue of the Goddess Diana, 4.
79. Life-buoy in a Storm, 179.
80. Temple of Diana at Evora, 171.
The common name of the animal represented in our wood-cut is but little descriptive of its character as many of the statements and opinions regarding its functions and condition are exaggerated or untrue. The name and the statements arose from the supposition of an analogy between it and other quadrupeds, which does not in fact exist; and from observations made upon its habits under circumstances totally opposed to the manifestation of the peculiar qualities which necessarily result from the peculiarities of its formation. Into the anatomical details of that formation we cannot here minutely enter. They may be found at length under the word 'Ari' in the Penny Cyclopedia.

The sloth, in its wild condition, spends its whole life on the trees, and never leaves them but through force or accident; and what is more extraordinary, it lives not upon the branches, like the squirrel and the monkey, but under them. Suspended from the branches it moves, and rests, and sleeps. So much of its anatomical structure as illustrates this peculiarity it is necessary to state. The arm and fore-arm of the sloth, taken together, are nearly twice the length of the hind-legs; and they are, both by their form and the manner in which they are joined to the body, quite incapacitated from acting in a perpendicular direction, or in supporting it upon the earth, as the bodies of other quadrupeds are supported by their legs. Hence, if the animal be placed upon a smooth and level surface, it falls sidelong; the wrist and ankle are joined to the fore-arm and leg in an oblique direction; so that the palm, or sole, instead of being directed downwards, towards the surface of the ground, as in other animals, is turned inward towards the body in such a manner that it is impossible for the sloth to place the sole of its foot flat down upon a level surface. It is compelled, under such circumstances, to rest upon the external edge of the foot.

The form and articulation of the posterior extremities is almost equally remarkable with the anterior. The formation of the pelvis alone is of such a nature as to render it impossible for sloths to walk after the manner of ordinary quadrupeds; and the mode in which the limbs are joined to the pelvis seems as if expressly arranged for the purpose of altogether depriving the animal of the ordinary use of its legs. The effect of this conformation is, that the sloth must pull or carry stationary objects as if they were a polished surface; but as the open ground is generally rough, with small protuberances, such as stones, roots of grass, &c., he extends his arms in all directions in search of something to lay hold of; and when he has succeeded, he pulls himself forward, and is thus enabled to trail himself along, but in the exceedingly awkward and tardy manner which has procured him the name of the "sloth." Mr. Waterton informs us that he kept a sloth in his room for several months, and often took him out of the house in order to have an opportunity of observing his motions. If the ground were rough, he would pull himself forward, in the manner just described, at a pretty good pace; and he invariably directed his course towards the nearest tree. But if he was placed upon a smooth and well-trodden part of the road, he appeared to be in much distress. Within doors, the favourite station of this sloth was on the back of a chair; and, after getting all his legs in a line on the topmost part of it, he would harness them for hours together, and often with a low and plaintive cry would seem to invite the notice of his master.

It should be observed that the sloth does not suspend himself head downward like the vampire,—but, when asleep, he supports himself from a branch parallel to the earth. He first seizes the branch with one arm, and then with the other; after which he brings up both his legs, one by one, to the same branch; so that all the four limbs are in a line. He rests in perfect security in this position, to which his whole structure is adapted. In this attitude the sloth has the power of using the fore paw as a hand in conveying food to his mouth, which he does with great address, retaining meantime a firm hold of the branch with the other three paws. In all his operations the enormous claws with which the sloth is provided are of indispensable service. They are so sharp and crooked that they readily seize upon the smallest inequalities in the surface of the branches and branches among which the animal habitually resides, and, united to the great muscular strength and rigid formation of the extremities, furnish very powerful weapons of defence.

All our readers are aware of the story that the sloth entirely confines himself to one tree, until he has completely stripped it of its leaves. But as, in the remote tropical forests which the animal inhabits, the trees touch each other in the greatest profusion, there is manifestly no reason why it should do this, since even the indolence with which it is so unjustly reproached would, in many cases, be more indulged by removing rather to an adjoining tree than to another part of that in which it actually is. Mr. Waterton says,—"During the many years I have ranged the forests, I have never seen a tree in such a state of nudity; indeed, I would hazard a conjecture, that, by the time the animal had finished the last of the old leaves, there would be a new set appearing on the top of the tree, to which it had stripped first, ready for him to begin again, so quick is the process of vegetation in these countries." The same entertaining writer thus describes the travels of the sloth. "There is a saying among the Indians, that when the wind blows the sloth begins to travel. In calm weather he remains tranquil, probably not liking to cling to the brittle extremity of the branches, lest they should break with him in passing from one tree to another; but as soon as the wind rises, the branches of the neighbouring trees become interwoven, and then the sloth seizes hold of them and pursues his journey in safety. There is seldom an entire day of calm in these forests. The trade wind generally sets in about ten o'clock in the morning. The sloth then travels at a good round pace; and were you to see him pass from tree to tree, as I have done, you would never think of calling him a sloth." In fact, the animal is distinguished among the Europeans settled in America by the name of Ai, from a plaintive, hollow cry, resembling that word, which it emits while in motion.

The sloth brings forth and suckles its young like ordinary quadrupeds. The young sloth, from the moment of its birth, clings to the body of its parent until it gains sufficient size and strength to shift for itself. Only a single young one is produced at a birth. Sloths are exceedingly tenacious of life. They have been seen to move their legs, and exhibit other symptoms of vivacity, a full half hour after having been deprived of the heart and other viscera. Waterton (in his naturalist's sports) states that he saw the heart of one beat for half an hour after it was taken out of the body; and adds, that the woural poison seems to be the only thing that will kill it quickly. An arrow dipped in it will kill a sloth in about ten minutes. It is a scarce and solitary animal, found only in the most gloomy and retired tropical forests of South America. Its flesh is much relished by the Indians, who are therefore in continual pursuit of it.

The common sloth has a short round head, furnished with coarse shaggy hair, disposed on the crown in verging rays, like that of the humas species. The face is of a yellowish colour, covered with very short hair, whilst that of the body and extremities is universally long and shaggy. The eyes are encircled by a brown ring. The hair of the body is varied with irregular patches of dark and light brown or silvery white. Between the shoulders there is an oval patch of short
orange-coloured hair, of a finer quality than that which is found on other parts of the body, and divided in the centre by a longitudinal black stripe: the throat and breast are frequently of a light straw colour. The texture of the hair is very peculiar, and has a nearer resemblance to dry hay, or grass shrivelled and withered by the sun, than to the hair of ordinary quadrupeds. It is coarse and flattened at the extremity, but near the root it is as small as the finest spider's web; and its dry and withered appearance forms the animal's principal security against its pursuers, as it renders it exceedingly difficult to be detected while at rest among the branches, covered with bark and moss of the same colour. It is only when in motion that it can be readily distinguished from the branch beneath which it hangs suspended. In two or three different individuals of the species differ considerably from one another in the shades and disposition of their colours, and in the intensity of the mark between the shoulders; some are even altogether destitute of this last mark, others are of a uniform ash-colour over the whole body, and there are others still which have the hair of the head parted more than in that of the young woman.

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The vermeir of such articles as may be used by a married pair, expecting similar assistance when a wedding takes place in their own family. This primitive custom is curious and interesting, and doubtless tends to the promotion of a neighbourly and social feeling among the people who adopt it; it is not without a bearing, I believe, on the actual utility of a practice which must often have the effect of facilitating the marriage of young people before they are in a condition to provide for the wants of their household. We subjoin copies of the different forms of invitation which have been sent to us:

WEDDING "BIDDINGS" IN WALES.

Some correspondents have favoured us with printed copies of the papers used as invitations to weddings among the lower classes in Wales, in some parts of which it is customary for the persons invited to make donations of money or of such articles as may be used by a married pair, expecting similar assistance when a wedding takes place in their own family. This primitive custom is curious and interesting, and doubtless tends to the promotion of a neighbourly and social feeling among the people who adopt it; it is not without a bearing, I believe, on the actual utility of a practice which must often have the effect of facilitating the marriage of young people before they are in a condition to provide for the wants of their household. We subjoin copies of the different forms of invitation which have been sent to us:

"May 7th, 1830.

As we, Benjamin Jones and Mary Coslett, intend to enter the matrimonial state on Friday, the 26th instant, the young woman intends to make a Bidding on the occasion at her father's house, called Llw-affe, in the parish of Llandilo-tal-y-bont, in the county of Glamorgan, where your agreeable company is humbly solicited; and whatever kindness your charitable heart should then grant will be accepted with congratulation and most lovely acknowledgment, carefully recorded and returned, with preparedness and joy, whenever a similar occasion overtakes you, by your affectionate servants,

David Joshua,

Mary Williams."

The customary form is that which is first given: the last seems a rather ambitious departure from the established precedent.

Anecdote of a Shepherd's Dog.—We often read of the sagacity of the shepherd's dog, but the scene of its manifestations is usually placed far away in the highlands of Scotland or Wales. Yet a person who notices the proceedings of the dogs employed to catch the drivers in conveying a flock to London or through its streets, might collect a large number of curious facts in illustration of its character. A correspondent informs us that, a short time since, a flock of about 200 sheep was advancing towards town by one of the northern roads. As it passed through the village of Totten-ham, about a dozen of the same species were seen approaching in the opposite direction; and the drivers of this small detachment became, as usual in such cases, anxious lest any of their diminutive number should desert to the stronger party; to prevent which, they got to the side of the road, and surrounded them, as it were, with a wall of men, until the larger flock should have passed. One of them, however, baffled all attempts to prevent his escape, and, forcing his way between the legs of the men who surrounded him, plunged into the midst of the other flock, in which he appeared, to the unpractised eye, completely lost. A vigorous pursuit immediately commenced, and the drivers, running to and fro, made every effort to recover the fugitive, until they were obliged, from mere exhaustion, to give over the endeavor. The head driver of the larger flock, who had looked on apparently enjoying the transaction, then gave the word to his dog, who dashed forward and brought the affair to a very speedy conclusion. He singled out the runaway without the least hesitation, and seizing him by the loose skin of his neck, bore him to the drivers; who, according to custom, put him fast until the drivers came up and fully secured him. The larger flock now passed on, and a bystander expressing his pleasure at the sagacity of the dog, the driver put the animal into vigorous employment; and he was seen now urging on the main body,—now restraining stragglers, now at his master's feet,—and now, again, circling the flock, and barking with all his might. After this display had continued for some time it was interrupted by an outcry from behind, after the stray sheep was seen removing his attempt at an escape. In this he again succeeded, although his pursuers were now aided by a number of bystanders: and the poor animal, no doubt thinking the coast clear, came bounding onward in eager haste. As before, however, his triumph did not last long; for the flock, who had again waited for the signal, encountered him in his career, and mastering him as before, delivered him a second and last right to his rightful owners!

Necessary Caution in Conversation.—If we did but reflect, it would be easy to observe that the too great desire of out-shining and dazzling others renders conversation distasteful. We are willing at any rate to give a great idea of our merit; this desire puts us upon a flow of talk, without giving others the leisure or opportunity to exert their small talents, and so they depart soured and provoked against those that have thus kept them in amusement.—Palmes' Aphorisms.
Diana, the daughter of Jupiter and Latona, received a worship among the Greeks nearly as extensive as that of her twin-brother, Apollo. She was the goddess of the woods and of the chase on earth, and also known as Luna in heaven and Hecate in hell. She was most recognized in the former character, in which she is frequently represented in ancient statues—as running with her veil shortened and girt around her, and yet flying back with the wind. She generally appears as tall of stature; and, in correspondence with the tastes assigned her, her countenance exhibits a somewhat manly expression combined with its feminine characteristics. Her legs are always bare, well-shaped, and strong; and her feet are sometimes naked, but oftener adorned with some sort of buskin or sandal. She generally has a quiver on her shoulder, and sometimes a
javelin, but more frequently a bow in her hand; and a dog is usually by her side or at her feet. The statues of Diana were, in ancient times, frequently placed in the woods, representing her as hunting, bathing, or reposing after fatigue. When, under other circumstances, Diana was represented as the intelligence that presides over the moon, she usually appeared in a car drawn by deer, but more commonly by white horses, with a lunar crown, or crescent, on her forehead. "Diana," says Winckelmann, "is the figure and air of a virgin more than any of the other superior goddesses. Gifted with all the attractions of her sex, she seems not to be aware of her beauty; yet her looks are not cast down like those of Pallas; her bright and cheerful eyes are directed toward the object of her delight—the chase. Her hair is gathered on all sides of her head, and forms behind, on her neck, a knot in the style used by virgins. Her shape is more light and slender than that of either Juno or Pallas. She has generally but a slight garment, which merely descends to her knees; and is the only goddess sometimes seen with the bosom uncovered."

This celebrated antiquary's description of Diana very nearly corresponds with the statue represented in our wood-cut. She is dressed in a short, plaited, and sleeveless tunic, which is confined by a sort of mantle passed over her left shoulder, and folded round her waist. The left hand is employed in holding back a fawn, while the right is raised to take an arrow from the quiver which is upon her shoulder. The legs are naked, but her feet are furnished with rich sandals. She seems in the act of protecting the hind which she holds with her left hand, while her looks are turned in apparent severity and anger in a direction opposite to that in which the animal is going. This hind is concluded to be the fabulous one of Mount Coryneum, with its brazen feet and antlers of gold, which was consecrated to Diana by the nymph Taygete, the daughter of Atlas. Hercules, when in subjection to Euryseus, received orders to bring this animal alive over her left shoulder, and folded round her waist. 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The charge of the calcining furnace, in process 1, is from three to three and a half tons of ore, and the calcining lasts twelve hours, the mass being frequently stirred to expose fresh surfaces. In the 2nd process the melted matter is let out at a hole opened in the side of the furnace into an adjoining pit filled with water, when it becomes covered with matte; that is, a mixture of coarse granns, which are collected in a pan at the bottom of the cistern. In this state it contains about one-third part of copper, the rest being iron and sulphur. The granulated metal is subjected to calcinations and fusions, alternately, as above described, until it comes to the 7th process, or roasting. The ore has now been advanced so far towards refining as to contain from eighty to ninety per cent. of pure metal. It has been run off from process 6, which are piled up in another furnace, and exposed to the action of strongly heated air, the temperature being gradually raised to the melting point, and thus the expulsion of the volatile impurities is completed. This operation lasts from twelve to twenty-four hours, and towards the end of it the metal is fused, and runs off into moulds formed in beds of sand. These bars, when cooled, are found to be covered with black blisters, and this is what is called blistered copper, which is subjected to the last process, or refining. In this the bars are put into the refining furnace, and gradually melted; the surface of the metal is covered with charcoal; and a pole, commonly of birch-wood, is then held in the liquid metal, which causes considerable ebullition, owing to the evolution of gaseous matter; and this operation of poleing is continued until the refining ascertains, by various trials, that the copper is in the proper state of purity and maleability. When he is satisfied of this, the melted copper is taken out in iron ladles, coated with clay, and poured into moulds, forming cakes twelve inches by eighteen, the form required by the manufacturer for ordinary purposes. When the copper is to be used for making brass, the metal is poured from the ladle into another ladle pierced in the bottom with holes, and supported over a cistern of water, when the copper consolidates in coarse grains like shot. At many smelting-houses there are rolling-mills, where the cakes or charcoal are manufactured into sheets and sheathing for ships.

There are copper-mines in other parts of the United Kingdom besides Cornwall; but their aggregate produce is less than one-fifth of that of Cornwall alone. Those near Tavistock, in Devonshire, on the borders of Cornwall, have yielded, in the last twenty years, from 300 to 550 tons of pure copper annually. But the most remarkable of all the copper-mines of the kingdom is, or rather was, that called the "Parys Mine," near Amlwch, in the northern part of the island of Anglesea. Mr. Hawkins, in his "Essay on the Copper Mines of Europe and Asia," says, in speaking of the Parys Mine, that, "the annuals of mining exhibit no instance of a mine so productive as this has been, accompanied with so little expense in working. The labour consisted in quarrying an immense mass of ore, which rose to the surface of the ground on the summit of a hill of moderate elevation." There is reason to suppose that the ore here was partially worked by the Romans, and in the reign of Elizabeth a grant was made of the mines to certain patentees; but it is evident that they had not discovered the great body of ore, for they were almost neglected for a century and a half. It was in 1678 that the vast treasure was discovered, which added immense wealth to the family of the Marquis of Anglesea, and raised to vast opulence the family of the Rev. Mr. Hughes, who at the time the discovery lived upon a small curacy in the eastern corner of Anglesea, but, fortunately, was part proprietor of this golden mountain. "The quantity of copper," says Mr. Hawkins, "which this single mine poured into the market for twelve years in succession, from 1773 to 1785, made such an impression as to lower the price of that metal throughout Europe, and to threaten the ruin of all the poorer mines of the kingdom." About the year 1785 the annual produce of the mine amounted to 3000 tons of copper, and in that year the aggregate produce of all the mines of Cornwall was not more than 4431 tons. Ten years afterwards, however, it had fallen off more than a third; and in 1817 it did not yield more than 330 tons. Shortly afterwards, by the able management of Mr. Vivian, the produce was raised to more than 600 tons; and in 1826 it was as much as 758. It has since again declined; for in 1832 it did not yield more than 575 tons. The Parys Mountain is composed of primary slate, and the ore is the same mixture of sulphur, copper, and iron which prevails in Cornwall. The great mass of it occurred at the summit of the mountain, and was in one place forty fathoms in width: it has been traced on a small scale to the distance of five miles.

Another mine, which was formerly of some importance, is that of Ecton, in Staffordshire, near Mixon a few miles eastward of the town of Leek. The ore is a copper pyrites, or combination with sulphur, and occurs in the limestone which constitutes subordinate beds in the prolongation of the millstone-grit and shale-formations of Derbyshire. (N, Diagram 1, in No. 51.) Plot, in his "Natural History of Staffordshire," published in 1656, says that it had then been left off as not worth working, copper coming cheaper from Sweden; but at a subsequent period the working was resumed, and with great success, for the mine produced at one time as much as twelve tons of pure copper per week. Its richest period was about 1750, after which it gradually declined; in 1820 the produce was 236 tons, and then there was a sudden failure, when they had recourse to the sides of the vein and other poorer ores formerly neglected. In 1822 the produce was only 38 tons.

Some trifling deposits of copper-ore have been worked, from time to time, in Caernarvonshire, Lancashire, Westmoreland, Cumberland, and the Isle of Man. A vein was discovered, about fifteen years ago, in slate-rocks very similar to those of Cornwall, near Gatehouse of Fleet, in the shire of Kirkcudbright; but the produce has hitherto been inconsiderable. The ores from this last mine, and from the others in the north of England, are sent to Swansea to be smelted. Copper was obtained a few years since in Mainland, one of the Shetland Islands, in a bed of limestone; a steam-engine was erected, and the produce for some time was not inconsiderable.

Some years ago copper-mines were worked at Cronehanne and Tregony, in the County of Wicklow, but the produce was never considerable: in the twelve years ending 1811 the average did not amount to more than eighty-seven tons of copper annually. The ore occurs in primary slate. Copper-ore has also been worked to a limited extent in Ross Island, on the Lake of Killarney.

The total produce of pure metal from all the copper-mines of the United Kingdom, in the year 1833, was as follows:

<table>
<thead>
<tr>
<th>County</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cornwall</td>
<td>11,185</td>
</tr>
<tr>
<td>Swansea Sales</td>
<td>1,158</td>
</tr>
<tr>
<td>from Ireland, Wales, &amp;c.</td>
<td>1,158</td>
</tr>
<tr>
<td>Devonshire</td>
<td>307</td>
</tr>
<tr>
<td>Anglesea</td>
<td>575</td>
</tr>
<tr>
<td>Cumberland and other places, smelted</td>
<td>1,200</td>
</tr>
<tr>
<td>in Staffordshire and Lancashire</td>
<td>13,345</td>
</tr>
</tbody>
</table>

The copper exported from the United Kingdom in the year ending January 5, 1834, was rather more than 7811 tons.
OLD TRAVELLERS.—BUSBEQUIUS.—No. II.

It was not until the 7th of December that the Pasha of Buda was well enough to give audience to the emperor's envoy. Although Busbequis had "sweetened him beforehand with some presents," he did not find the Pasha in an amiable or conceding humour. When he complained, according to his instructions received at Vienna, of the miseries of the people of various nations, as Turks, Greeks, Jews, Hungarians, Dalmatians, and others. After speaking of the two unsuccessful sieges laid to Belgrade by Amurath and by Mahomet II., who took Constantinople, he describes its final capture in 1520 by Solymann the Great, which misfortune he properly attributes to the impiety of Louis, the young king of Hungary, and to the mad factions of the Hungarian nobles, who, devoid of patriotism as of common sense, could not cease their quarrels even at the presence of a powerful and insidious enemy. The following reflections of our traveller will show the dread entertained of the Turks in some of the most potent monarchies of Europe.

"Belgrade taken, and this door being once opened, an Ilid of miseries broke in upon poor Hungary, of which she is sadly sensible to this day; for this pass being gained, there followed the slaughter of King Louis, the taking of Buda, the enslaving of Transylvania, and a flourishing kingdom hereby brought under the dominion of the sultan. Every town, every village, every family, every person was exposed to the attack of the marauding bands, called Turks, but plundered both alike, whenever they could. The vessel that carried Busbequis was towed along by a smaller one, in which there were twenty-four oars. The boatmen rowed night and day, excepting only a few short hours the poor souls borrowed for sleeping and eating.

During this passage our traveller was astonished, and made somewhat uncomfortable, by the temerity and heedlessness of these Turks, who rowed, or sailed on before a high wind, in the midst of the clouds and darkest nights, without taking any precaution. The river, moreover, was rapid, frequently obstructed by islets, banks, and the trunks and roots of great trees. One night as he was sleeping, his boat struck with a terrible crash. "This noise," he says, "awoke me; leaping out of my bed, I advised the mariners to be more cautious; but they lifted up their voices, giving me no answer but God will help; and so I might go on.""}

He embarked with his attendants, horses, coaches, &c., in some large boats that had been prepared for him, and began to descend the river Danube. This mode of conveyance was both quicker and safer than going by land, where he would have been exposed to the attacks of the marauding bands, called by the Hungarians, Hayducs, who in those troubled times were most mercifully excused by his condition and circumstances. The Turks, but plundered both alike, whenever they could. The vessel that carried Busbequis was towed along by a smaller one, in which there were twenty-four oars. The boatmen rowed night and day, excepting only a few short hours the poor souls borrowed for sleeping and eating.

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The priests who administered in this service were of the Greek church. In the church-yard we saw, erected on poles or long staves, several figures of stags, hinds, and such swift creatures, cut in wood. When I asked them the reason of this strange custom, they told us that their husbands or fathers did thereby intimate the celerity and diligence of the sowers and reapers in managing their husband's affairs when alive. Moreover, by some graves there hung long tresses of hair, which women or maidens had placed in testimony of their grief for the loss of their relations. "We were also informed, that it was the custom in Servia, after friends on both sides had agreed about the marriage of a young couple, for the bridegroom to snatch away the bride, as if by force, for they do not consider it becoming that a young maiden should go willingly away with her husband.

These curious observances were remnants of Pagan superstitions which, of one kind or another, adhered to most of the people of Europe long after they had embraced Christianity. Among the Greeks and the Romans they mainly kept the shape and character of classical mythology, under which faith their ancestors had been brought up; and among other nations and races of men they were moulded in the beliefs that had been handed down among them. Servians were part of the great Slave or Scylvanian race, whose physical traits, language, manners, and customs are to be traced at this day from the extremities of Russia to Dalmatia and the shores of the Adriatic, only a few leagues from Italy. But the funeral ceremonies of the Servians, as described by Busbequius, may still be detected as existing, either wholly or in part, over a much wider tract than this. They are found to prevail and return answers to them as well as he could, that he had come and waked my valet, desiring him to acquaint them with the precise hour. The Turks were glad to hear this, as it would save themselves much trouble and inconvenience. At first, however, they could not understand how any machine could do all this. "So in the morning betimes," says our traveller, "they came and awoke my valet, desiring him to acquaint them with the precise hour. The Turks were glad to hear this, as it would save themselves much trouble and inconvenience. At first, however, they could not understand how any machine could do all this.

Anecdote of Rooks.—(From a Correspondent at Lewes).

In a garden bordering on the outskirts of the town of Lewes is a walnut-tree, which, for the last thirty years, has been nearly stripped of its fruit by the common rooks. They begin their depredations just as the fruit is ripe, and carry it off with such expedition that the tree is seldom worth the trouble of thrashing. I have been amused for hours together by observing their proceedings. They come at first one by one, after another so quickly that I counted, one morning, fifty in twenty minutes, each taking one; and sometimes I have seen them carry away a whole bunch. Some of them are quite aloof. They fly towards the tree, and, when within ten yards, stop, and seem to float in the air for about a second, as if surveying the tree to discover what nuts are easiest of access; they then dart at the tree, and seldom miss their object, but if they do miss it, they find some difficulty in recovering their balance. Others, which I suppose are the vagabonds of the estate, proceed to the tree and knock a great many down before they can get one firmly enough in their beak to fly away with. The old ones will sometimes attack the young and oblige them to let their wings down; and when, at last, and with the certainty of aim, they will sometimes catch the walnut before it reaches the ground. They invariably fly into an adjoining field, where they break open the walnuts with their beak, and as soon as finished return for more, unless the report of a gun should frighten them. They have, to my recollection, been at this tree, year after year, for the last five years: there are other walnut-trees situated in the town, but they have not yet had the boldness to attack them.
THE SEAL.

In the natural history of seals there is very much that yet remains to be elucidated. This need not surprise us when we consider the ignorance which exists concerning mammalia much more within our reach than these marine animals. We have not, indeed, as Cuvier remarks, the means, except by deduction and analogy, of ascertaining the habits of these half amphibious animals, while procuring their sustenance at the bottom of the sea; nor have we often the opportunity of watching them, in an efficient manner, in their favourite haunts, the isolated sterile rock, or the most retired and deserted strand. We are, however, acquainted with the physical structure of the animal, and possess some knowledge of its character and habits.

The family of Phocæ includes a considerable variety of species, the distinguishing characteristics of which it is not necessary to enumerate. We shall state the circumstances of structure and habit in which they all agree, unless otherwise mentioned. The form of the body of the seal bears a general resemblance to that of a fish. The short limbs are chiefly enveloped in the common integument, the part which appears externally serving the purpose of a fin or paddle. The hind feet are placed at the extremity of the body in the same direction with it, serving the purpose of a caudal fin, the fore feet also are adapted to swimming; and the toes in both the fore and hind feet are furnished with claws, and united by a membrane. Neither the thighs nor legs of either the fore or hind extremities are visible, which gives an appearance of extreme shortness...
to the limbs. This occasions the animals to crawl on
and with great awkwardness and seeming difficulty;
but they move easily and gracefully in the water. By
means of their fore-feet they can lay hold of objects
with sufficient firmness to drag themselves up shores,
and even on shalows of ice, however slippery they may
be. Even on land they move with more quickness
than their appearance would lead one to expect; so
that it frequently happens that when they have been
dashed on the shore, wounded, hunters are unable to
hitch them before they get to the water's edge and throw
themselves in.

The tail is very short, and is placed between the hind
feet. Some of the species are furnished with external
ears, while others have only small auditory orifices.
The eyes are large and prominent; and the nostrils
open or close at the will of the animal. The upper
tip is provided with strong whiskers, and the body is
usually covered with hair. The internal structure of
seals is similar to that of land quadrupeds, and atmo-
spheric respiration is therefore indispensable to their
existence, though they are capable of remaining under
water a long time. In the arctic regions seals are
sometimes found under the ice at the distance of many
miles from open water; and they then form circular
breathing holes, even though the ice should be several
feet thick. These openings are kept clear; but the
surface is allowed to freeze over partially, so as to con-
ceal them effectually, except from very experienced
eyes. Cuvier remarks that the nostrils of the seal are
seldom opened except when it is desirous of expelling
the air from its lungs, or introducing fresh air. They
then assume a circular form. Respiration in the
seal is extremely unequal, and often performed after
long intervals. There are generally from eight to
ten seconds between each inspiration, and the operation
is sometimes suspended for half a minute without
apparent inconvenience. It would seem that the nostrils are
habitually closed, and that the act of opening them
is attended with some effort. The quantity of air,
however, that enters the lungs must be considerable,
to judge from the motion of the sides, and the air
expelled at each respiration. The quantity of the air
seems to compensate for the paucity of the inspirations;
for few animals have more natural heat or a greater
quantity of blood than the seal.

The dental system varies considerably in the different
species, and would seem to indicate a corresponding
diversity in their habits; but the form of the teeth and
jaws shows them to be mostly carnivorous, and their
food appears to consist generally of fish, crabs, and
sea-birds, which they are able to surprise while swim-
m. The mastication, at least in the common seal,
goes no farther than to reduce the prey to such dimen-
sions as may render it barely capable of passing the
larynx and esophagus. To produce this effect the animals;
but merely to contract it in size. Sometimes they
will tear their prey with their claws; but they are more
frequently observed to swallow it entire, even when
apparently too large for their mouths. Thus they are
frequently compelled to raise their heads to facilitate
the operation of deglutition, so that the weight of the
aliments may contribute to make them slide into the
esophagus and stomach, and favour the efforts of the
muscles. Nature has facilitated this operation, not
only by providing the aliment with the means of dis-
tending excessively all the parts through which the
aliment must pass, but has also supplied them abun-
dantly with a viscous saliva, which fills the mouth to
such a degree, that during deglutition it escapes in
long threads; and this is also observed to take place
even when the seal only perceives its prey.

The females produce two or three young, generally
in the winter season; continue to feed them for about
a fortnight in the place where they were brought forth;
and suckle them nearly in an upright position, resting
on their hind legs. When the cubs have acquired
sufficient strength to contend with the waves, the
mother conducts them to the water, and teaches them
to swim about in search of food. The attachment
of seals to others of the same species, and especially
to their own offspring, is highly interesting. When
in danger, the safety of her cubs is the chief object of
attention with the mother, and even when badly wounded
she is often known to succeed in carrying them off
to sea in her mouth. The male parent, particularly of
the urine seal, seems to take scarcely less delight in
the young than the mother. While basking in the sun
upon the shore, he eyes them with the greatest com-
placency, and expresses his satisfaction by licking and
kissing them as they sport and tumble about, and
engage in sham fights before him. Seals are many
years in attaining their full growth, and Buffon is
inclined to believe that the duration of their lives often
extends beyond a century.

All the species of seal live in herds, or families, more
or less numerous, along the shores of the sea, and are
fond of sunning themselves, and of sleeping upon the
beaches, rocks, or ice-banks. When they do this in
situations in which they are apprehensive of danger,
instinct, or perhaps we should say experience, has
taught them to take the precaution to post a sentinel
to give an alarm when he observes any thing to excite
apprehension: besides which, the common seal, while
thus reposing, raises its head at frequent intervals, and
looks around to observe that all is safe within its range
of vision. In situations where they rarely experience
disturbance, they sleep very profoundly and are easily
surprised. In Iceland, and perhaps elsewhere, the seal
has also a useful friend in the great sea-gull. In that
country, the sportsmen, who are usually well acquainted
with the haunts of the seal, raise up little bulwarks to
conceal their approach, or wait for them behind a rock;
the gull, however, understands these approaches, and
frequently baffles all the precautions of the hunter by
flying over his head and screaming close to the seal.
If the latter does not take the alarm, the bird strikes him
on the head, and as soon as he slips into the water seems
perfectly conscious that he is no longer in danger*

Fights sometimes occur between the different species,
between different herds of the same species, and be-
 tween some species and the bears. But seals are
generally of a pacific disposition: they avoid man
when it is in their power to do so; but, when they
have no other resource, defend themselves with a great
deal of courage. They are in general very tenacious
of life, and survive wounds which would kill most
other quadrupeds. The size of the animal varies ex-
cedingly in the different species. The full-grown
bottle-nose seal measures from eleven to eighteen feet
in length, and from seven to eleven in circumference;
the length of the morse is from fifteen to eighteen
feet, and that of the common seal is only from four to six
feet. The flesh of some species is held in considerable
estimation, while that of others is scarcely eatable, even
by sailors long confined to salt food.

Few quadrupeds are so extensively diffused, in the
different species, as the seals. They in general
seem to prefer cold climates, but there is scarcely any
sea on the shores of which they are not found. The
appearance of the common seal is quite familiar on the
northern and western shores of Scotland. Though
properly a marine animal, the seal is found in fresh-

water lakes, as those of Baikal, Ladoga, and Onega; but in such situations it is of an unusually small size, but so fat as to appear almost a shapeless mass. Seals, indeed, become in general very fat. They feed, as well as their skins, are important objects of commerce. The oil is pure, and adapted to all the purposes for which whale oil is used; and the skins are extensively employed by trunk-makers, saddlers, hatters, and others. Expeditions are fitted out from Europe and the United States for the sole purpose of catching seals. The Americans, in particular, annually visit the South Seas in search of these quadrupeds. A "sealing" voyage, with them, sometimes lasts three or more years, and the crews are exposed to very great hardships: they are often left in detachments upon small desert islands for months, for the purpose of hunting the animals to greater advantage; and years have sometimes elapsed before they have been able to obtain a release.

The seals are still more important to the natives of the barbarous countries on whose shores they are most abundantly found than to Europeans. The following account of the uses of the animal to the Aleutian islanders, from Langsdorff's Voyage round the World, is very generally applicable in such circumstances.

"The animal forms such an essential article to the subsistence of the Aleutians in a variety of ways, that it may be truly said they would not know how to live without it. Of its skin they make clothes, carpets, thongs, shoes, and many household utensils; nay, their canoes are made of a wooden skeleton with the skin of the sea-dog (the common seal) stretched over it. The flesh is eaten, and of the fat an oil is made, which, besides being used as an article of nourishment, serves to warm and light their huts. The æsophagus is used for making breeches and boots, and the large blown-up paunch serves as a vessel for storing up liquors of all kinds. Of the entrails are made garments to defend against rain, and they also serve instead of glass to admit light into their habitations: the bristles of the beard are used, like ostrich feathers in Europe, as ornaments for the head; there is, consequently, no part of the animal that is not turned to some use."

The hunting of seals is consequently prosecuted with great eagerness, and in various modes, by the Greenlanders, Finlanders and others. The mode generally used by the former people is exhibited in our engraving. The Kamtschatakadales connect strong ideas of honour do appear then, and toward evening, when they walk or ornaments for the head; there is, consequently, no part of the primitive and quiet people (Moravians) of Germany, and planted, unaltered, far away in the wastehowling wilderness."

Sarepta is a small town in that empire, situated about twenty-four miles below the town of Tzaritzin, on the river Sarpa, near the point of its junction with the great river Volga. It is therefore situated so near the line which separates Europe from Asia, that it seems not at all agreed which division of the globe it is in. The circumstances that invest Sarepta with the interest to which we have alluded, are those which render it an oasis, both natural and physical, in the wilderness and solitary place where it stands; a spot marked out in the midst of the naked desert, and planted and made fruitful by the hand of man; in this spot stands a town, from which the traveller may proceed in any given direction for thousands of miles without finding another in the least resembling it. Instead of cottages built with the trunks of trees, and arranged in one long street, as is customary in the small towns and large villages of Russia, the town is laid out in several wide streets, all of which meet in a fine large square, in the midst of which there is a fountain; and the houses, some of which are large and all commodious, are built of brick and stone; the front too is usually covered with plaster washed with lime or yellow ochre, while before each house, as is common in England, but rare in Russia, there is a little ruled garden for choice flowers. The streets are also lined and the square ornamented with fine tall poplars; and every thing concurs to give to the traveller such a feeling of the moral beauty of neatness and order as it is scarcely possible he can ever again realize, because so strong and beautiful a contrast to all that a most extensive region exhibits can hardly elsewhere be found.

This is Sarepta. It seemed to us, when we first saw it, as if the little town, with its gardens, vineyards, and cultivated lands, had been suddenly uprooted from the very thick of European civilization in England or Germany, and planted, unaltered, far away in the "waste howling wilderness."

The primitive and quiet people (Moravians) of German parentage who inhabit the town perfectly harmonize, in appearance and character, with the circumstances of the place, and the impression they convey. In the day-time so few people appear abroad that the town seems to be almost deserted; but those who do appear then, and towards evening, when they walk abroad or sit at their doors, are uniformly clean and neat, though homely in their appearance. .. ssed; and in their traffic they are the headventurous sportsmen mit disgracefultoleaveonlypeopleforthousandsofmilesaroundthem who

SAREPTA.  
[From a Correspondent.]

There are towns which the gazetteers dismiss in three or four lines, and the names of which are printed in small letters in the map, if they find a place there at all. Yet some of them are, from peculiar circumstances, invested with such interest, that their images are distinctly pictured on the traveller's mind, and their remembrance more frequently recurs than many of much more pretension. Sarepta is one of these places; and though seldom described in books of reference, it occupies a place of considerable prominence among our own recollections of a journey performed, in the year 1829, from St. Petersburgh to the southern limit of the Russian empire.

We were informed that the population of the place amounted to 400, and had never exceeded 300. From the comparative solitude of the streets, the traveller would hesitate to think the number of people nearly so large as even this, unless the Sunday afforded him an opportunity of observing almost the entire population proceeding towards their neat and spacious chapel, the women in their plain linen dresses, with whitewashed but not unbecoming little white caps; and the men in their holiday clothes, with red-edged books under their arms.
Until an opportunity is thus afforded of counting the number of the hands subject to the operation of a principle which regards idleness as a crime, and perhaps until their operations are well inspected, no idea can be formed of the activity which reigns in this little colony. In this remote and quiet place there is a great deal of business going on, without any bustle or stir to denote its presence. The manufactures of this little town are held in high esteem throughout the Russian empire for solid and superior fabric, and may be found as "strongly recommended" articles in the shops of Moscow and St. Petersburg. There are mills, distilleries, tanneries, &c.; and while all the handicraft trades are practised, there are important manufactures carried on of silk, cotton, and linen hose, candles, soap, snuff; and they manufacture a peculiar cap of coloured cotton, which is much in demand among the wives of the Don Cossacks. The spot inhabited by these industrious and worthy Herrnhutters is little favoured by nature; nevertheless, the care and skill of man, and the force of industry, have invested the stubborn soil with cultivated fields, rich meadows, vineyards, orchards, and beautiful gardens. These furnish, besides grain, most species of fruits and legumes; tobacco also is cultivated, which, together with the little wine and more brandy, made from the produce of their vineyards, furnish objects of advantageous traffic. From their raisins they also extract a syrup which is employed for the same uses as sugar. Besides their own manufactures and produce, articles from remote countries may be found in their warehouses. But no other than genuine articles—none pretending to be what they are not—could be seen there. Thus, English cutlery of the best sort could be obtained at a price which, considering the distance, strikes one as remarkably low; but none of the common hardware useful by the inhabitants themselves or sold by them to others.

Such is Sarepta—beautiful and dignified in all the simple beauties and dignities of civilization; and with little of the crime and evil within its walls which too frequently disgrace the dwellings of civilized men. But a walk of ten minutes from the centre of Sarepta conducts the traveller into the desert where the soil cracks beneath his feet, and from these well-built and comfortable houses of European civilization to the dark tents of the Kalmucks and strange features of a different and barbarous race of men. It is not in language to express the effect produced on the mind of a stranger by the close approximation of human beings and forms of society so completely different; and this effect is the stronger from the fact that a person traveling towards Astrakanh encounters the encampments of the Kalmucks for the first time in the neighbourhood of Sarepta; the force of the contrast is therefore not weakened by any previous familiarity with this remarkable people and their modes of life. One of the three great hordes into which they are divided frequents the neighbourhood of Sarepta during the summer months, and had not all removed when we arrived at the town.

Our limits only allow us to state the history of Sarepta very briefly. The desire of the Moravians to render themselves serviceable to the Kalmucks being known, the Empress Catherine, in 1764, issued an edict for regulating the conduct of their subjects with respect to the land belonging to the settlement. The settlers have failed in their attempts to extend the benefits of religious instruction to the Kalmucks, and the object has now for several years been relinquished.

HOGARTH AND HIS WORKS.—No. IX.

The Election.—Plate I.

Does the picture before us altogether represent a past state of society? We fear not. A great change in our laws has swept away many of the constituencies who were most open to the evil influences of electioneering riot and corruption; but are there not many still among us who look with solemn fear upon the vagaries of ambition, lightly and selfishly—who seek in its exercise for some gratification of their vanity, or their sensuality, or their avarice? As long as this social ignorance exists, Hogarth's prints of "the Election" will have more than historical truth. They will be bitter satires, in which every venal elector may find a record of his own crimes and follies.

Hogarth's Election prints are four in number:—1, The Feast; 2, the Canvas; 3, The Polling; 4, The Chaining. They were published separately: the first appearing in 1755, and the last in 1758. The "treaty," which was in Hogarth's time so extensively employed for the debasement of electors, has been greatly curtailed by statute and by custom. But the evil practice still exists; and men who are about to discharge a duty which requires a sound exercise of the judgment, are, in some places, kept in a state of riotous excess, which utterly disqualifies them for making a wise and honest choice of a representative. We are much improved, no doubt, since Hogarth's time; and there are many amongst us who apply themselves to the discharge of the elective trust with the high spirit and conscientious prudence which show their sense of the obligation by which they are bound to their country to make a fit choice of one who is to protect the dearest interests of the community. But there are others, we apprehend, who would still "sell" their birthright for a mess of pottage. May they learn better.

"The Election Feast" is, in many respects, one of the most wonderful of Hogarth's performances. The inexhaustible variety of character, and the distinctness with which the whole scene is brought out by the action and expression of the several groups and individuals, are apparent to the most superficial observation. To a person acquainted with the principles of art, the skill with which the scene is managed appears as perfect in its kind as the composition of any of the great pictures of the historical school. But let us endeavour to give a key to this remarkable work.

The candidate is at the top of the table, on the left of the picture. An old woman, such as the "fat woman of Brentford," in Shakspeare's "Merry Wives" is opposing him with her caresses. An elector is knocking their heads together, in the spirit of impudent familiarity which election license engenders. In the foreground, near the candidate, is a dealer in haberdashery, who has
brought his ribands and gloves to bribe the electors' wives; he is paid by a promissory note, which he does not appear much to relish. The man in the wig, on the left of the candidate, is a person of some rank, who is writhing under the coarse jokes of the fellows at his side. The gluttonous clergyman next this group, who is suffering from the heated room and the chafing-dish near him, over which he is warming his venison, is a character which of course is extinct. The practical jesters who are amusing themselves and their companions—the one by comparing chins with the fiddler, the other by making up the back of his hand to represent his neighbour's rueful face—belong to every age. The alderman at the bottom of the table in a fit of apoplexy—the wife threatening her husband with domestic vengeance if he refuses the tempting bribe, whose temptation is to be found in the rags of his little boy—the attorney knocked off his chair by a brickbat which has come through the window—and the man on the floor having gin poured upon his broken head—are fair examples of election occurrences, wherever men have not learnt to forego greediness, venality, and mob violence. These things will perhaps always exist where there is popular ignorance. The flags of the rival candidates in Hogarth's print show the materials with which prejudice and passion work. On one is written "Give us our eleven days;"—in allusion to the alteration of style, which was an unpopular measure;—on another, carried by the mob without, appears "No Jews!"

We cannot attempt any minuter description of the print: it will bear a careful study.
OLD TRAVELLERS.—BUSBEQUIUS.—No. III.

From Nissa Busbequius travelled on to Sophia, which was once the capital of the kings of Bulgaria, and then of the despots of Servia, until they were conquered by the Turks. He found it "a town large enough, and well inhabited both by citizens and strangers."

From Sophia, or St. Sophia, as it is frequently called, he continued his journey for several days "through the pleasant and not unfruitful valleys of Bulgaria." All the time he was in that country the only sort of bread he could get were cakes baked under ashes upon the hearth. "The women and maidens," he says, "do sell them, for they have no bakers in those parts; and when they see any travellers coming that are likely to pay for what they eat, immediately they knead a little dough with water, without any leaven, and lay it upon tiles, under the ashes, and so bring out their cakes piping hot, and sell them for a very trifling matter: other victuals being also very cheap there by them with several stripes of fanciful needle-work in colours, and with this loose parti-coloured habit they mightily please themselves; so that when they saw our shirts, made of the finest linen, they much wondered at our modesty that we should be content to wear them unseen under our clothes, and without having various works of divers colours upon them."

He was much struck with the garments and head-dress of the Bulgarian women. Of the first he says, "They commonly wear nothing save a wide long smock or shift, made of linen thread, but as coarse as our sack-cloths. And yet these coarse garments are worked by them with several stripes of fanciful needle-work in colours, and with this loose parti-coloured habit they mightily please themselves; so that when they saw our shirts, made of the finest linen, they much wondered at our modesty that we should be content to wear them unseen under our clothes, and without having various works of divers colours upon them."

Of the second he says, "But that which I most admired in them were the towers they wore on their heads. They were made of straw. The figure of these hats differs from that of the hats women wear in our country, for ours hang down on the shoulders, and the lowest part of the hat is the broadest, and thence it rises, as it were, into a pyramid at top; but theirs is narrowed below, and thence rises up like the shape of a huge spinning-top to a great height above the head; and also the crown, or that part of the hat that looks upwards toward the sky, is both very capacious and very open, so that it seems made to take in rain, as ours are to shelter us against it. But in the space which lies between the upper and lower part of the hat, they hang pieces of coia, little pictures or images, small parcels of paper, or what other ornaments, though near so mean; and all these things are accounted very ornamental among them. These hats make them look taller and more majestic than they really are; but they are easily blown off their heads by a gust of wind, and do, indeed, by any slight motion, fall of themselves."

After these descriptions of their toilette, he indulges in the following quaint style of reflection:—

"When they appeared to us in this dress, methought they resembled Clytemnestra, or some Hecuba or other, in the flourishing time of Troy. The sight suggested to me some pious meditations, viz., how frail and changeable a thing that is called 'nobility of birth': for when I asked of some of those lasses, they that seemed the handsomest among them, concerning their stock and lineage, they told me they were descended from the chief nobles of that country; and some of them were of a royal progeny, though now it was their fate to make their bread; for their lands, their houses, their honours was very little esteemed in the dominions held by the Turks."

The Bulgarians, like the Servians, are of the great Slavonian family. They speak a dialect of the Slave or Slavonian language, differing little from those spoken in Russia, Poland, Servia, Bohemia, Dalmatia, &c. In the last Russian war against Turkey, the Muscovite troops could converse with these inoffensive peasants without much difficulty. "It is thought," says Busbequius, "that the Bulgarians had their origin in Scythia, near the river Volga, and that they changed their habitations, and came into these parts of Europe, when other nations or hordes, either compelled by force or prompted by choice, changed theirs; and that they were called Bulgarians, i.e. Volgarians, from the river Volga, aforesaid."

Several modern travellers who have visited Bulgaria have been struck with the resemblance its rude villages and pastoral settlements bear to the descriptions we have of Scythian or Tartar towns."

"After their migration from the Volga," continues Busbequius, "they fixed their habitations upon those parts of Mount Haemus that lie between Sophia and Philippopolis, which country is naturally very strong. There, for a long time, they baffled all the power of the Grecian emperors, and killed Baldwin the elder, Earl of Flanders, then Emperor of Constantinople, after they had taken him in a hot skirmish. Yet for all this they were not able to resist the powerful Turks, but were overcome and miserably enslaved by them."

They are now, next to the Armenians, the most peaceful subjects in the sultan's dominions; though, during the late war, they are said to have shown a decided partiality to their co-religionists the Russians, who, moreover, spring from the same great race as themselves. In their native mountains the Bulgarians are nearly all shepherds or herdsmen. They are fond of dancing and music. Their favourite instrument is the bag-pipe, which, as we have said on a former occasion, when describing it among the shepherds of the Abruzzi in Italy, is found in nearly all the mountainous countries of the world. Every spring a certain number of these poor fellows go to Constantinople, to attend the sultan's numerous stud that are then sent out to grass in the "Valley of the Sweet Waters,"—a beautiful place at the end of the Golden Horn, or port. In consideration of this service they are exempted from the kharatch, or poll-tax, paid by the subjects in Turkey, and enjoy a few trifling privileges. Rude as their skill is, it covers their expenses on the road. They generally contrive to reach the capital a week or two before the sultan's horses are confined to their care. They spend their time profitably in playing and dancing in the streets and coffee-houses of Constantinople, where the Turks reward them with paras; and even afterwards, when with the horses at the "Sweet Waters," they are often fitten of employing their talents; for that spot is crowded on every holiday with Turks, Greeks, Armenians, Jews, and Franks. Their bag-pipes are generally accompanied by small tabors. Their dancing is grotesque in the extreme. About the middle of June, when the steeds are returned to their stalls in the seraglio, the Bulgarians set off for their mountain-homes, and again pay for their lodging and food on the way with tunes and dances. They are simple, but strange, and almost wild in their appearance; their eyes are of a peculiar grey; they have generally short brown hair, and very large and expressive grey eyes, high cheek-bones, and sharp hard features, being not unlike some of our own highland tribes. They wear sheepskin jackets and sheepskin caps, with the woolly side turned outwards, and sandals on their feet, of equally primitive manufacture. If these poor fellows carry home but the value of a few shillings in money, they have made a good campaign, and are accounted rich."

But, to return to Busbequius. Travelling across the mountains of the Haemus chain, which may be better known to our readers under its modern name—the Balkan—he came to the woody and rocky defile called by the Turks "Carpi-derbent," or the Gate of the Narrow Passage. Having gone safely through this mountain-pass, which descends towards the plains of Thrace, he presently reached the classic river Hebrus, *

* Very small Turkish coins, many of which go to make an English farthing.
that has its sources in the neighbouring mount Rhoodope, that towered within sight, " all covered over with deep snow." This was the scene of the fabled catastrophi of Orpheus, whose dismembered head (in mythology) floated down the stream of the Hebrus to the Ægean Sea, murmuring as it went the name of his much-loved mistress——" Eurydice! " " Eurydice! " But the Austrian ambassador was not so poetical on the occasion as the English ambassador's wife—the fair and witty Lady Mary Montague, who, nearly two centuries after, travelled over much of the same ground that Busbequius took in his route.

Shortly after coming in sight of the river Hebrus Busbequius arrived at Philippopolis. The plain before that city was full of round hills of earth, or tumuli, like those that exist and are so celebrated in the plains of Troy. The Turks told him their nation had raised these tumuli as monuments of great battles, and to cover the graves of such as had nobly fallen in them. The Turks no doubt raised some of them, but many existed in ancient times. Herodotus mentions the erection of some of them, in this particular country, by the army of Darius, whilst on its march against the Scythians. They are found not merely in the plain of Philippopolis, but all through Thrace. On the other side of the Balkan mountains they are seen scattered here and there all the way to the Danube; from the other side of the Danube they extend all along the shores of the Black Sea to the Crimes, whence, as we have mentioned in the Travels of Rubruquis, they are to be traced through the Tartar deserts. Another branch of them runs across the plains of Poland and Russia; but, at one time or another, the practice of raising them seems to have been common in most Asiatic and European countries. It is quite certain that they are not all tombs. Even in comparatively recent times Turkish armies have been known to throw up many (and one or two larger than the largest in the plains of Troy) for the purpose of displaying on their summit the Sandjak, or standard of Mahomet; and it is very probable that their Scythian or Tartarian ancestors had a somewhat similar custom.

From Philippopolis Busbequius continued his journey to Adrianople, whence he proceeded by Selivia and Tchurli to Constantinople. As he travelled along the shores of the Sea of Marmora, or the Propontis, he was delighted with the prospect of that narrow calm inland sea. " And it was very pleasant to us," he says, "to behold the smooth waters, and to gather shells on the shore; yes, to behold shoals of dolphins sporting in the water, which, with the warmth of the air, was delightful. It can hardly be imagined how mild the weather is in these parts! There is, as I may call it, a Thracian breeze with an incredible sweetness of air."

MINSTREL'S COURT AND BULL-RUNNING AT TUTBURY, STAFFORDSHIRE.

Among the many facetious institutions of the celebrated John of Gaunt, Duke of Lancaster, fourth son of King Edward IV., may be mentioned the Minstrel's Court, and its accompaniment, the bull-running, at Tutbury, in Staffordshire. Of his reasons for instituting such whimsicalities we cannot pretend to form any judgment, governing his Majesty's Court, called the Minstrel's Court, yearly helden at Tutbury, on the morrow after the Assumption of our Lady, and of the Feast of the Assumption of our Lady, and of the Feast of the Assumption of our Lady; and its accompaniment, the bull-running, at Tutbury, the Duchy Chamber, in the fifth year of the reign of King Charles the First, for the better ordering and attendance from them, which, in all probability, being irregularly paid, rendered some rules or regulations absolutely necessary. He then, in addition to the power given to the King, very soon afterwards established the Minstrel's Court, where all plaints and controversies among the minstrels might be heard and determined. " It was held," says Sir Oswald Mosley in his "History of Tutbury, " before the steward of the honour, on the morrow after the Assumption; and the jury, who consisted of musicians, elected four stewards, one of whom was to be king for the ensuing year. These officers, when elected, had full power and authority to levy and detain for all such fines and amerce-ments as were inflicted by the jury of the said court upon any minstrels for the infraction of such orders as were then made for the government of that society; and the amount of such fines was returned at every audit by the stewards, one moiety of which went to the Duke of Lancaster, and the other to the stewards for their trouble."

The court thus established continued for many years, and orders were annually issued for the better government of a body always too much inclined to become refractory. As a specimen of what these orders were, the following copy of the date of Charles I., is extracted from the original manuscript in the office of the duchy.

"Orders made and set forth by the Honourable Edward Lord Newburgh, Chancellor of the duchy of Lancaster, and the Counsel of his Majesty's Court of the Duchy Chamber, in the fifth year of the reign of King Charles the First, for the better ordering and governing his Majesty's Court, called the Minstrel's Court, yearly helden at Tutbury, on the morrow after the Feast of the Assumption of our Lady, and of the Feast of the Assumption of our Lady, and of the Feast of the Assumption of our Lady; and the minstrels and minstrelsy within the custody of Stafford and Derby, who owe suit to the same court."

"That no person shall use or exercise the art and science of music within the said counties, as a common musician or minstrel, for benefit and gains, except they have served and been brought up in the same art and science, by the space of seven years, and be allowed
and admitted so to do at the said court by the jury thereof; and by the consent of the steward of the said court for the time being, on pain of forfeiting, for every month that he shall so offend, three shillings and fourpence. And that no such musician or minstrel shall take into his service to teach and instruct any one in the said art and science, for any shorter time than for the space of seven years, under the pain of forfeiting, for every such offence, forty shillings. And that all the musicians and minstrels above-mentioned shall appear yearly at the court called the Minstrel's Court, on pain of forfeiting, for every default, according to old custom, three shillings and fourpence."

Thus it appears that the intention of this court was principally to encourage the study and practice of music, and that this was continually enforced in their annual orders. The end, however, which such a study sought to attain could not be that of softening the manners of mankind, or of fostering the feelings of humanity in the inhabitants of Tutbury and its neighbourhood; for we find coeval with this court, and in a great measure forming "part and parcel" of it, the establishment of that barbarous and disgraceful exhibition known by the name of the "Tutbury Bull-running," a ceremony compared to which a common bull-baiting is a merciful amusement.

John of Gaunt married for his second wife Constance of Castile, eldest daughter and heiress of Don Pedro, king of Castile and Leon. This lady chose Tutbury for her general residence, and those authors who wish to find an excuse for the institution of so truly barbarous a custom attribute its origin to a wish on the part of the duke to divert his queen by a popular exhibition resembling in some measure the bull-fights of her native country. Of this custom Sir Oswald Mosley thus speaks, after taking the leading part of his account from Dr. Plot's "History of Staffordshire:"

"This custom (the bull-running) was thus celebrated on the Feast of the Assumption of the Virgin Mary. All the minstrels within the honour came early on that day to the house of the bailiff of the manor of Tutbury, and from thence to the parish church in procession, the "king of the minstrels" for the year past walking between the steward and the bailiff of the manor, attended by the four stewards of the king of the minstrels, each with a white wand in his hand, and the rest of the company following in ranks of two and two together, with the music playing before them. After service was ended, they proceeded in the same order from the church to the castle-hall, where the said steward and bailiff took their seats, placing the king of the minstrels between them, whose duty it is to cause every minstrel dwelling within the honour who makes default to be presented and amerced. The court of the minstrels is then opened in the usual way, and proclamation made that every minstrel going into the honour of this dukedom of the counties of Stafford, Derby, Nottingham, Lancaster, or Warwick, should draw near and give his attendance; and that if any man would be assigned of suit or plea, he should come in and be heard. Then all the musicians being called over by a court-roll, two juries are empanelled, one for Staffordshire and one for the other counties, whose names being delivered to the steward and called over, and appearing to be full juries, the same man each is sworn, and the rest of them, in the manner usual in other courts. The steward then proceeds to charge them, first commending to their considerations the antiquity and excellence of all music, both on wind and stringed instruments; and the effect it has upon the passions, proving the same by various examples; how the use of it has always been allowed in praising and glorifying God, and skill in it esteemed so highly that it has always been ranked amongst the liberal arts, and admired in all civilized states; exhorting them, upon this account, it to be cautious to make choice of such men to be officers amongst them as fear God, are of good life and conversation, and have knowledge and skill in the practice of this art. When the charge is ended, the jurors proceed to the election of the officers for the next year, the king being chosen out of the four stewards, two of them out of Staffordshire and two of them out of Derbyshire, three being chosen by the jurors, and the fourth by him who keeps the court and the deputy steward or clerk. The jurors then depart out of the court; and the steward with his assistants, and the king of the minstrels, in the mean time partake of a banquet, during which the other musicians play upon their several instruments; but as soon as the jurors return, they present, in the first place, the new king whom they have chosen; upon which the old king, rising from his seat, delivers to him his wand of office, and then drinks a cup of wine to his health and prosperity; in like manner the old stewards salute the new, and resign their offices to their successors. The election being thus concluded, the court rises, and all repair to another large room within the castle, where a plentiful dinner is prepared for them; after which the minstrels went anciently to the priory gate, but, after the dissolution, to a barn near the town, in expectation of the bull being turned loose for them. This bull was formerly found by the prior of Tutbury, but afterwards by the Duke of Devonshire, who enjoys the priory lands. His horns were sawed off, his ears cropped, his tail cut off to the stump, all his body smearing with soap, and his nostrils blown full of pounded pepper. Whilst this inhuman preparation is in progress, the steward makes proclamation that all manner of persons should give way to the bull, no person coming nearer unto him than forty feet, except the minstrels, but that all should attend to their own safety, every one at his peril. Thus enraged to the utmost, the poor animal is then turned out, to be taken by the minstrels and none else within the county of Stafford, between the time of his being turned out and the setting of the sun on the same day. If the bull escapes, he remains the property of the person who gave it; but if any of the minstrels can take and lay hold of him, so as to cut off a small portion of hair, and bring the same to the market-cross in proof of their having taken him, they are promised a mercedes. The court of theminstrelsisthenopenedin Such an institution as this cannot be considered as disgraceful to the founder, and as stamping with the undeniable mark of barbarity that country which would tolerate its exercise. Yet, revolving as it is an custom to be celebrated from about 1377 to 1778, when a tragical event, the death of a bull persecutor, gave the Duke of Devonshire immediate occasion for abolishing the practice altogether. The history presents, altogether, one of those singular contradictions which are often exhibited in the progress of a people towards civilization. The union of the refinement of the Minstrel's Court with the barbarity of bull-running, marks the state of kingly domination amongst a few, existing in the midst of gross general ignorance."

* the Office of the Society for the Diffusion of Useful Knowledge is at 40, Lincoln's Inn Fields.

LONDON:--CHARLES KNIGHT, 22, LUDGATE STREET.

Printed by WILLIAM Clowes, Duke Street, Lambeth.
Our wood-cut is from a picture by Jordaens, of whom we had lately occasion to speak when presenting our readers with an engraving after his picture of a twelfth-day festival. The present picture is supposed to represent the four evangelists assembled for the purpose of conferring on the subjects of their writings. There are, however, several circumstances which have led some writers to doubt whether this was really the subject that the painter intended to portray, or whether the evangelists are at all the personages represented. In the
first place, no such meeting as that of which the painting would convey the idea is recorded to have taken place, and it is altogether improbable that it ever did—at least for such a purpose. The 'Gospels' appear to have been written at different times and in different places, and were not all addressed, in the first instance, to persons of the same language and modes of thought; they contain, besides, internal evidence that such a co-operation as is supposed could not have taken place. It is also objected that, if the four Evangelists be intended, the Apostle John is represented as a very young man, although, at any time when such an interview might have been possible, he could not have been less than forty years of age. The costume, also, of the figures is another anachronism against this supposition. But, by using these anachronisms and violations of historical truth and probability, of which there are far more objectionable instances than this among the Dutch painters, we have little doubt that the common opinion correctly states the design of this painting.

The reader will not fail to notice the fine expression of the heads in this picture, and the efficient management of the light and shade, of which our readers will give an idea; while the harmony of the colours in the crater-shaped cavity 240 feet deep. From the bottom of this cavity various openings lead to the different galleries, most of which are too lofty, and to different places of further descent, of which some are 1200 feet from the surface. The smoke and vapours were caused by a considerable part of the mine being on fire. This was occasioned a few months previous to Dr. Clark's visit by some miners, who were attempting to steal ore, and being disturbed by the heat or smoke behind them; these set fire to the timbers, which communicated to the pyrites, and it was found impossible to subdue the combustion, which raged forth volumes of sulphurous vapours to such an extent, that this part of the mine was shut off from the rest. In the deepest recesses of the mine there were stables for horses, in which these animals were kept in total darkness for months together, without ever seeing the light of the sun. "We found them," says Dr. Clark, "quietly enjoying their fodder at the depth of 160 fathoms from their natural pastures, and they seemed to be in as good condition and as cheerful, though literally buried alive, as any of those which were kept above ground, and some of them were fat and sleek." Speaking of the country adjoining these mines, he says, "What with the fumes from the mines, the smelting furnaces, and works for boiling the solutions of the sulphates of copper and iron, the whole atmosphere in and around Falun was of the most noxious kind, and intolerable to a stranger; yet it does not appear to affect the inhabitants, for they live to an advanced age. One might almost fancy that the people, from their copper-coloured countenances, had become to a certain degree themselves copperous; for they may be considered as actually eating, drinking, and breathing copper. They have copper above, below, and on all sides of them; and smoking heaps of pyrites impregnate every gale with their suffocating vapours, as if the earth were surrounded with them. These gases have been made the means of industry, and the instruments of wealth and happiness. The heaven that is over thy head shall be brass, and the earth that it under thee shall be iron. The Lord shall make the raih of thy land powder'd dust."

Besides the Falun mine there are copper-mines in East Gothland, and in several parts of Norway; but their produce is inconsiderable. The Russian empire has copper-mines on the eastern side of the Oural mountains, and also around Orenburg at the southern extremity of that chain. The ores are met with not only in primary slate, but in sandstones and clays of secondary formation, and often consist of the green and blue oxides of the metal.
Pallas describes a very rich mine in the lesser Altai chain of mountains. Villefosse estimates the total produce of the Russian copper-mines at something less than 350,000 tons annually.

Armenia produces a large amount of copper, and as the ores are extremely rich, the produce of the mines would be very great if a sufficient supply of fuel could be obtained to smelt them, and if the resources of modern science were applied in the working of them. They are situated in a mountainous district a few days' journey to the south-west of the port of Trebizond on the southern shore of the Black Sea. Pymoone states the produce of these mines, in the year 1762, to have been about 500,000 tons, and that they are still now productive at the present time. Mr. Hawkins informs us that they are scattered over the whole country which lies between Tocat and the Euphrates, and even extend beyond that river, along the chain of Anti-Taurus, a very considerable copper-mine being worked at the close of the last century near Argana, on the great road to Diarbekir. The produce of this mine is limited by the scarcity of fuel, which is fetched in the shape of charcoal from a distance of nearly one hundred miles. The copper smelted rich is here smelted under such apparatus as disadvantages is manufactured at Mosul, and in that state is floated down the Tigris to Bagdad and to Bus-sora. A great portion likewise of the Armenian copper has been manufactured for centuries at Erzerum, and transported down the Euphrates to the same great commercial cities, as well as by the usual land route into Persia; the copsmution of this metal in the fabrication of copper utensils, which are of immemorial usage, being very great in every part of Asia. It is therefore to the country which is contiguous to these copper-mines, and more particularly to Armenia, that we must apply the passage of Ezekiel (xxvii. 13), as in the words of Michaelis,—"Tu-bal and Meschech traded with thee, and gave thee, in exchange for thy wares, slaves and utensils of copper."

Copper-mines are worked in Mexico, Chili, and Brazil, from which countries the produce is imported into Spain. Copper ore has lately been brought from Chili and Brazil to be smelted at Swansea. There are mines of this metal also in China and Japan, from whence it is brought to the islands of the Indian Archipelago. It has been wrought to a small extent in the island of Sumatra, and more recently in Borneo.

Uses of Copper.—Besides the well-known application of this metal in its pure state to an infinite variety of purposes, it is employed, in combination with other substances, in a great diversity of ways in the arts. Its most extensive uses in this way are, when alloyed with other metals, especially zinc, to form brass, in the proportion of three parts of copper to one of zinc; and tin, pinchbeck, and Dutch gold, are also compounds of copper and zinc in different proportions. When combined with from one to five per cent. of tin it becomes harder, and this is the usual composition of the very ancient copper tools and weapons, before iron and steel came into common use: the instruments used by the surgeons of antiquity were made of this alloy. With a larger proportion of tin and a little zinc it forms bronze and bell metal, and also the metal of which brass cannons are made. When alloyed with nearly half its weight of tin, and with a small admixture of arsenic, brass, and silver, it forms an extremely hard compound capable of receiving a high polish, which is used for the reflectors of telescopes. In our gold coins thirty-eight grains of pure copper are added to every ounce of pure gold; the effect of which is to make the gold harder, and therefore less liable to wear. This is what is called standard gold, and in larger proportion it forms the gold commonly used in jewellery. Standard silver contains one-twelfth part of copper, and it has also the effect of rendering the silver harder and more workable.

Blue vitriol, or Roman vitriol, is a compound of oxide of copper and sulphuric acid, or vitriolic acid, as it is used to be called. Verdigris is a compound of oxide of copper with acetic acid, or vinegar, and the blue paint called verditer is a combination of oxide of copper, carbonic acid, water, and lime.

ANECDOTES OF THE ENGLISH LANGUAGE.

There is a curious work, by Dr. Samuel Pegge, published about thirty years ago, consisting of a defence of the dialect of London and its environs. The author shows that the great majority of what are called "cockneyisms" are not, as is commonly supposed, corruptions of the language, but were formerly in use among good writers, and have been retained by the Londoners after the literary and the refined had given them up.

Thus regiment, used in the sense of regimen, is a good old English word; and there are books extant, as Mr. Pegge observes, with the titles of 'The Regiment of Health,' 'The Regiment against the Peste-nence,' &c. We often, in London, hear contrary for contrary; yet though we should not recommend any of our readers to adopt the first method of pronouncing this word, it may be defended by the authority of Shak speare, who says,—

"And themselves banding in contrary parts."


In Milton, too, we find—

"And with contrary blast proclaims must deeds."

'Samson Agonistes,' line 571.

The author observes that anatomy is used for a skeleton, the an in anatomy having been mistaken for the article an. Perhaps this may be so, but in our old writers, an anatomy is continually used to mean a skeleton. But passing over these lesser offences, Mr. Pegge comes to the consideration of the more grievous offences "with which the Londoners are so heavily accused by the beau-monde and the scholastic part of mankind. And first of the double negative. A cockney, for example, will say, 'I don't know nothing about it.'

"This is a luxuri ance of no modern date among the Cockneys; but it is not of their own manufacture, for there is evidence enough in the history of our language, drawn from the old school, to show that this mode of speech—this accumulation of negatives—is no new-fangled tautology. One negative is now accepted by us and reputed as good as a thousand. The present Cockneys think otherwise; and so did the ancestors of us all. Taking the language of France for a moment as a model, a Frenchman answers your question negatively by—'Je ne sais pas'; and the Londoner, in the same phraseology, says—'I don't know nothing about it.' Now, if the abundant use of negatives he esteemed an elegance in the French language, the Cockney would copy it, and the Londoner, not in English, apted the better. I cannot help remarking a case in point, where a cluster of negatives is said to have been disregarded by a citizen, who, having mislaid his hat at a tavern, inquired with much vociferation—'If nobody had seen nothing of never a hat no-wheres'? But, to be more serious. Here are but three out of four that are redundant: I will now then produce the same super-abundance, not indeed from an act of the whole legislative body of the kingdom, though from the same source. In a proclamation of King Henry V. for the apprehension of Sir John Oldcastle, on account of his contumacious behaviour in not accepting the terms before tendered to him, are these words:—'

Be it known as
Sire John Oldenstall refuse, nor will not receive, nor sue to have none of the grace, &c.

"Though we now exclude the double negative, yet we find it very common among writers at different former periods, where the use of it was carried as far as the ear could possibly bear. An instance or two shall suffice. Thus Chaucer:

'...so loth, so sorely true you serve, Aye will none of him, as I.'

'Tract, and Cout.' lib. v.

So also Shakspeare:

'a sudden day of joy, That thou expect'st not, nor war'st not, nor doth not.'

Examples occur so frequently in Shakspeare that it would be troublesome to recount them. 'No, nor I think I never shall,' is an expression used by Roger Ascham. ('Topophilus,' Bennett's Edit, p. 123.) He was a Yorkshireman, and there I have myself heard this similar language:—'No, I shall not do do such thing.'—pp. 79, 81.

The author then gives numerous other instances of bad English which may be defended by the best authorities;—thus, auctor is found in Shakspeare, lesser in Addison, and most based in Sir Thomas More. One of the most curious of these embalmings of old words in modern vulgarisms consists in the use of az for ask:

for 'Margaret, Countess of Richmond and Derby, in a letter to her son, Henry VII., concludes with—'As herry blessings as y can are of God.' In the next reign, Dr. John Clerk writes to Cardinal Wolsey, and tells him that—'The king axed after your Grace's welfare.'

Dr. Skinner, who died in 1667, mentions in his 'Etymologicon' that ask is pronounced by many persons are, and does not censure it as a vulgarism. The fact is, that the modern word has been formed from the ancient one simply by what grammarians call a "metathesis," or transposition of letters; for az, or are becomes ask by the k and s changing places. Mr. Pegge thinks that, in the same way, tax and task are the same word, and supports this opinion by some very pertinent quotations from old writers. Thus, Holinshed says—"There was a new and strange subsidy, or task, granted to be levied for the king's use;" and, in Shakspeare, Hotspur reproaches Henry IV. with having 'task'd the whole state.'

Our author has some interesting observations, by way of commentary, on an expression which, he says, is very common among Cockneys. "Pray, Miss, who learns you to play upon the music?' We shall pass over what he says on learns used for teaches, as many readers are probably familiar with the fact that, two centuries since, learn was employed in this sense by the most eminent writers. Mr. Pegge explains the latter part of the phrase in the following manner. He thinks that "the music" stands for the musics; and says that, when semitones were introduced, the natural and artificial keys became, as it were, two instruments, and, when spoken of together, were styled 'the musics.' Thus, when the Cockneys talk of "the music," they have merely dropped the final s, just as, formerly, the organ was called the organs, or a pair of organs.

In the 'Diary' of Mr. Alleyne, the founder of Dulwich College, is an article where he says that, in the year 1618, he paid 8l. for a pair of organs. Mr. Pegge goes on to say—"I do not know how it has happened Sir, but the letter s seems to have been particularly unfortunate, and from its sibilation has given offence in various languages. In French pronunciation it is totally sunk as a final letter; and the number of any word is to be governed by the article, the verb, or the context. In the middle of words it is quiescent nine times out of ten, though, to the eye, it has the compliment of being frequently represented by a circumflex. Mr. Pasquier, who died A.D. 1615, at the age of eighty-seven, tells us that, in the French word houest (now pronounced honnête), the letter s was sounded when he was a young man; but he lived to hear the s, with its preceding vowel, sunk into a long e, to the total abolition of the letter s.'—p. 148.

If a few more esses could be extirpated from our own language, we should be no great losers, but the spirit of our language is rather to add to them. Such names as Matthews, Mills, &c., show the tendency of the Saxon stock to lack in length of name, and we are quite sure that our excellent author must have been annoyed a thousand times out of ten by hearing his name converted into Pegge. The French method of hushing this hissing letter is curious enough. The later attic dialect frequently substituted t for it, thus esses (signifying four) was changed into tetares. The sensibility of Attic ears seems to have been extreme. Euripides writing a line in his 'Medea' containing six sigmas (esses), this unfortunate verse became the subject of everlasting gibes and parodies: thus one of the comic poets says,—"I have saved thee from the sigmas of Euripides.'

Shall we? This gross blunder is to be found in Shakspeare. In the 'Winter's Tale,' (Act i., Scene 2,) Hermione says,—"Shall we attend you?"

In discussing the terms a-dry, a-hungry, &c., Mr. Pegge leans to the opinion of Bishop Lowth, who believes the a in such cases to be merely the word on a little disguised by familiar use and quick pronunciation. In this section our author tells an entertaining anecdote. "Such was the ridiculous attachment to long and high-sounding names and titles in Spain, that when an epidemicals sickness raged in London in the reign of Queen Elizabeth, the Spanish Ambassador (now pronounced honnête), the letters was sounded when he was a young man; but he lived to hear the s, with its preceding vowel, sunk into a long e, to the total abolition of the letter s.'—p. 148.

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ANSWERS OF THE DEAF AND DUMB PUPILS

At the Exeter Institution.

If any of our readers were to endeavour to devise for themselves some process by which they would communicate any abstract ideas to those who have been deaf, and therefore dumb, from birth or early infancy, they would soon perceive by what difficulties such an attempt is surrounded; and, unless they had some previous knowledge of the process actually employed, they would be disposed to consider success in such an undertaking perfectly hopeless. But it is one most interesting circumstances of the state to which civilization has brought us, that no man is, or need be, utterly destitute of any physical deprivation to which our nature is exposed. The blind can read, and the deaf and dumb can acquire and express ideas the most abstract and the most complex. It is not our present intention to enter into the details of the process by which this is effected; but we are enabled to communicate some of the results obtained by the process actually employed.

At the Exeter Institution it is customary for the masters to ask their pupils the meanings of words; and their answers are written down upon slates which are kept hanging up in the school-room for one day subsequently; during which the scholars have access to them, and often transcribe their own answers and those of the other students. From a book so kept by one of these scholars, the following extracts have been made, consisting of such answers as appear most original or striking. It will be seen that many of the answers are remarkable in themselves; and we have retained some which may not appear so at first, but which will be felt interesting, as indicating the degree of success with which an abstract idea had been conveyed to the pupil, and of the manner in which his mind entertained it. The several answers will be found to indicate the various degrees of progress which the pupils had made, and the measure of aptitude they respectively possessed.

What is Revenge?—Revenge is murder in the heart: it is cruel without necessity. Revenge is when a boy will not give me some cakes: I will fix it in my mind, and I will not give him cakes. God hates revenge. Revenge has a bad heart. Revenge is hatred with cruelty: if my master is displeased with me, and I keep it in memory and hurt his dog, it is revenge.

What is Anger?—Anger is great displeasure. Masters are angry with careless servants, because they break pretty plates, cups, and saucers. Anger has troubled thoughts. Anger has a red face and fierce eyes. Anger is a bad feeling of the heart. Anger has violent thoughts; anger will not reason; anger is quick and impatient; anger is rage: a man's cook spoiled his dinner, and he was angry and told his servant to go away from his kitchen.

What is Despair?—Despair is the expectation of a certain evil: the sailors despair when the ship breaks and the large waves fall on them. Despair has no hope. Despair has a pale face: the great murderer despairs when the judge says he must be hanged. Despair is fear without hope. Despair is darkness in the mind. Despair does not play. Anger is wildness in the mind. Despair has no pretty home.

What is Hope?—Hope is desire joined with belief. Hope is a mental looking towards a happy state with a desire to attain it. Hope is the soul's sunshine; its support and comfort. Hope is the hope of the staff of life; it cheers us in affliction, and supports us in our journey through life. If we meet with disappointment we look for better days, and if we are poor and needy, hope tells us to pursue industry and improvement, and we shall obtain sufficient to support us in this world.

What is the Soul?—The soul is the conscious being within me which directs my actions, and restrains or inclines me to whatever I do. The soul is that active principle within me which reckons, distinguishes, and performs actions. The soul is the life of my body; it leaves my body, my body will die. It cannot be caught nor seen. God can see it, and God talks to my soul: it is not deaf, it is not dumb, it hears God, and it will sing to God when I shall have no ears.
moved at his danger, and quietly looked on until his turn arrived; and which, called upon by the Dutch officer, walked to the helmet with the utmost unconcern, and without faltering or changing a feature, drew forth his lot,—which was a blank. Thus favoured by fortune, and himself free from danger, he told the trembling Spaniard, who still held his hand in the helmet dreading to draw forth his lot, that for ten crowns of gold he was ready to draw his lot for him, and stand to the consequence. The Spaniard joyfully agreed, and the Englishman, having received the money, coolly requested the Dutch officer to allow him to fulfil his part of the contract by drawing the Spaniard's lot; and permission being given, he drew again, and again was fortunate. "A strange caprice of fortune," says the historian, "which could thus favour a man whose cheap estimate of his life made him unworthy, not only of this double escape, but even of a single lucky cast!"

This story is taken from a description of England in the reign of James I., contained in a satirical Latin work written by a Scotstman named John Barclay, under the assumed denomination of Euphorius Lusinianus.

**Memory of the Bullfinch.**—Tame Bullfinches have been known (says Buffon) to escape from the aviary, and live at liberty in the woods for a whole year, then to recollect the place of their nest, and return thither. A gentle disposition and fondness for its first master. A bullfinch never again will see its former owner. It was said of a certain John Barcley, of a Scotchman, under the assumed

**The Sable.** This animal, which is so much valued for its fur, belongs to the same genus with the common marten, which it greatly resembles in form, and it is nearly of the same size. They are of that class of animals which are called vermin form, on account of the great length of their bodies and shortness of their legs, which enables them to pass through very small apertures. The head of the sable is small and oval, with short round ears and long whiskers. The feet are large, each having five toes furnished with white claws, which are short, hooked, and very hard pointed. This animal is distinguished from others of the same genus by having no fur extended on the exterior of the toes, even under them. The tail is somewhat bushy, it is five inches long, but with the hair it measures eight inches. The body is nearly of equal diameter throughout; and, in proper season, is thickly covered with hair, the colour of which is black at top and cinereous at the bottom; the throat is cinereous, sometimes white, yellow, or spotted, and the edges of the ears are yellowish. Sometimes the hair has a limey cast, in spring, or shading the coat, the colour varies. The length of the animal is about eighteen inches exclusive of the tail.

The chief residence of the sable is in Asia, beginning at the Uralian chain, and becoming more and more plentiful in the progress eastward, and more valuable in the advance to the north. None are found to the north-east of the Anadir, nor in any part distitute of trees. They prefer vast forests, especially those of fir, in which the furred greatest beauty are found. They are frequent in Kamtschakas, and are met with in the Kurile Isles. Their proper limits extend from 50° to 58° north latitude.

The sable lives in holes in the earth, or beneath the roots of trees; sometimes, like the marten, forming nests in the trees, and skipping with great agility from one to another. It is very lively, and much in motion
The longer hair is silky, and the shorter, or underhair, is scarcely any other than the long silky hair. Besides remaining until the rivers are frozen, the skins, tied together in parcels of forty each, are sold in pairs, are about two fingers' breadth, and from five to forty each.

The price of one of these parcels varies from one to two pounds sterling. Tails are sold by the hundred. Each party is provided with a small covered boat, and the leader. They go against the stream of the rivers, and the leader, who directs and controls the whole, is one person who not only leads, but the smell and the crisped condition of the long hairs often betray the imposition; and the Siberian sables are the only sables that are said that the coloring fur and fumigation may be detected by rubbing the fur with a furskin cloth, which always becomes black in such cases. Both the Russians and Chinese are highly imitative people, and particularly excel in their respective processes of making a bad article appear like a good one of the same class. The Russians export yearly, and sell for the true winter sables, a vast number of summer sables, which have been prepared with so much art that it is often extremely difficult for the most experienced persons in the fur trade to perceive the difference.

The furs of this animal are so much valued, that the best skins, although not more than four inches broad, are said to average the price of from 12l. to 15l., and the general price varies from 11l. to 10l. A fur merchant of London, in a communication printed in Macculloch's Commercial Dictionary, after speaking of the great fluctuations of price in the different articles of the fur trade, says,—"Among the furs that always rank very high (though, like all the rest, they change in value), may be specified the Siberian sable, and the black and silver fox. These articles are at all times comparatively very scarce, and command high prices." The darkest furs are the most esteemed. The colour and quality of the furs are very liable to vary, not only in different climates, but in the same individual at different seasons. It is from November to February that the fur is darkest, and in the best condition; and the descriptions given of the animal by naturalists generally apply to the state in which it then appears. The finest descriptions of sable-skins are sold without the bellies, which have a fur of lighter tone than the rest of the body; but, in the coarser sorts, the bellies are suffered to remain. The very finest sable-skins are sold in pairs perfectly similar, and thus paired they bring a better price than single ones of equal goodness, as the Russians want such pairs for facing caps, clowns, tippets, &c. The legs or feet of sables are seldom sold separately. White sables are rare, and are not objects of merchandise, but bought only as curiosities: some are yellowish, and are bleached in the spring on the snow. The bellies of sables, which are sold in pairs, are about two fingers' breadth, and are, like the skins, tied together in parcels of forty each. The price of one of these parcels varies from one to two pounds sterling. Tails are sold by the hundred. The very best skins must have their tails, but ordinary ones are often cropped: a hundred sell for from four to eight pounds.

The hair of the same skins differs in length and quality. The longer hair is silky, and the shorter, or under hair, is woolly. The more a skin has of the former, and the less of the latter, the colour being at the same time good, the more precious is it: the very best skins have scarcely any other than the long silky hair. Besides various other circumstances regarding the furs, the fursriers pay attention to the size, and, other things being equally, always prefer the largest, and those that have the best gloss, to others. The size depends upon the animal being a male or female, the latter being always the smallest. The gloss disappears in old furs; the fresh ones have what furriers call a "bloomy appearance;" the old ones are said to have "done blooming." In consequence of the vast difference of price in the furs of the same species of animal, the most ingenious impositions are practised, by dressing and dyeing, to make the inferior qualities look like the superior. The dyed sables, however, in general lose their gloss, and become less uniform, whether the lower hairs have taken the dye or not; and the hairs are mostly twisted and crisp, and so straight as in a naturally good fur. Some fumigate the skins to make them look blacker, but the smell and the crisped condition of the long hairs often betray the imposition; and the Siberian sables are the only sables that are said that the coloring fur and fumigation may be detected by rubbing the fur with a furskin cloth, which always becomes black in such cases. Both the Russians and Chinese are highly imitative people, and particularly excel in their respective processes of making a bad article appear like a good one of the same class. The Russians export yearly, and sell for the true winter sables, a vast number of summer sables, which have been prepared with so much art that it is often extremely difficult for the most experienced persons in the fur trade to perceive the difference.

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It necessarily results from the costliness of the fur, that men have not been deterred by any ordinary difficulties in the pursuit of the animal which affords it. Indeed, there is no article of luxury to obtain which more distress is endured, or more peril incurred, than in the chase of this animal, which is carried on in the depth of winter,—among mountains covered with ice, and in the deepest snows,—in the coldest and most desolate regions to which man has yet penetrated. The hunters are often overcome by the combined operation of fatigue, cold, and hunger, and perish in those remote solitudes. Formerly, in the Russian Empire, the hunting of the sables was a task imposed upon the exiles who were banished to Siberia. As that country became more populous, the animals retired into the remote forests and mountains; and it was the further pursuit of them which led to the discovery of Eastern Siberia. We suppose that an account of the manner in which the hunting of the sable is at present conducted in that country will not be without interest to our readers.

The sable-hunters form themselves into parties of from five to forty each. The last subdivides into smaller parties, each of which has a leader; but there is one person who directs and controls the whole. Each party is furnished with a small covered boat, laden with provisions; they are also furnished with a cask to hold their bread in, and there is a dog and a net to every two men. Each party is provided with an interpreter for the country which it intends to penetrate. Every party then sets out in the direction prescribed by the leader. They go against the stream of the rivers, drawing their boats up until they arrive in the hunting country. There they stop, build themselves huts, and remain until the rivers are frozen and the season commences. Before they begin the chase their leader assembles them together, when they join in prayer to God for success and safety, and to ask for the blessing of the sable, which is called "God's sable," and is dedicated to the church.

The small parties then penetrate into the woods, and
mark the trees as they advance that they may know their way back; and when arrived in the hunting quarters, they form huts of trees, and bank up the snow around them. Near these they lay their traps; then they advance farther, and lay more traps; still building new huts in every quarter, and returning successively to every old one, to visit the traps, and take out the game, and skin it, which none but the chief of the party must do. The traps are a sort of pit-falls, with a loose board placed over it, baited with fish or flesh. When the sables become scarce, the hunters trace them in the new-fallen snow to their retreats, placing their nets at the entrance, and sometimes have to remain waiting two or three days on the watch for the appearance of the animal. Another way of taking the sable is by placing a piece of timber from tree to tree horizontally; near one end of this a bait is placed. Over this piece of wood another is suspended obliquely, one end slightly resting on a post, and a rod extending from it to a noose to which the bait is fastened. As soon as the sable seizes the meat, the upper timber falls and kills him.

During this time the hunters are supplied with provisions by persons who are employed to bring it on sledges from places on the route where they are obliged to form magazines. The hunters are sometimes reduced to dreadful extremities from the failure of their provisions, and sometimes they perish. The following passage from the 'Travels of Bell of Antermony,' (vol. i., p. 230,) published in 1763, besides describing another mode of taking the sable, mentions a curious process resorted to for suppressing the cravings of appetite. "The sables are not caught in the same manner as other animals. The fur is so tender that the least mark of an arrow, or ruffling of the hair, spoils the sale of the skin. When a hunter finds the track of a sable in the snow, he follows it perhaps for two or three days, till the poor animal, quite tired, takes refuge in a small tree—for it can climb like a cat; the hunter then spreads his net around the tree, and makes a fire: the sable, unable to endure the smoke, immediately descends, and is caught in the net. I have been told by some of these hunters that, when pinched with hunger in some of these long chances, they take two thin boards, one of which they apply to the pit of the stomach, and the other to the back, opposite to it; the extremities of these boards are tied with cords, which are drawn tighter by degrees, and prevent their feeling the cravings of hunger."

When the season is concluded, the hunters reassemble,—report to their leader the number of sables each has taken,—make complaints of offenders against their regulations,—punish delinquents, and divide the spoil. They then continue at head-quarters until the rivers are clear of ice, when they return home, and deliver to every church the dedicated furs.

What is commonly called the American sable is now known to be a distinct species. It is a larger animal than the true sable of Siberia; it is of a glossy, silver-black colour, which is paler towards the fore-quarters, and slightly red about the nose; the tail and legs are velvet black, the hair silky, and the fur very beautiful. The hunters call it the fisher, but improperly, as it by no means frequents the water, but its habits are almost entirely similar to those of the animal to which our attention is more particularly limited. As the skins of these animals are not so valuable as those of the true sable, the American hunter, as represented in our engraving, does not hesitate to shoot them.
Elgin Cathedral is considered to be one of the most magnificent ruins in Great Britain. It is situated at the east end of the burgh, which is commonly called the College of Elgin, and is within twenty or thirty yards of the river Lassie. In the commencement of the thirteenth century, Pope Honorius, in consequence of a request which had been previously made to him to that effect, instructed Bishop Andrew Moray to build a cathedral at Spynie, a place about a mile and a half northward from the site of Elgin Cathedral.

The bishop was not pleased with the situation of Spynie for a cathedral; he consequently petitioned his Holiness to be allowed to build it at Elgin, urging, as the principal reason why he preferred the latter situation, that the distance of Spynie from Elgin, where all provisions for that part of the country were to be had, would, if the cathedral were built there, have the effect of diverting the canons from their sacred functions, in consequence of the inconvenience they would be put to, and the time that would be lost in getting their provisions. The pope complied with the bishop's request, and by his bull, dated the 4th of April, 1234, granted full power to erect a cathedral at the east end of Elgin, which should be declared the Cathedral Church of the diocese of Moray in all time coming.

The foundation stone of the original building (or, as will be afterwards seen, it was destroyed and rebuilt) was laid on the 17th of July in the same year by the bishop. About 160 years after the foundation, the building was completely destroyed. It was burned to the ground by a personage well known both in the page of history and in the traditionary legends of Scotland. The circumstances under which its destruction took place were as follows. During the time of Bishop Alexander to Bishop Lord Barden (son of Robert the Second of Scotland), better known by the name of "The Wolf of Badenoch," in consequence of the character which, by his ferocious conduct and prowling habits, he had earned for himself, was excommunicated by the Church in consequence of his having seized on the bishop's lands in Badenoch, and his expressed determination to keep forcible possession of them. Determined to revenge himself on those of his enemies at whose instance this evil was done, he forthwith put a high hand. In the summer of 1390, burned the whole town of Forres*, together with the manse and the choir of the church. In the course of next month he likewise burned to ashes the town of Elgin, the Church of St. Giles, the hospital of Maison Dieu, the Cathedral Church, and eighteen houses of the canons and chaplains in the College, then as now, forming the suburbs of Elgin.

The Wolf of Badenoch, however, was not suffered to commit these extensive depredations on civil and ecclesiastical property with impunity. Proceedings were forthwith instituted against him, and he was obliged to make suitable reparation; which having been done, and having at the same time publicly expressed his penitence, he received absolution at the hands of Walter Trail, Bishop of St. Andrews, in Blackfriars Church at Perth.

The rebuilding of the Cathedral Church was commenced with all possible expedition, under the superintendence of Bishop Barr,—every parish in the diocese paying a subsidy, and all the canons contributing for the purpose. In consequence, however, of the compartments of the times, a considerable time elapsed before the building was completed. But in order that it might be protracted as little as possible, the Chapter met, in 1414, on the death of Bishop Innes, and bound themselves by a solemn oath, that whoever should be elected bishop should appropriate one-third of his revenue for the purpose of advancing the building of the cathedral. How long it took to complete it is not known, but it is supposed to have been about twenty years.

The style of the building, like that of all other great edifices of the period, was Gothic, without the admixture of any other style in any part of the structure. The cathedral stood due east and west, and was built in the form of a cross. The length of the building was 264 feet, the breadth 35 feet, and the length of the transept 114 feet. There were five great towers, two of which were at the west end, one in the middle, and two at the east end. The two west towers, in so far as the stone-work is concerned, are still entire, and measure 84 feet each in height. What the height of the spires of these towers was cannot now be ascertained. It is conjectured by some of those authors who have written about Elgin, that they were of wood, and that they must consequently have fallen down long since. The centre tower must have been the grandest; for, including the spire, it measured 198 feet in height, and lasted long after the others had been reduced to the state in which they now stand. The two towers at the east end are still entire, and have been of stone work, but they were not nearly so large as the others. The grand entry, which was a very rich specimen of architecture, was between the two towers at the west-end. The Rev. Mr. Shaw, in a communication to his friend Mr. Pannant, the tourist, thus describes it: "This gate is a concave arch, 24 feet broad in base, and 24 in height, and terminating in a sharp angle. On each side of the valves in the sweep of the arch are 8 round and 8 fluted pilasters 6 feet high, adorned with a chapiter of flutes, from which arise 16 pilasters of which may be seen in the key of the arch. Each valve of the door was 5 feet broad and 10 feet high. To yield light to this large building, besides the great windows in the porticoes, and a row of windows in the wall above, each 6 feet high, there was above the gate a window of an acute-angled arch 19 feet broad in base and 27 in height; and in the east end between the turrets, a row of five parallel windows, each 2 feet broad and 10 high. Above these, five more, each 3 feet broad, and 35 feet high, are arched, with a chapiter of flutes, and a cular window near 10 feet diameter. The grand gate, the windows, the pillars, the projecting table, pedestals, and cordons, are adorned with foliage, grapes, and other carvings."

On the north side of the choir stands the Chapter House, better known by the name of "The Apprentice Isle," in which the bishop's privy council met for their deliberations. It communicates with the choir by means of a vaulted vestry. It is altogether a singular piece of architecture. The form is that of an exact octagon. The height is 34 feet, and the diagonal breadth within the walls is 57 feet. It resembles a cube arched and vaulted at the top, while the whole arched roof is supported by a single pillar in the centre of the house. "Arched pillars," says Mr. Shaw, "from every angle terminate in the grand pillar, which is 9 feet in circumference, crusted over with 16 pilasters, and 24 feet high. These are adorned with a chapiter, from which arise 16 round pillars, making the roof and join at top, and round the chapiter are graven the arms of several bishops. There is a large window in each of seven sides, the eighth side communicating, as was said, with the choir; and in the north wall are five stalls, cut in niches, for the bishop's ministers of state, namely, the dean, the chanter, the archdeacon, the chancellor, and treasurer,—the dean's stall being raised a step higher than the other four."

An opinion used to be generally entertained, and still prevails among the less informed classes of the
About eight or nine years since, the person who had for thirty or forty years been the keeper of the churchyard and cathedral died, and John Shanks was appointed his successor. This man's veneration for the cathedral, and his enthusiasm for its antiquities, are altogether boundless. He soon furnished a most striking proof of this. Before he had been two years installed in the office, he cleared away from the area of the building, by his own unaided exertions, 2832 cubic yards of rubbish. The entrance to the cathedral and the area of the building have been, by his good taste and indefatigable labours, very greatly beautified. John's taste, zeal, and labours are really extraordinary, when it is considered that he is upwards of seventy years of age. He is a great favourite with the visitors, from the extent of his information respecting everything connected with the building, and his extreme readiness to communicate information to strangers. Not long since the inhabitants of Elgin presented him with a handsome silver snuff-box, with a suitable inscription, in testimony of their sense of what he has done to beautify the place.

The preceding view of Elgin Cathedral is adapted from a series of engravings of that ruin, from drawings taken on the spot by Mr. Clark of London, which were published some years since by Messrs. Forsyth and Young, of Elgin.

OLD TRAVELLERS.—BUSBEQUIUS.—No. IV.

Our traveller arrived at Constantinople on the 20th of January, 1555, when he found that the grand signior was not there, nor in Europe, but at the head of his army in Asia Minor. A courier was despatched to the sultan, and soon returned to Constantinople with orders that the imperial envoy should go to him in Asia, Solyman being then at Amasia, a city of the ancient Cappadocia. This journey was long; and at that time considered a novel one: "for," says Busbequius, "though the journey from Vienna to Constantinople hath been performed by many, yet this from Constantinople to Amasia hath, as yet, been undertaken by no Christian that I know of." He accordingly marked down the several stages he performed, and the names and situations of the towns, cities, and other places he passed through, which, at that period, was rendering some service to geography.

On the first day he merely crossed the Bosphorus to Scutari, which may be called the Asiatic suburb of Constantinople, the beautiful strait that separates it from Britain: in it are interred the remains of many distinguished persons, including several of the kings of Scotland. The churchyard is enclosed by a stone wall. What with the number of the graves, the beauty and variety of the sculptured memorials of departed worth and greatness, and the grandeur of the dilapidated cathedral,—a building which is indeed pre-eminentely magnificent even in ruins,—the scene is calculated to make a strong impression on the spectator.

In order, as far as possible, to prevent the Cathedral from undergoing further dilapidation, the barons of Exchequer some years since granted a sum of 900l. to keep it in repair. An ascent to the top of the two largest steepleys, by means of interior stairs, which could not formerly be ascended, was then rendered easy; by which means the visitor can command one of the most extensive and richest prospects in Scotic and English landscapes. The course of the repairs which were made in this place some years ago, a great number of curious sculptured stones were discovered, and being taken out of the rubbish in which they had lain for a century or two, were deposited in the Chapter House, where they are now exhibited.

* In No. 24 of the "Penny Magazine," vol. i., the reader may find a view and a plan of Constantinople that will make this still more intelligible.
of Hannibal, who was there interred?" • • • • •

"From thence," our traveller continues, "there is a most pleasant prospect over the Sea of Marmora, and up the Bay of Nicomedia; also here grow Cypress-trees of a wonderful bulk and tallness." Going on at the same slow rate, he arrived, on the fourth day, at Nicomedia, anciently a splendid city, but then, as now, little more than a heap of ruins. This city is advantageously situated at the head of a fair harbour, or gulf, of the same name, the shores of which are even more beautiful and romantic than those of the Bosphorus above Constantinople. Some of the largest and most exquisite marbles that were ever struck by the ancient Greeks were found near this now desolate spot.

From Nicomedia, Busbequius crossed a lower ridge of Mount Olympus; and, passing through a village called Kasoskey, reached Nice, the ancient Nicea, but at so late an hour that the first watch was set. "When not far from Nice," he says, "I heard a mighty noise, as if it had been of men that jeered and mocked us. I asked what was the matter?—whether any of the mariners rowing on the Lake Ascanius (which was not far off) did deride us for travelling at that unusual time of night?" The Turks with him answered "No!"—that it was only the noise of the jackals, that were abroad in packs, and howling as usual. The cry of the animals by night does indeed produce a singular effect on the ear of the stranger. At times, their chorus sounds like the screaming and howling of an angry mob;—at others, like the whining and weeping of a multitude of infants;—and, occasionally, it may be compared to the harmony that would be produced were the mistress of a dame's school to whistle soundly all the little urchins under her charge at once.

The house in which he was lodged at Nice was believed by Busbequius to be the identical building where the celebrated Council of Nice was held. "As for the town itself," he says, "it is finely situated on the bank of the Lake Ascanius." The ancient walls, which are almost entire, the majestic gates and towers, are represented as being in much the same state that Colonel Leake and other modern travellers have found them in. Busbequius saw many ancient inscriptions, and mentions the ruins of baths erected by the Roman Emperor Antoninus. He adds—"Whilst some Turks were digging in the ruins, to get out stones and marbles to be sold at the adjoining bazaar, the reader might have noticed a sound like trumpeters, or such as blow the cornet—the noise they make is almost like the sound of a post-boy's horn. It is a bird which, though it hath nothing wherewith to defend itself, yet is very strong and daring. The Turks are very persuaded that the devils are afraid of these birds."

It is not easy to say what these birds really were. The writer of these short notices, in another part of Asia Minor, saw, in the court-yard of a khan at Kirkagatch, a considerable town, situated on the river Caius, not far from Pergamus, a creature in some respects answering the description given by Busbequius. He saw it in the form it bore a resemblance to the duck, having a short neck, but being in its body much larger and more clumsy than our largest geese. Its head was, in proportion, still larger, and its bill or beak tremendously long and thick. The eyes than a common stone-cutter. Where they could not conveniently do more, they knocked off the noses, and broke away the hands and feet, from the ancient statues and relieves. By this our old traveller has indicated the origin of the evil and destruction that have fallen so nevously on works of ancient art wherever the Turks have obtained dominion. Like the ancient Jews, they are strictly prohibited by their prophet from making the likeness of any living thing, but more particularly from carving or delineating the human form divine; and the more fanatic among them have always considered it a serving of the Lord to demolish, or at least deface, all such works as were designed to fall in their way. A Philias or a Praxiteles would have been in no danger in the eyes of a common stone-cutter. Where they could not conveniently do more, they knocked off the noses, and broke away the hands and feet, from the ancient statues and relieves. By this our old traveller has indicated the origin of the evil and destruction that have fallen so nevously on works of ancient art wherever the Turks have obtained dominion. Like the ancient Jews, they are strictly prohibited by their prophet from making the likeness of any living thing, but more particularly from carving or delineating the human form divine; and the more fanatic among them have always considered it a serving of the Lord to demolish, or at least deface, all such works as were designed to fall in their way. A Philias or a Praxiteles would have been in no danger in the eyes of a common stone-cutter.

Desire of Knowledge—Boswell relates the following anecdote of a boy who rowed him and his friend Dr. Johnson down the Thames. They were conversing upon the use of learning, and the former observed:—"This boy rows as well without learning as if he could sing the song of Orpheus to the Argonauts, who were the first sailors. He then called to the boy:—What would you give, my lad, to know about the Argonauts?" 'Sir,' said the boy, 'I would give anything to have.' Dr. Johnson asked him much more about this, and the writer never saw another of the same kind. One of the Turks said they were excessively rare, and called them "the fowls of Satam."

Mr. Jefferson's Ten Rules of Life.—The following rules for practical life were given by Mr. Jefferson, in a letter of advice to his namesake, Thomas Jefferson Smith, in 1825.

1. Never put off till tomorrow what you can do to-day.
2. Never let a man get you into debt.
3. Never spend your money before you have it.
4. Never buy what you do not want because it is cheap.
5. Pride costs us more than hunger, thirst, and cold.
6. We never repent of having eaten too little.
7. Nothing is troublesome that we do willingly.
8. How much pain have those evils cost us which never happened.
9. Take things always by their smooth handle.
10. When angry, count ten before you speak: if very angry, count a hundred.
One of the commentators on Hogarth has declared that he prefers the principal group of the plate before us—that of the treeholder between the agents of the rival candidates—to the celebrated picture, by Sir Joshua Reynolds, of Garrick between Tragedy and Comedy. The sturdy yeoman is plied on each side by a partisan of either of the factions who are canvassing in a country town: each offers him a ticket for a dinner, and each pours money into his "itching palm." It is perfectly clear from the leer of his eye which candidate will have him;—he will sell himself to the highest bidder. This, to our minds, is tragedy as well as comedy;—the beginning is fun, the end misery and shame. When a man to whom a public trust is committed violates the conditions of that trust, and sells his conscience, it is evident that his morality must be fearfully low, and that he is a victim of the most debasing selfishness. We fear that such things still exist; although the progress of the people in the knowledge of their real interests and duties may have greatly abated the
FEMALE EDUCATION IN RUSSIA.

There is no criterion by which the real condition of a people can with more certainty be estimated than by the position which the females occupy among them; nor can their true position be better understood than by considering the amount and quality of the acquirements which they have the opportunity of obtaining.

The young females in the superior ranks of society in Russia receive education from private teachers, in boarding-schools, or in a sort of college, which is, we believe, peculiar to that country. In each of these different modes, besides the common elements of education, such as reading, writing, arithmetic, and a proper knowledge of the native language, it is professed to teach German, French, music, drawing, embroidery, and dancing. This list is somewhat extended in the "colleges;" but in all cases the French language and dancing are the accomplishments which are the most valued by the pupils and their friends, and on the attainment of which the most zealous application is bestowed. With regard to French in particular, we believe it is perfectly safe to say that there are no towns in Europe, out of France and Belgium, in which that language is so much and so well spoken by both sexes as in St. Petersburgh and Moscow.

Having mentioned the female colleges in Russia as somewhat peculiar, it seems desirable that we should describe one of those in St. Petersburgh. The best account of them with which we are acquainted is that given by Dr. Granville in his 'St. Petersburgh.' We shall therefore furnish, from this source, an account of the college called the "Communauté des Demoiselles Nobles."

The desire which was strongly felt about forty years since for the proper education of females in the superior ranks of society, led to the establishment of two colleges in St. Petersburgh; one of which was the one we have just mentioned, and the other that of St. Catherine. The former is contained in two spacious buildings, in a pleasant and airy situation near the river. These buildings are perfectly distinct, and were erected at different periods; but they are under the same superintendence, and are connected by means of a covered corridor. The institution itself consists of two parts: one, in which about 400 young ladies of noble families are educated; and another that serves for the instruction of the inferior ranks of the daughters of respectable citizens. The young ladies are admitted by ballot; but the empress, who is the especial patroness of the institution, exercises the power of introducing pupils without this ceremony. The pupils of noble family pay the yearly sum of 60L., and the others 27L., for which all their wants are provided for in boarding, clothing, and education. The age at which pupils shall be admitted is not fixed; Dr. Granville observed several that were not, more than eight or nine years of age, and a few that were even younger. The girls of noble family remain in the institution nine years, but others only six. During all this period, they are not allowed to quit the house, except when any of their near relations happen to be very seriously ill, and require their presence.

Parents, however, are admitted to see their children on Sundays, and on holidays and festivals, according to certain restrictions; and two or three times a year a ball is given to the institution, to the parents and friends of the pupils, who are then allowed to do the honours of the house. Although the pupils are confined during so long a period to the precincts of the establishment, they are amply furnished with the means of exercise. For their use in summer, there are large gardens on the banks of the Neva, and extensive covered corridors, properly warmed, for exercise in winter. Each class has also its "Hall of Recreation," where, among other diversions, gymnastics have recently been introduced, and musical instruments are provided to increase their means of rational enjoyment.

Besides the branches of instruction already enumerated, the pupils are taught something of Russian history and literature, something of geometry, and something of those branches of natural and philosophical science which are considered most suitable to their sex. The professors are generally selected from the most able teachers that are to be found in the capital: none of them are resident on the premises, but they give a regular attendance at certain appointed times. There is one lady who exercises a general superintendence over all the concerns of the establishment; and there is another, with the title of "Inspectress," who gives a more detailed attention to the conduct and proceedings of the pupils. These ladies have many subordinate assistants, teachers, and governesses, besides a great number of female servants to attend the young ladies.

In the course of the period of instruction, some attention is given to those qualifications which relate to the knowledge of domestic affairs, and the management of a household. At stated periods, needlework is taught and practised by all the pupils; and the eldest of them are obliged to attend to their own toilette unassisted.

It is also one of the duties of the Inspectress to see that some of the more advanced pupils are made acquainted with the business of housekeeping, management of servants, and arrangement of the household for the whole establishment. Improper conduct is punished by change of dress, and other circumstances of humiliation.

The pupils in the superior part of the institution are divided into three classes, and those of the other into two. The classes are distinguished by dresses of different colours—white, blue, and brown. Each class has three subdivisions, through which the pupil is expected to pass in the course of three years. Examinations take place at stated periods to ascertain the proficiency of the pupils; and a general public one is held every three years before a numerous assembly, consisting of the Empress, and other members of the imperial family, the officers of state, the foreign ambassadors, and the dignitaries of the church. On this occasion such of the young ladies as have completed their education exhibit proofs of their various accomplishments; and when they quit the institution, the most worthy receive a decoration in the colour of the dress which they have worn, and is an acknowledged mark of distinction in society.

The classes are held in large and lofty rooms, which are excellently ventilated, and well warmed in winter. The pupils sit on raised benches, with a long narrow form before them, and the professor, with his books and a black board for the demonstration of his lecture, is placed on a raised platform at the opposite end of the apartment. An admirable degree of cleanliness is preserved in these rooms, as well as in the wide and well-
The difficulties which have arisen have been confined to the superior lord of the fee, which superior lord was the girl's father. Girls are limited to the study of their own language, services, the rendering of aids and relief to the aged and infirm. Much conversation on the subject of education is given, and where a domestical education is given, and where the knight's fee and three-fourths; and, like other military grants by William I. to one of his Norman followers, is nearly the same as among those of the higher classes. The system should be extended; and for that purpose some girls were placed in the institution, with the intention of rendering them competent ultimately to impart similar instruction to the female children in different parts of the country. How the plan now operates we have no means of knowing; but with the lady mentioned, who is still at St. Petersburg, the writer had much conversation on the subject of education in Russia, in the year 1829, and a few of her statements are as follows:

"Except in the case of a very limited number of enlightened owners, the education of the bond-children is entirely neglected. When instruction is given to the children of the lower classes, the routine of education is nearly the same as among those of the higher classes. The school on which I am engaged is the only one in which a domestic education is given, and where the girls are limited to the study of their own language. The difficulties which have arisen have been confined to the discontent and opposition of parents, who, though so poor as not to be able to feed and clothe their children, could not endure that they should be taught no French or dancing, or that they should be employed in household work. From this cause many have been taken away, and there has been much misrepresentation. The directors were always convinced of the necessity of such a mode of education, and therefore stood firm friends to the school, or it would long ago have been closed. Now the parents are more reasonable and confiding, so that we have comparatively few difficulties."

It is the desire of our excellent patron, Prince Alexander Galitzin, that the children may be kept as much as possible apart from communications with their own people, and they never visit the abode of their parents unless under very peculiar circumstances. Twenty-two are placed in the house by order of the emperor; these are generally complete orphans, or the children of abandoned parents. They are kept in the establishment until sixteen years of age, when they are put to service, or as teachers in private schools. None who have left regularly, and at sixteen, can be said to have turned out otherwise than well, except one girl; they either earn a comfortable support by service, or work at home for their parents. Children are frequently sent here by their barons to be trained to active habits: there are now twenty of this kind in the school. Several have left, and have given satisfaction to their owners."

The writer was often among these children, both in their hours of study and relaxation, and was much delighted to observe the uniformly neat, cheerful, and healthy appearance they presented. Their school was very pleasing and encouraging, and they appeared to regard their kind instructor with the greatest attachment. He could not but feel deeply interested when he considered the important influence which the "bond-children" then before him might exercise, in raising the condition and character of the peasantry, by furnishing, in different parts of the vast Russian Empire, examples of minds improved by knowledge, and of domestic habits and attainments formed on a much higher standard than had been previously known in that country. It is right to add, that the lady mentioned spoke highly of the general aptitude of her pupils.

**WHICHNOR BACON.**

On the regular mail-road from Sheffield to Birmingham, half-way betwixt Burton-on-Trent and the city of Lichfield, stands, on the left hand, a very well-built and commodious inn, bearing the sign of a large flitch of bacon, with the motto, "WIN IT AND WEAR IT." It is the desire of our excellent patron, Prince Alexander Galitzin, that the children may be kept as much as possible apart from communications with their own people, and they never visit the abode of their parents unless under very peculiar circumstances. Twenty-two are placed in the house by order of the emperor; these are generally complete orphans, or the children of abandoned parents. They are kept in the establishment until sixteen years of age, when they are put to service, or as teachers in private schools. None who have left regularly, and at sixteen, can be said to have turned out otherwise than well, except one girl; they either earn a comfortable support by service, or work at home for their parents. Children are frequently sent here by their barons to be trained to active habits: there are now twenty of this kind in the school. Several have left, and have given satisfaction to their owners."

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singular, and, in many cases, jocular institutions, wishing to free his companion from the liability of being called upon for his aid at times inconvenient to himself, established the following commutation for the moiety of his claims; that is, in all probability, for the manor of Whichnor.

"That he," Sir Philip de Somervile, "should find, maintain, and sustain one bacon-flyke, hanging in his hall at Whichnor, ready arrayed at all times of the year, but in Lent, to be given to every man or woman married, after the day and year of their marriage was passed; and to be given to every man of religion, archbishop, bishop, prior, or other religious; and to every priest after the year and day of their profession finished, or of their dignity received, in form following:—Whenever any such before-named will come for to enquire for the bacon in their own person, or by any other for them, they shall come to the bailiff, or to the porter of the lordship of Whichnor, and shall say to them in the manner as ensueth:—Bailiff, or Porter, I do you to know, that I come for myself; (or, if he be coming for another, showing for whom he demands,) to demand one bacon-flyke hanging in the hall of the Lord of Whichnor, after the form thereby belonging.

Application being thus made, the bailiff or porter shall appoint a time for the applicant to come again, bringing with him two of his neighbours. "In the mean time the said bailiff shall take with him both of the freeholders of the lordship of Whichnor, and they shall go to the manor of Rudlow belonging to Robert Knightley, and then shall summon the afore-said Knightley, or his bailiff, commanding him to be ready at Whichnor the day appointed, at prime of day, with his carriage, that is to say, a horse and a saddle, a sack and a pryke (ask d), for to convey and carry the said bacon, and come a journey out of the county of Stafford at his cost. And thus the said bailiff shall, with the said freeholders, summon all the tenants of the said manor to be ready at the day appointed at Whichnor, for to do and perform the services which they owe to the bacon. And at the day assigned all such as owe services to the bacon shall be ready at the gate of the manor of Whichnor, from the rising of the sun to noon, attending and awaiting for the coming on him that fetcheth the bacon. And when he is come there shall be delivered to him and his fellows chaplets, and to all those who shall be there to do their services due to the bacon. And they shall deal the said demands, with trumpets and tabour, and other manner of minstrelsy, to the hall door, where he shall find the Lord of Whichnor or his steward, ready to deliver the bacon in this manner.

"He shall inquire of him who demandeth the bacon, if he has brought twain of his neighbours with him, and he must answer, 'They be here ready.' And then the steward shall cause these two neighbours to swear, if the said demandant be a wedded man, and if, since his marriage one year and one day has passed, and if he be a freeman, or a villain. And if his neighbours make oath that he hath for him all these points encompassing an acre of ground." And then shall Knightley, the Lord of Rudlow, be called, for to carry all these things before rehearsed; and the said corn shall be laid upon horse, and the bacon above it; and he to whom the bacon appertaineth shall ascend upon his horse, and shall take the cheese before him, if he have a horse; and if he have none, the Lord of Whichnor shall cause him to have one, and a saddle, until such time as he has passed his lordship; and so shall they depart the manor of Whichnor, with the corn and the bacon before him that hath won it, with trumpets, tabrets, and other manner of minstrelsy; and all the free tenants of Whichnor shall conduct him past the lordship of Whichnor; and then all shall return, except him to whom appertaineth to make the carriage and journey out of the county of Stafford, at the cost of his Lord of Whichnor. And if the said Knightley do not cause the bacon and corn to be conveyed as is rehearsed, the Lord of Whichnor shall cause it to be carried, and shall distraint the said Robert Knightley, for his default, for one hundred shillings, in his manor of Rudlow, and shall keep the distress so taken irrepeivable.

Sir Oswald Mosley (from whose recently-published 'History of Tutbury') part of the foregoing account has been extracted observes,—"The merry Sir Philip continued to treat his bacon with due respect, for we find him granting to Hugh, son of Walter de Newbold, and Agnes his wife, by deed in the 16th of Edward I., several small pieces of land in Dunstall, upon condition that they should render to him and his heirs annually eight hens at Christmas, and one chaplet or nosegay of white and red roses, to decorate the bacon at Whichnor every year, on the feast of St. John the Baptist; they were also under an obligation to dress the said bacon, with flowers prepared for them, ten times a year, viz., to begin on Easter Eve, and continue the same monthly until the feast of St. Michael, and upon the Vigil of All Saints and Christmas Eve they were to decorate the same with ivy."

The manor of Whichnor no longer remains in the family of the Somervilles; it has had various possessors; and the hall in which the flitch originally hung has been long since destroyed. Leland says, that "Whichnor was the site of a very ancient mansion which was then in ruins, and that the spot on which it stood was subject to inundations from the Trent. Traces of this mansion are still visible in the meadows at a small distance south-west of the church. The moat is square, encompassing an acre of ground." A new building, however, has been erected, and bears the name of the lodge; in the hall of which a piece of wood in the form of a flitch of bacon hangs near the chimney, as a remembrance of the obsolete tenure.

* * *

The Office of the Society for the Diffusion of Useful Knowledge is at 29, Lincoln's Inn Fields.

LONDON.—CHARLES KNIGHT, 22, LUDGATE STREET.
THE GAME OF SHINTY

In the Highlands of Scotland it is customary for persons to amuse themselves, in the winter season, with a game which they call "shinty." This sport has a considerable resemblance to that which is denominated "hurling" in England, and which Strutt describes under that name. The shinty is played with a small hard ball, which is generally made of wood, and each player is furnished with a curved stick somewhat resembling that which is used by golf players. The object of each party of players is to send the ball beyond a given boundary on either side; and the skill of the game consists in striking the ball to the greatest distance towards the adversaries’ boundary, or in manoeuvring to keep it in advance of the opposing side. Large parties assemble during the Christmas holidays, one parish sometimes making a match against another. In the struggles between the contending players many hard blows are given, and frequently a shin is broken, or by a rarer chance some more serious accident may occur. The writer witnessed a match, in which one of the players, having gained possession of the ball, contrived to run a mile with it in his hand, pursued by both his own and the adverse party until he reached the appointed limit, when his victory was admitted. Many of the Highland farmers join with eagerness in the sport, and the laird frequently encourages by his presence this amusement of his labourers and tenants.

MINERAL KINGDOM.—SECTION XXX.

Tin.

The appearance of this metal is familiar to everyone from its extensive use for domestic purposes. When in a pure state, and recently melted, it has a bright shining surface, like silver, which, however, soon becomes tarnished by exposure to the air. Its specific gravity is nearly eight times that of an equal bulk of water, so that it is a little lighter than iron. It has very little tenacity, and cannot be drawn out into wire; but it is very malleable, being capable of being beaten out into leaves thinner than writing-paper. It is the most fusible of all the metals, except mercury, and melts at a very low heat, viz., 442°, which is little more than twice the heat of boiling water. None of the metals used extensively in common life are so sparingly disseminated over the globe, and the chief supply of it is nearly confined to two places, viz., Great Britain and the Indian Archipelago.

Tin is never found native, that is, in the pure state; and there is only one species of ore, if we except one variety which is known only as a rare specimen in the cabinets of mineralogists. The ore from which we obtain the metal is an oxide, containing $\frac{75}{100}$ parts of
The sand is the most valuable, because the larger pieces have often copper, or iron, or some vein-stone attached to them. No animal remains have been found in the lower part of the deposit, but roots of oak-trees have; and in the upper beds, wood, nuts, leaves, and shells, together with the bones and horns of deer and oxen, are not of unfrequent occurrence: the shells are of identical species to those found on the beaches of the lower bed. At a depth of twenty feet from the surface, a piece of wood, fashioned by art, was once met with. Similar alluvial deposits are met with in other parts of Cornwall. It is a very interesting subject of inquiry from what sources these collections of water-worn fragments have originated; that they belong to the rocks of the country is evident, but it is not of sufficient extent to lead us to suppose that the wearing of the fragments has been occasioned by a long transportation. We should seem as if the surface of the land had been bordered for a time with water in violent agitation, and that it was swept off in a direction from the north to the south; for the greatest number of these stream-works are in the valleys opening to the sea on the south and south-east, and there are few in those valleys of which the lower termi nation are to the north and north-west. The occurrence of tin-ore in veins near the surface which at greater depths afford the ores of other metals to the entire exclusion of tin, prove prehistoric intrusion of the former mean while these veins have to have existed even to a greater extent in former times, otherwise fragments of other ores would have been more commonly met with in the stream-works, even although we take into account that tin-ore is much less liable to decomposition than the usual ores of copper and iron in Cornwall are. These tin-veins at the surface must have been torn up along with the other surface rocks, and the fragments abraded and rounded, swallowed up and afterwards gradually deposited in some of the country. There are deposits of stream tin-ore of different ages, for in none of the lowest have any organic remains been found; but they have been met with in the superior parts, and some of these accumulations are of comparatively recent date, for at Trelaw, brooches, rings, and coins of rude workmanship, were found in a bed of tin-ore of small thickness. Thus it is evident that the stream-works cannot be ascribed to the action of any one period, as the Dacian or Deluge, but that water must have swept over the land at repeated and distant intervals of time.

The principal tin-mines of Cornwall are in the south west part of the county, in the parish of St. Just, where the country consists principally of granite; but there are several productive mines in the slate in other places. In our description of the copper-mines we have mentioned that several are worked under the bed of the sea: there are some of the tin-mines in similar situations. One was opened actually in the sea some years ago. It was called Wherry Mine, and was situated near the shore, a little to the west of Penzance, where a rock of elrath, which had been found to contain slender veins of ore, was uncovered at low water. An adventurous miner set to work, although the rock was covered several feet deep at every tide, so that he could only proceed during a part of the day. Every time the men returned to their work they had to empty out the water in the excavation they had formed; but after they had advanced some way an incllosure, or kind of coffer-dam, like what is used in building the piers of bridges, was constructed, which rose above the high-water level, and, by machinery connected with a steam-engine at 200 yards distance on the shore, the work was proceeded with. The mine produced a considerable quantity of ore for several years, when unfortunately a large vessel, which had drifted from her moorings, struck against the coffer dam, overturned it, and the whole works were in an instant filled with water. The most important stream...
works are in the neighbourhood of St. Austel and
St. Just, and the most productive are those of Pentewan
above referred to.

The early history of the working of the Cornish tin-
mines has occupied the attention of many writers, and in
a volume of the Transactions of the Cornwall Geological
Society there is an interesting essay on the subject by
Mr. Hawkins, from which we have derived several of the
following particulars. The earliest notice of tin is in
the Book of Numbers, xxxi. 22. The Hebrew word,
which, in the Septuagint, or ancient Greek translation,
is rendered in that place by Cassiteros, and, in the
Vulgate, or ancient Latin translation, by Stannum,
is Ofret; but in Ezekiel, xxii. 18, 20, the same words
are used to translate the Hebrew Bedil. That the Cass-
teros of the Greeks and the Stannum of the Romans
were pure tin is doubtful;—it is more probable that they
were a mixed metal, but containing tin. Now whence
did the Midianites derive their tin? None is known to
exist nearer their country than in Spain. The prophet
Ezekiel, xxvii. mentions Bedil as an article of Phæ-
nician commerce. That people had a colony at Gades
in Spain, in the modern Cadiz, and may have derived
the tin from that country. According to Heren, Gades
must have been founded 1100 years before Christ, and
there is reason to believe that the Phænicians
both through the medium of that colony and
directly, had intercourse with Britain about a century
before his time, and that they got their tin from thence.

Price conjectures that the celebrated Tyrian purple
dye was produced by tin. Herodotus speaks of the
Cassiterides, or Tin Islands, but does not say where they
were situated; they have usually been considered to
mean the Scilly Islands, and adjoining coast of Corn-
wall, for there are traces of old tin-mines in these
islands, which have the same geological structure as
that of the tin district of the main land; and Borlase
says that, to those who are on the Scilly Islands, Corn-
wall appears like an island. This product of Cornwall
was a staple article of Phænician commerce for many
centuries, and was conveyed by them to the eastern
shores of the Mediterranean, from whence, according to
Arrian and Pliny, it was transported as far as India.
According to Dio Florus, a commercial intercourse sub-
sequently existed between Cornwall and the southern provinces of
the Roman empire. That the Romans worked tin-
mines in Cornwall is extremely probable, for there are
well-authenticated instances of the discovery of Roman
coins in old tin-mines and stream-works; and a block
of tin of a singular form, with an inscription in Roman
letters upon it, was found in the parish of Veryan.
Wooden tools of different kinds, and of antique form,
have been found in the stream-works, but no such tools
have ever been found in the copper-mines.

With regard to the tin trade of Cornwall in the
middle ages, Mr. Hawkins remarks, that there appears
to have been at all times a steady demand for it in
the markets of the East, from the invariable usage in those
countries of tinning the inside of their kitchen utensils,
which are made of copper; that a great increase of
demand took place in the eighth century, when bells
for churches came into general use in western Europe,
for they were then cast of a great size. The mines
were of great activity in the thirteenth century, for
Richard Earl of Cornwall at that time possessed in-
numerable wealth, which he derived from his mines.
Towards the end of the fifteenth century, the introduc-
tion of brass guns for field artillery created a new demand;
as did the invention of pewter in Italy, where it had
come into common use in the early part of the sixteenth
century.

In our next Section shall describe the manner of
smelting the ore, and the chief foreign localities from
which this metal is obtained.

OLD TRAVELLERS.—BUSBEQUIUS.—No. V.

From Chiansada Busbequis went on to Karali, Haz-
dengri, and Mazothoy, crossing, near the latter place,
the river Sangar (Sangarius), which, he says, "runs
into the Pontus, or Black Sea, out of Phrygia." From
the Sangarius he proceeded by four other places, of
no name or importance; and on the ninth day after his
departure from Constantinople, and not before, he
arrived at the ancient city of Anecra, called by the
Turks Angur, and by us Angora. He says, "I saw
nothing remarkable in all these villages we went
through, save that sometimes among the Turkish
tomb-stones we discovered some pillars, or ancient
pieces of curious marble, whereon were many remains
of Latin or Greek inscriptions, but so defaced that they
could not be read; which disappointment I very much
resented; for my great delight was, as soon as I came
to my lodging at night, to inquire after old inscriptions,
together with Latin and Greek coins, and sometimes
for rare kinds of plants."

Further on, he says, he found abundance of old
coins all up and down this country, and saw that the
Turks were in the habit of defacing them, and using
them for weights and measures; and of melting down
the copper ones to furnish materials for pots and pans.
"There was a brazier in one city," he continues, "who grieved
me very much; for, demanding of him whether he had any
ancient coins to sell, he answered me that he had a few
days ago he had a room full of them, but had melted them
down to make brass kettles, as thinking them of little
value, and fit for no other use. When I heard this story,
it troubled me much to lose so many choice monu-
ments of antiquity; but I paid him back by telling
him that I should have given him 100 guineas for them;
so that my revenge was suited to his injury; for I sent him
away as sorrowful for the loss of so great gain, as he did me
for losing the coins."

Of Anecra, or Angora, he says, "It is a city of
Galatia, sometime the seat of the Gauls, called by
Pliny the Tectoses; nor was it unknown to Strabo, though,
perhaps, the present town stands but on part of the
old town, called in the canons Anguira. Here we saw
a state superintendence, and a sampler of those
which are made of copper; that a great increase of
the Halys, which, like the Sangarius, falls into the
Black Sea, Busbequis travelled on to Tecki-Thioi, where
the Turks had a state monastery for their monks, or
dervishes. These dervishes told him many wonderful
stories about a sort of Mahommedan St. George, called
Chederles, who rescued a virgin by slaughtering a huge
and terrific dragon; and, after doing many other deeds,
became immortal (he and his horse) by drinking the
water of a certain river which "lies somewhere hid in
a great cloud, or mist of darkness, so that it has never
been seen since!" Our traveller gives an amusing
and what is still a true account of the popular ana-
chronisms, and jumbling of history and character,
among the Turks.

"They do say that Chederles was one of the friends

F 2
and companions of Alexander the Great. But the truth is, the Turks keep no just account either of times or places, but make a confused hodge-podge of all history. They scruple to say, "That Oak was master of the horse to Solomon, and that Alexander the Great was general of King Solomon's army!"

On the second day after crossing the Halys, and the thirtieth after his departure from Constantinople, Busbequius reached Amasia, the end of his journey. He had travelled very slowly; and the Turks had purposely delayed him several days on the road, in order that he and a Persian ambassador, who was also going to sue for peace, should arrive about the same time at the warlike sultan's head-quarters. A few hours after his arrival at Amasia, he was introduced to the great Solyman, who received him with a sour and frowning countenance. He says—

"The sultan sate upon a low throne, not above a foot from the ground; but it was all covered over with rich tapestry, and with cushions exquisitely wrought. His bow and arrows lay by his side: he himself, as I said, looked sternly upon us; and yet there was a certain majesty, mixed with severity, in his countenance. Each of us, as we entered the room, was led up towards him by some of the bedchamber officers, who held us tight by the arm * * * and afterwards having made as if we kissed his hand, we were led backward to the opposite side of the room; for the Turks count it an unmannerly thing to turn any of their back parts is its quality: it is comparatively worthless when it made as if we kissed his hand, we were led backward but its astringent qualities are greater. The nearer the bark of a tree always contains a greater proportion of the wood in a few years cause the bark

A description of oak growing in North America produces the Quercus tinctoria, which forms so important a tree. Its medicinal value of the Peruvian bark has been known about two centuries, but it was not until fifty years after its introduction in Europe that its qualities were duly appreciated. The Peruvian cinchona, of Peru, which is of a pale colour, is becoming scarce. When dry it is scarcely odorous, but becomes so when used as an infusion. The two other descriptions are the red bark and the yellow bark. The fruit is less bitter than that of the cinchona, but its astringent qualities are greater. The nearer the second approaches the colour of an orange the better is its quality: it is comparatively worthless when it assumes a hue between red and yellow. It is bitter to the taste, but its properties are not astringent.

The bark of a tree always contains a greater proportion of the principle of a plant than any other organ. Oak-bark possesses a chemical property which is used in converting hides into leather. The astringent quality which effects this is called tannin. Heath, gill-nuts, birch-tree bark, myrtle leaves, leaves of wild laurel, and even oak saw-dust. Sir Humphry Davy ascertained the relative value of the tanner of various substances in which tannin resides. He showed that 3 1/2 lbs. of oak-bark are equal to 21 lbs. of galls, to 3 lbs. of sumach, to 7 lbs. of bark of the Leicester willow, to 18 lbs. of elm-bark, and to 21 lbs. of common willow-bark. The following table is the result of another series of experiments which Sir H. Davy made. It shows the quantity of tannin he obtained from 480 lbs. of the bark of middle-sized trees of the species enumerated, gathered in the spring, when this property exists in the greatest abundance.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Lbs. of Oak-bark</th>
<th>Lbs. of Tannin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oak</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Spanish Chestnut</td>
<td>21</td>
<td>8</td>
</tr>
<tr>
<td>Leisure Willow (large)</td>
<td>33</td>
<td>14</td>
</tr>
<tr>
<td>Blackthorn</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>Common Willow (large)</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Ash</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>Horse Chestnut</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Inner bark of Oak-bark</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Larch cut in Autumn</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Sumach</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>

Before being used in tanning, the bark is ground into coarse particles, and a layer is put upon each skin in the tan-pit. Without bark or tannin the skins would dissolve into glue, but the astrignency which it possesses occasions a process exactly the reverse, and forms the substance called leather. The use of bark in hot-houses is setting out fruit and shrubs with success.

It would be difficult to form a correct opinion as to the quantity of bark used for tanning in this country in a single year. Our foreign supplies of oak-bark are derived from the Netherlands, Germany, and some of the Mediterranean ports, and amount to about 40,000 tons annually; the duty being 8d. per cwt. on that imported from foreign countries, and 1d. if coming from British possessions.
The importations of cork amount to about 44,000 lbs., which arrive chiefly from Portugal; the duty is 8s. per cwt. Our own cork-cutters are protected from foreign competition by a duty of 7s. per lb. on manufactured corks. In 1832 the importation of Peruvian bark amounted to 356,998 lbs.; in 1833 to 253,767 lbs. (duty 1d. per lb.); but after retaining 49,525 lbs. for domestic consumption, the remainder was exported to foreign countries.

The plate represents a party of women engaged in peeling the bark from an oak-tree. To the intelligent inhabitant of the country the cutting down of an aged tree is a somewhat painful occurrence. It has probably been the admiration of the neighbourhood for many generations; and the removal of an object which his forefathers as well as himself had regarded with interest and pleasure, harshly severs many of the associations which almost visibly connected the past with the present. The conviction, however, that what has been beautiful in its natural state will be eminently...
THE PENNY MAGAZINE: [JANUARY 31, 1839]

useful in its employment by man, at once reconciles the reflecting mind to the circumstance. The oak formed into a stately ship is better than the oak rotting in forests which human art has never felled.

Trees are sometimes left standing until they are so completely undermined by age, that it is a measure of safety to cut them down to prevent their falling on the cattle which resort around for shelter. For the purpose of obtaining timber for commercial uses, the proper time for felling an oak or any other tree is at the season of its maturity, when it ceases to make any further increase to its diameter. The farmer, then, either cuts the roots at about three feet from the stem, and secures a chopping-block for the butcher, or severs the trunk at the level of the earth, and leaves the root to grow shoots for fuel. The tree being felled, is next divested of its branches, which are sorted into fence-wood, faggots, &c., and the trunk and arms preserved as entire as possible for the builder. But before the trunk is deprived of its larger branches, the whole are stripped of the bark. This operation is performed in the following manner:—a number of women called "barkers" are each furnished with light short-handled mallets made of hard wood, about eight or nine inches long, three inches square at the face, and the other end sharpened like a wedge, in order the more easily to make an incision in the bark, which is done all along the trunk at the uppermost part. This operation is performed in a straight line; and as two barkers generally work together, it is proper that whilst one is employed in making an incision with the mallet, the other, being furnished with a pointed instrument called the "barking-hill," cuts the bark across the tree in lengths of from two feet six inches to three feet, and then, by forcing a shoved-shaped instrument called a "peeling-iron" between the bark and the wood, each separates a former, and peels it from the trunk in entire pieces. The larger branches are afterwards stripped in a similar manner. This business being chiefly done in the early spring season, the vast trunks are left in the situations in which they first fell till the gathering of the crops in autumn permits their removal. During this time they get blanched to almost perfect whiteness, and in the midst of the summer verdure have a very singular but picturesque appearance.

When peeled, is carefully dried for two or three weeks, and then piled in stacks of about eight feet square by fifteen feet in height, and sold to the tanner.

NORTH AMERICAN INDIANS.

The spirit of investigation has hitherto been so little towards laying down any satisfactory data as to the origin of the aborigines of North America. The relics pertaining to them, which are at times discovered, are few and simple, consisting chiefly of hatchets of a rude form, knives of stone, mortars for bruising maize, arrow-heads, and similar articles. But these afford no grounds on which to trace their history. They are the same as had been long in use before the discovery of America, and the tree has undergone no change at the time when the "pilgrim fathers" landed at Plymouth and laid the foundation of a new world. It is true that there are traces of a people who lived at a period antecedent to that of the Indian tribes with which Europeans have become acquainted, but their history is still further lost in mystery. Their tumuli are to be found in many parts of North America, and from the age of the trees which have grown over these remains, it is calculated that at least a thousand years have elapsed since their abandonment; and how long they had previously existed it is impossible even to form a well-grounded conjecture. The tumuli are generally in the neigh-

bourhood of the great rivers, between the shores of Lake Erie and the Gulf of Mexico. It is not an idle speculation to assume that the people by whom they were constructed possessed some knowledge of the useful arts, and consequently were more civilized than the subsequent inhabitants of the country; but some have inferred that the existence of great rivers, one of the tribes were powerful, both by their warlike qualities and their political talents. The Mohawks and four other tribes formed a confederacy, whose power extended from the Canadian Lakes to Virginia. The Cherokees not only occupied thirty,000,000 of acres as their hunting grounds, but defended the same by their arms. The whole of the vast territory of North America was divided among a variety of tribes all distinguished as much as possible for their work and hunters. It is indeed to be found in this quarter which could attract a people to whom the exertion of continued labour was irksome. The woods produced an abundant supply of wild-fruits; the plains brought forth herbs and vegetables; and deer, moose, bears, turkeys, pigeons, quails, and partridges, everywhere abounded. The beaver and a variety of animals furnishing valuable skins were almost as numerous as the game in a modern preserve, and the bays, creeks, rivers, and lakes, furnished plentiful supplies of fish and wild-fowl. Here, where but little exertion was required to supply the few natural wants of life, the native tribes might have increased in numbers and happiness, and, if it were consistent with that stage of society, have contained in reality those attractions which it is vainly supposed to exhibit in contrast to the struggles of a more civilized career. But the condition of the wild tribes was such, that they were destined to disappear, which it could have been placed, contained within itself no progressive principle; and when industry and the application of the useful arts had given the first settlers prosperity, ease, and comfort, the savage tribes, not being drawn within the extending stream of civilization, gradually dwindled in their power and numbers, till it has become a question whether in a few years any traces will remain of their existence. Thatcher, an American writer, remarks:—"The time will come but too soon, we fear, when the history of the Indians will be the history of a people of which no living specimen shall exist upon the earth: too soon will the places that now know them know them never again. Their council-fires will have gone out upon the green hills of the south. Their canoes shall plough no more the bosom of the northern lakes. Even the prairies and mountains of the far west will cease to be their refuge from the threatening march of civilization. Their forests will be felled; their game will disappear; and then,—if indeed no portion of them can be rescued by benevolence from the grave of heathenism,—if no blessed ray of the knowledge of man, or the saving truth of Heaven, shall lighten the gloom of the wilderness,—then will the last Indian stand upon the verge of the Pacific seas, and his sun will have gone down for ever."

To civilized men of all countries the interests of humanity are too dear to permit them to regard the extinction of a race possessing, or which once possessed, a national existence and not a few grand and noble virtues, without strong feelings of sympathy. The nar-
natives of Hunter and Tanner, the writings of Chateaubriand, Campbell's "Gertrude of Wyoming," the novels of Cooper, and other works, have strongly interested men in the fate of the North American Indians, and made us familiar with their skill as hunters, their indomitable courage as warriors, and their simple virtues as men. If the poet and the novelist have been touched with their many claims on their fellow-men, the statesman and the Christian will surely regard their condition with still higher interest.

In the United States' territory the number of Indians existing at present amounts to about 313,000. In Vermont, New Hampshire, and several other States, none are left. In Maine, Massachusetts, Rhode Island Connecticut, and Virginia together, there are less than 2,500. The policy of the United States towards the Indians has been laudable, so far as the central government is concerned. Many years ago, the Cherokees wished to remain on the land of their fathers, but were driven away. In a treaty with the United States, they agreed to remove west of the Mississippi, and would have been paid for their lands. In 1825, the ratification of the population of the United States, the Cherokees amounted to 15,060, including 1,200 African whom he had never seen, replied, "The thief I know is in 1825, the rate at which the population had increased during the twelve years, varied but little from the common rate of increase. They possessed 80,000 domestic animals, including horses, cattle, sheep, and swine, 3,000 ploughs, 2,500 spinning-wheels, 62 blacksmiths' shops; in fact, they had within themselves all the materials for obtaining abundance and prosperity. A well-organized government watched over the interests of the community. The executive was composed of a chief and assistant, with three counsellors, all elected by the legislature, which consisted of a national committee and a national council, the former consisting of sixteen members, and the latter twenty-four, the members of each body being chosen for two years. All males above eighteen years of age, except those of African origin, possessed the privilege of voting. Each of the two bodies had a negative on the other, and together were styled the "General Council of the Cherokee Nation." The executive counsellors were chosen annually. The courts of judicature consisted of a supreme court, and of circuit and inferior courts. There was also a treasury, but we are not aware in what manner its coffers were filled. The dress of the Cherokees was substantially the same as that of their white neighbours. They raised not only sufficient food to supply their own wants, but many of them had a surplus of corn for sale; and they had ceased to depend upon game as a means of subsistence. Their dwellings were neat and comfortable; the simplest were log-cabins, and seldom without a proper floor, but many consisted of two stories, and some dwellings were of wood, or brick neatly painted, and both commodious and handsome.

Nor was the intellectual and moral state of the Cherokees less cheering than their physical condition. Polygamy was declining among them, and their women were assuming the position for which they were designed. Eighteen schools had been established. At the commencement of 1831, about 200 Cherokees, exclusive of females, had attained an English education, which enabled them to transact or carry on any ordinary business; 500 children were learning English, and a majority of the population, between the period of childhood and middle life, could read their native language. The government possessed a press, at which the Gospel of St. Matthew and a collection of hymns had been printed in Cherokee. A newspaper was also published in the same language. A native named Guess had invented the characters.

This was an important point in the history of the Indians. Their common mode of communication had previously consisted of a system of hieroglyphics inscribed on a piece of bark, or on a large tree with the bark taken off for the purpose. A party of hunters would describe a chase. Charellevois, an old French writer, remarked that the Indians were so acute that even on the hardest ground they would discover if a person had recently passed, and would distinguish the footsteps of men from those of women, and even of what nation the parties were. An anecdote is related of an Indian hunter who, having discovered that some venison which he had hung up in his hut to dry had been stolen, set off through the woods in pursuit of the thief. He had not proceeded far before he met with some persons of whom he inquired if they had seen a little white man with a short gun, accompanied by a small dog with a little tail, as a man of that description had stolen his venison? They happened to have seen such a person; and the Indian, on being asked how he could describe a man whom he had never seen, replied, "The thief I know is a little man, by his having made a pile of stones to stand upon in order to reach the venison; that he is an old man I know by short steps, which I have trodden over the dead leaves in the woods; and that he is a white man I know by his turning out his toes when he walks, which an Indian never does. His gun I know to be short, by the mark the muzzle made in rubbing the bark of the tree on which it leaned; that his dog is small I know by his tracks; and that he has a short tail." I discovered by the mark it made in the dust where he
The following sketch of college life in the United States is abridged from an American work*; which has, we believe, been re-published in this country.

I must say a word or two with regard to the ordinary routine of daily life at college. Very early in the morning the bell rings at a few minutes past seven, and all the buildings inhabited by the students. They mark the rooms occupied by the more industrious or more resolute, who rise and devote an hour or two to their books by lamp-light in the winter mornings. About day the bell awakes the multitude of sleepers in all the rooms, and in a short time they are to be seen issuing from the various doors with sleepy looks, and with books under their arms, and some adjusting their burried dress. The first who come down go softly, others with quicker and quicker step as the tolling of the bell proceeds, and the last few strugglers run with all speed to secure their places before the bell ceases to toll. When the last stroke is sounded, it usually finds one or two too late, who stop suddenly and return slowly to their rooms. While the morning religious service is performed by the president, or one of the professors, the students exhibit the appearance of respectful attention, except that four or five, appointed for the purpose in different parts of the chapel, are looking carefully around to observe what persons are absent. A few, also, conceal under their cloaks, or behind a pillar or partition between the pews, the book which contains the morning lesson; and even the lightest whisper, as well as the faint but increasing light will enable them, for the time wasted in idleness or dissipation the evening before. When prayers are over, the several classes repair immediately to the rooms assigned respectively to them, and recite the first lesson of the day. During the short period which elapses between the recitation and the breakfast-bell, college is a busy scene. Fires are kindling in every room. Groups are standing in every corner, or hovering round the newly made fires: sapties are running up and down the stairs, two steps at a time, with the ardour and activity of youth,—and now and then a fresh crowd is seen issuing from the door of some one of the buildings where a class has finished its recitations, and comes forth to disperse to their rooms followed by their instructor, who walks away in his house in the village. The breakfast-bell brings out the whole flock again, and gathers them around the long tables in the Commons' Hall, or else scatters them among the private families in the neighbourhood.

And when breakfast the bell rings to mark the commencement of study hours; when the students are required by the college laws to repair to their respective rooms,—each of which answers the threefold purpose of parlour, bed-room, and study—to prepare for their recitation at eleven o'clock. They who choose to conscientiously obligate themselves to the day are thus described in the 'Cherokee Phoenix':—

"Mr. Guess is, in appearance and habits, a full Cherokee, though his grandfather, on his father's side, was a white man. He has no knowledge of any language but the Cherokee. He was led to the subject of writing the Cherokee language by the conversation of some young men, who said that the whites could put a talk upon paper, and send it to any distance and it would be understood. In attempting to invent a Cherokee character, he at first could think of no way but that of giving each word a particular sign. He pursued this plan for about a year, and made several thousand characters. He then became convinced that this was not the right mode, and, after trying several other methods, at length conceived the idea of dividing the words into parts. He now soon found that the same characters would apply in different words, so that their number would be comparatively small. After putting down and learning all the syllables that he could think of, he would listen to speeches and the conversation of strangers, and whenever a word occurred which had a part or syllable in it that was not on his list, he would bear it in mind till he made a character for it. In this way he soon discovered all the syllables in the language. In forming his characters he made some use of the English letters, as he found them in a spelling-book in his possession." After commencing the last-mentioned plan, he is said to have completed his system in about a month, having reduced all the sounds in the language to eighty-five characters. Mr. Guess was advanced in life when he entered upon this work.

We have not space in the present Number to show what is the policy of the British Government towards the North American tribes possessing territory, we shall again recur to the subject, and shall then give some account of their moral condition, and the prospects which there appear to be of their future civilization.

Colleges Life in the United States.

The following sketch of college life in the United States is abridged from an American work*; which has, we believe, been re-published in this country.


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The University of Oxford, as a corporate body, has been legally known, since the reign of Elizabeth, by the style of "The Chancellor, Masters, and Scholars of the University of Oxford." Of the general government it is not necessary to say much, as it would not have more than a local interest. The principal officers are:—the Chancellor, an office at present held by the Duke of Wellington;—the High Steward (Lord Eldon);—the Vice-Chancellor, who usually holds the office for four years, and appoints four Pro-Vice-Chancellors, who are changed annually;—two Proctors, a Public Orator, and numerous Professors and Lecturers.

Each separate college and hall has also a president of its own, variously, in different colleges, called Master, Rector, Principal, President, Provost or Warden. They are elected for life, and invested with full powers for the efficient government of their respective societies. They may be married men, which is not the case with the fellows of the several colleges, who cease to be such if they marry. Fellows and scholars in a college are wholly, or in part, supported from the revenues of the colleges with which they are connected; and the University, taken collectively, thus supports about one thousand of the members on its books. The fellows, with the master, have a proprietary interest in the college, and, except at Wadham College, they hold their fellowships for life, unless they receive some equivalent preferment, or contract a marriage. The value of fellowships varies greatly in different colleges; some afford a sufficient provision, while others only yield a small assistance. Scholars are simply students, who receive a certain annual sum for a given number of years—generally four years: the halls have no fellowships. These scholarships and fellowships are, in effect, premiums placed at the disposal of a college to enable it to reward and encourage eminent acquirements; but the efficacy of this encouragement is somewhat impaired by the donors having, in many instances, restricted the fellowships to the natives of particular counties, or even parishes, or to those educated at particular schools, whence it often happens that not the most meritorious of all the students, but only the most meritorious of a limited number, can be properly encouraged.

We now proceed to furnish a necessarily brief account of each college and hall of which the University of Oxford is composed.

Merton College.—The priority of foundation is disputed between this and University College; but there is no room to doubt that this is the oldest in point of legal establishment. It was founded about the year 1264, by William de Merton, Lord Chancellor, and afterwards Bishop of Rochester, for the maintenance of twenty scholars and three chaplains. The buildings were commenced in 1260, and finished in the year above-
Merton College is situated in John-street, to the east of Corpus Christi. Its buildings are arranged round three courts or quadrangles. The outer court to the street was rebuilt in the year 1580, with the exception of the tower and gate-house, which were constructed in the early part of the fourteenth century. This court contains the warden’s lodgings, some parts of which are said to be coeval with the original edifice. The principal object in this court is the chapel, which was completed at the expense of the college in 1610. It is in that mixed style of architecture which was fashionable at that period, the south gate of the quadrangle being surmounted by a specimen of the four principal orders. The inner court is of ancient date, and is supposed to have been entirely built about the same time with the library, which forms its south and west sides. This library was founded in 1376 by the Bishop of Chichester, and is the oldest structure distinctly appropriated to the purposes of a library in the kingdom. Merton, therefore, affords the example not only of the first regular college, but the first library in this country. The visitors in the reign of Edward VI. took away and sold or destroyed a great number of valuable manuscripts and printed books belonging to this library; but when it was restored by Sir Thomas Bodley, many of these which had fallen into private individual hands were recovered.

University College.—This college is popularly considered entitled to claim King Alfred for its founder. But as we have already stated the apparent amount of this monarch’s patronage of the schools at Oxford, it is now only necessary to state that University College, as such, resulted from the bequest of William of Durham, Rector of Wearmouth, who died in 1249, leaving a sum of money to provide a permanent endowment for the purpose of establishing a college. The income from this income was appropriated to the support of a limited number of individuals selected from the different schools: they remained subject to their respective schools until 1280, when they were formed into an independent society under certain limitations, and twelve years afterwards their privileges were confirmed and enlarged by statute.

This college, in its progress, has been much favoured by different benefactors, one of the most considerable of whom was Dr. Radcliffe, who, besides rendering munificent assistance towards improving the college buildings, instituted and endowed two travelling fellowships for students in medicine. Each fellow receives 300l. a year for ten years, the first five of which he is required to spend abroad. The foundation consists of a master, twelve fellows, eighteen scholars, with some exhibitioners, besides other students. There is in the chapel a fine monument by Flaxman, to the memory of Sir W. Jones, the distinguished Orientalist.

The college principally consists of two quadrangular courts. The west court was built at various times between the years 1634 and 1675; it is one hundred feet square, and contains, besides the buildings, an open quadrangle, with a flight of steps in this court leading to the hall, contains Wilton’s fine bust of King Alfred, from a model by Rysbrack; and portraits of Henry IV. and Robert Dudley, Earl of Leicester, burnt in wood, by Dr. Grifiths; the altar-piece in the chapel is a copy, similarly executed, of Carle Dolce’s Salvator Mundi. Balliol College.—Sir John Balliol, of Barnard Castle, in the county of Durham, the father of John Balliol, King of Scotland, commenced the foundation of this college about the year 1263, intending it to maintain sixteen poor scholars of Oxford. He did not live to carry his intentions fully into effect, but they were completed by his widow Dervorgille, who settled the scholars in a messuage, which she purchased and prepared for them on the site of the present college, and endowed the establishment with lands in Northumberland. At first, however, the allowance for each scholar amounted but to 6d. a week, or 27l. 9s. 4d. a year for the whole number. This seems to have been inadequate even in those times; but benefactors soon arose, and their united contributions raised the establishment to a considerable degree of opulence. It at present consists of a master, twelve fellows, and fourteen scholars, besides other students. There are also a considerable number of exhibitions, ten of which are for natives of Scotland. This college alone enjoys the privilege of electing its own visitor.

The buildings of this college were erected at various times, and are chiefly arranged around a quadrangle, which is 120 feet long, and 80 broad in the interior. The street-front presents much irregularity of structure. Over the entrance, in the centre, is a fine square embattled tower, with an oriel window in front, the north side of which is a highly enriched and canopied niche. This gateway is also decorated with the arms of Balliol: the buildings to the east and west of the tower were constructed at the beginning of the last century, and do not at all harmonise with the older portions of the college. The same dissimilarity is exhibited within the court, the northern side of which contains the chapel and library. The library was formerly considered one of the best in the University; and, previously to the Reformation, was particularly rich in manuscripts. The collection of printed books is still valuable and extensive, but is exceeded by those of many other colleges.

Exeter College.—This college was founded, in the year 1314, by Walter Stapledon, Bishop of Exeter, Lord Treasurer of England, and Secretary to Edward II., for a rector and twelve fellows, all of whom were to be elected from his own diocese. It was originally called Stapledon Hall; and, also Bishop of Exeter, who added two fellowships in 1404, obtained leave to alter the name to that which it at present bears. The foundation has since been much extended, and at present consists of a rector, twenty-five fellows, and nineteen scholars and exhibitioners. The members on the books in 1834 were 302, of whom 123 were members of Convocation.
The building of this college encompass a single quadrangle of 135 feet on each side. The principal front facing the street is 220 feet in length, and is divided by a gate of rusticated work surrounded by a tower with Ionic pilasters, supporting a semi-circular pediment, in the area of which are the arms of the founder on a shield surrounded with festoons. More uniformity prevails in the architecture of this college than in any of those already noticed, and its appearance on the whole is complete and pleasing. The chapel, which occupies a considerable portion of one side of the quadrangle, and was completed in 1674, is a neat and solid edifice in the later pointed style, and possesses the peculiarity of having two aisles. The present hall was built a few years previously, and the library, then the only remaining part of the original building, was taken down and rebuilt in a plain but neat style in 1778.

Oriel College.—This college was founded about the year 1326 by Adam de Brume, almoner of Edward II. This king is commonly considered the founder, for which there seems no other reason than that Brume surrendered it to his master in the hope of procuring his powerful favor and protection for the infant establishment, in which expectation, he was not disappointed, though it appears that the king's patronage was limited to favors which involved no cost to himself. The original foundation was for a provost and ten fellows, and at present comprehends a provost, eighteen fellows, and fifteen exhibitioners. The members on the books of this college in 1834 were 394, of whom 153 were members of Convocation. The members were originally placed in a tenement purchased by Brume, where St. Mary's Hall now stands; but they were soon removed from thence to a mansion called La Oundle or Oriel, given them by Edward III., in the continuation of whose reign additions were made to complete the establishment. The whole of which was enlarged and rebuilt in the early part of the seventeenth century, and now exhibits considerable uniformity of style and construction. The front towards the street is divided by a square tower which rises over the entrance, and is ornamented with a bay or oriel window, probably to give a name to the name the college bears. The hall faces the gateway, and is approached by a flight of steps under a portico, surrounded by statues of Edward II. and Edward III., with the virgin and child in another niche immediately above. The library is the only part of the buildings of recent erection. It was built from the designs of Wyatt, and executed under his direction.

Queen's College.—This college was founded in 1540 by Robert Eggesfield, confessor to Philippa, queen of Edward III. It was called after her "Queen's College," which seems to imply that she had some share in the foundation; at any rate she was entitled to it by her protection, and exerted herself to promote its welfare. The founder, who was a native of Cumberland, was particularly anxious for the promotion of education in the border counties, where, to use his own expression, "an unusual scarcity of literature prevailed;" the original establishment therefore was for a master and twelve fellows to be chosen from the counties of Cumberland and Westmoreland. In its progress this college has been patronized by the queens of England, after the example of Philippa, and through their contributions, and those of other benefactors, it now supports a provost, twenty-four fellows, two chaplains, eight tabarders (so called from a tabard or short gown which they formerly wore), twenty scholars, two clerks, and four exhibitioners. The members on the books, in 1834, were 333, of whom 175 were members of Convocation.

This magnificent college, which is situated opposite University College, in High-street, consists of two courts, divided by the hall and chapel and forming an oblong 300 feet long and 220 broad. The whole of the buildings, with the exception of the library, were erected during the last century, in the Grecian style of architecture. The principal front, towards the street, has in the centre a large gateway, over which is a statue of Queen Caroline, the consort of George II., under a cupola, supported by pillars, the construction of which is by some considerer rather too heavy for the place it occupies. This gateway leads into the first court, which was executed by Hawkwood, from a design either by Sir Christopher Wren or Dr. Lancaster, and bears, in general, a strong resemblance to the Luxembourg palace in Paris. It is surrounded by a cloister, except on the north side, which is occupied by the chapel and hall, and finely finished in the Doric style. In the centre, over a portico leading to the north court, is a handsome cupola, supported by eight Ionic columns. The library is in the other court, and was built in 1834, its principal feature being the one final panelling of the considerable building in the University, consisting of thirtysix doors, being 120 feet in length, and of corresponding breadth. Among its curiosities, it contains a very ancient portrait on glass of Philip V., who received his education at this college, and another of Cardinal Beaufort.

New College.—This college owes its establishment to William de Wykeham, Bishop of Winchester, and Lord High Chancellor, in the reign of Edward III., one of the most illustrious characters of the age in which he lived. He originally established his college in the year 1373, and placed the members in hired halls until the buildings of the college were completed in 1386, when they removed to the new premises. In the same year, Wykeham began his collegiate establishment at Winchester, which was intended, and still continues, to serve as a nursery to this at Oxford. The original foundation was so ample that, with some subsequent additions, it has become one of the wealthiest societies in Oxford. The college consists of a chapter, seventy fellows and scholars, with priests, clerks, and choristers, for the service of the chapel. The fellows and scholars are annually elected from the college at Winchester; the founder's kindred become actual fellows on their first admission, the others are scholars on probation till the expiration of two years. We perceive from the list that 27 of the 70 claim kindred with William de Wykeham. The college hall is called the "College of St. Mary of Winchester," having popularly received the name of "New College" at the time of its erection; it has retained that appellation to the present time. The members on the books of this college were 162 in 1831, of whom 69 are members of Convocation.

New College is separated from Queen's College by a narrow lane on the south. The buildings are extensive and diversified. The rooms are large and spacious, and the quadrangle, including the chapel, hall, and library, is only separated from the cloisters by a small square tower, which is supported by a portico, surmounted by a cupola, the construction of which presents a fine elevation as any in the University. The former, which is perhaps, taken singly, the most splendid building in the University, is remarkably beautiful and chaste in the interior decorations, and its windows afford a magnificent display of painted glass in four different styles of execution. The great west window exceeds all the others both in design and colouring, and probably is not surpassed by any similar work in this country. It was executed by Jervas, from finished cartoons by Sir Joshua Reynolds, and is divided into two parts, the higher representing the
Nativity, and the lower figures emblematical of the Christian and cardinal virtues. Among the curiosities preserved in this chapel is the superb and costly crosier of the founder. It is about seven feet high, of silver, gilt and enamelled, on which, instead of the holy lamb usually placed in the circle of crosiers, is a figure of Wykeham himself, in a kneeling posture.

Lincoln College was founded about the year 1479, by Richard Fleming, bishop of Lincoln, for a rector and seven fellows. This original foundation has been much extended by subsequent benefactions, so that the society now consists of a rector, twelve fellows, eight scholars, twelve exhibitioners, and a bible-clerk. It has 132 members on its books, of whom 74 are mem-
bers of Convocation. The Reverend John Wesley was a fellow of the college, within the walls of which the travellercrossesthebridgeovertheCherwell. The style is of the mixed kind; arched windows and battlements are among topographers. Besides the two courts there is a tower, and several other ranges of buildings belonging to the college, which have been erected at different periods, and were not included in the founder’s design. The tower, which attracts notice by the beauty of its proportions, was finished in 1498: it is said to have been designed by Cardinal Wolsey, a report which seems to have originated in the fact that he was a fellow of the college at the time. Addison was a fellow of this college, and a walk is still shown which he is said to have been in the habit of frequenting.

*The College of the Souls of all faithful people but eight other fellowships and several scholarships have been a fellow of this college, within the walls of which and of St. John the Baptist and Mary Magdalen, in the foundation of Methodism was laid. The other buildingsof the college constitute the west-side of Radcliffe Square, the front towards which is an extensive structure, which owes its erection to the munificence of Colonel Codrington, who bequeathed 10,000\[ to the purpose, besides leaving to the society books then valued at 6000\[. The buildingsof this college form two large quadrangles, one of which was erected by the founder, and, although now much modernized, preserves many of its original features. Two niches over the principal entrance contain large statues of Henry VI. and Chicheley. The other quadrangle, which is of comparatively modern erection, exhibits, especially when viewed from the west entrance, one of the most attractive scenes which Oxford can boast. The style is of the mixed Gothic. The chapel and hall are on the south side of this court, and the library on the north.

The library, which was begun in 1716 and completed in 1756, contains perhaps the largest room appropriated to the purpose in England, it being 198 feet in length and 34\[ in breadth. Dr. Young, the author of the *R文化创意* lectures, has described it, in the foundation of this structure, which owes its erection to the munificence of Colonel Codrington, who bequeathed 10,000\[ for the purpose, besides leaving to the society books then valued at 6000\[. The largeststatues of Henry VI. and brass, and serving as a knocker to the gate. The buildings of this college constitute the west-side of Radcliffe Square, the front towards which is an extensive range with a square battlemented tower in the centre, ornamented in the Gothic style, of which it is a purer specimen than any other part of the building offers. It was originally twice the height of the other parts of the front, but an attic having been added in the time of James I., the tower now seems disproportionately low.

*Magdalen College was founded in the year 1457, by Henry Chicheley, Archbishop of Canterbury, who prevailed on King Henry VI. to assume the title of co-founder. Wykeham’s College, of which Chicheley had been a fellow, appears to have been the model he kept in view in this establishment, which is called in the charter “The College of the Souls of all faithful people deceased, of Oxford.” It was originally intended for a warden, forty fellows, two chaplains, and a clerk. There are now four bible-clerks; but in other respects all remain the same as at the time of the foundation, with the addition only of gentlemen commoners, for no commovers are admitted. The members on the books of this college in 1894 were 158, of whom 115 were members of Convocation.

Magdalen College is situated near the back gate of Christ Church, on the south side of Oriel College. The principal buildings of the college are comprised in a spacious quadrangle, which is entered by a gateway under a lofty portico, and contains the chapel and a small one; the large court, which contains the hall and chambers, is ancient, with the exception of the attic. The small court contains the library and chapel erected in the seventeenth century, as some say from plans furnished by Sir Christopher Wren, who was then a young man at college. The architecture is of the mixed kind; arched windows and battlements being opposed by Corinthian pilasters and capitals.

*Corpus Christi College was founded in 1516 by Stephen Fox, Bishop of Winchester, Lord Privy Seal, for a president, twenty fellows, twenty scholars, and two chaplains. The members on the books in 1834 were 127, of whom 82 were members of Convocation. This college is situated near the back gate of Christ Church, on the south side of Oriel College. The principal buildings of the college are comprised in a spacious quadrangle, which is entered by a gateway under a lofty portico, and contains the chapel and a small one; the large court, which contains the hall and chambers, is ancient, with the exception of the attic. The small court contains the library and chapel erected in the seventeenth century, as some say from plans furnished by Sir Christopher Wren, who was then a young man at college. The architecture is of the mixed kind; arched windows and battlements being opposed by Corinthian pilasters and capitals;

*Christ Church College is the largest and most magnificent-foundation at Oxford, and owes its origin to Cardinal Wolsey, who in 1524 and 1525 obtained a bull from the pope, authorizing him to suppress twenty-two inferior priories and nunneries, and apply their

*The Penny Magazine.*
revenues in support of his intended college. The original plan of this foundation provided for one hundred and sixty persons, who were to apply themselves to the study of the sciences at large, as well as to polite literature. The cardinal settled on this society a clear annual revenue of 200L.; and commenced the present building for the use of the members, under the name of Cardinal's College. After his disgrace and death, the king, who had in the first instance seized its revenues and arrested its progress, was induced to patronise the institution; and re-endowed it for the support of a dean and twelve canons, under the name of "King Henry the Eighth's College." The establishment afterwards underwent other alterations, which gave it the character of a cathedral establishment; and its chapel was made the cathedral church of the bishopric of Oxford, which it still remains, although still maintaining its character as a college chapel. At present the foundation consists of a dean, 8 canons, 101 fellows, called "students" at this college, and eight chaplains. The members on the books of the college are 974, of whom 473 are members of Convocation.

To give our readers an idea of the buildings of this extensive and splendid establishment would much exceed our limits. The cathedral building has already been noticed; the buildings altogether occupy two large and two small quadrangles. The great west quadrangle was chiefly the work of Wolsey, and is an interesting indication of what he intended the whole to have been if he had lived to complete his design. It is entered by the gateway of the principal front, which extends 382 feet, having in the centre a stately tower begun by Wolsey, but only completed in 1561 by Sir Christopher Wren. The hall and kitchen are on the south side of this quadrangle; the hall is one of the finest in the kingdom, measuring 155 feet by 40, and 50 feet in height: its roof is of elaborately carved oak, and the sides, of panelled wainscot, are decorated with an extensive collection of portraits, some of which are curios. Of this hall a representation is given in page 41. The parliamentary visitors sat in this hall, in 1648, to eject such members of the University as refused to submit to their authority. The other large quadrangle, termed "Teckwater Court," was erected in the commencement of the last century, and has the library on its south side. This noble building, which was commenced in 1716, but not completed until 1761, is 141 feet long in front, and on the basement story contains, besides a portion of the books, a collection of pictures,—not of the first order of excellence,—bequeathed to the college by General Guise in 1765. The library is very rich in manuscripts, prints, and coins.

Trinity College was originally founded and endowed by Edward III., Richard II., and the priors and bishops of Durham. As it was under the patronage of the latter, it obtained the name of Durham College, though dedicated from the beginning to the Holy Trinity, St. Mary, and St. Cuthbert. Being classed with religious houses at the Reformation, it was suppressed; and Sir Thomas Pope, having purchased the site and buildings, began and endowed a new foundation, in 1554, for a president, twelve fellows, and twelve scholars. To this four exhibitions have since been added,—one for a superannuated Winchester scholar; but, generally, the original foundation was so ample that few benefactors have thought the college required their assistance. The members on the books, in 1834, were 236, of whom 107 were members of Convocation. The buildings of this college are disposed in two courts: the first, besides apartments for the president and some of the fellows of 18th and 19th century, contains the chapel, hall, and library. The other court, which is wholly occupied by the lodgings of the students, was planned by Sir Christopher Wren, and is said to be one of the first specimens of modern architecture that appeared in the University.

St. John's College was founded in 1557 by Sir Thomas White, alderman and lord mayor of London, who appropriated part of the wealth accumulated by industry and success in mercantile pursuits to the establishment of this college for a president and fifty fellows and scholars. All the fellows except thirteen are elected from the Merchant Tanners' School in London, of which corporation Sir Thomas was a member. The members now on the books of this college are 215, of whom 118 are members of Convocation. The buildings of this college have been erected at different periods: they are chiefly arranged in two quadrangles, one of which still retains part of the tenements of St. Edmund, the other was chiefly built by Sir Christopher Wren, and is said to be one of the finest examples of modern architecture in England. The principal entrance is under a square tower, adorned with a statue of St. Bernard, placed in a richly-canopied niche. On the east side is a passage leading to the other quadrangle, which was erected at the sole expense of Archbishop Laud, from designs of Inigo Jones. The east and west sides of it are built on a cloister supported by large stone columns. In the middle are busts representing the four cardinal virtues, the three Christian mysteries and religion. In the centre of each cloister there is a spacious gateway of the Doric order, surmounted by a semicircular pediment of the Ionic and Corinthian orders, and having a statue on either side between the columns. These statues represent Charles I. and his Queen, and were designed and cast in brass by Panelli of Florence. The library, which is in this quadrangle, is one of the largest and best furnished in the University, and contains a valuable collection of books, manuscripts, and antiquarian curiosities. The gardens also of this college, though small, are much admired.

Jesus College was founded by Hugh ap Rice, or Price, D.C.L., who observing that his countrymen, the natives of Wales, were much neglected in college endowments, petitioned Queen Elizabeth to found a college more particularly for their benefit. She accordingly granted a charter, dated in 1571, which declared the present name of the college, stated that the society was to consist of a principal, eight fellows, and eight scholars, and authorized Dr. Price to spend his money on the establishment. This was the first college founded by a Protestant; but the queen seems to have rendered no other practical assistance than by giving a quantity of timber from the royal forest to aid the building. The institution has since been assisted by other benefactors, and it now consists of a principal, 19 fellows, and 18 scholars, besides exhibitioners. The number of the members on the books in 1834 was 157, of whom 57 were members of Convocation.

The buildings are contained in two quadrangles, the largest of which, entered from the street, contains the chapel on the north side, and the hall on the east; the other sides are occupied by apartments three stories high. The front towards the street was rebuilt in 1756, and has a large and interesting appearance. The inner quadrangle was built about the middle of the seventeenth century, and contains, on its west side, the library, which has a good collection of books, and some curiosities, among which is a silver bowl, weighing 278 ounces, and capable of holding ten gallons; a metal watch, given by Charles I.; and a huge stirrup, said to have been used by Queen Elizabeth.

Wadham College was founded, in 1613, by Nicholas and Dorothy Wadham, natives of Oxford, fifteen fellows, and an equal number of scholars, with two chaplains, and two clerks. It is peculiar to this college that the
The library is supported by a cloister in the front with the other halls. This hall appears to have been planned and the usual apartments. The architecture of these halls was first called Grammar Hall, but received its present name of St. Alban's Hall, which is the most ancient of the existing halls, is situated on the east side of Merton College. The name is derived from Robert de Sancto Alabano, a burgess of Oxford in the reign of King John.

In the time of Henry VI. it was united to Nunne Hall; and Henry VIII. granted both the halls conjoined, in the name of St. Alban's Hall, to his physician, from whom it passed to different proprietors, and is now in the property of the warden and fellows of Merton College. The members on the books are 38, of whom 9 are members of Convocation. The buildings form a quadrangle, plain in its architecture, but commodious in its internal arrangements.

Edmund Hall is said to be so called from St. Edmund, Archbishop of Canterbury in the reign of Henry III., who was canonized by Pope Innocent IV. At the dissolution it belonged to Queen Mary, and soon after came into the possession of Queen's College, and was renewed as a place of study, under the auspices of that institution, to which it still continues attached. During the two last centuries the buildings have been much extended, chiefly by the liberality of its own members, and those of Queen's College. The library, which was begun in 1690, has been enriched by several collections of books and manuscripts. The number of members on the books in 1834 was 92, of whom 45 were members of Convocation.

New Inn Hall is in a very low state, though apparently in a reviving condition. Up to a recent period it had not had any students for many years; but it has lately been restored to the purposes of academical instruction by the present principal, who has erected at his own expense a handsome building, with suitable offices, for the reception of students. It has now 29 members in its books, of whom one is a member of Convocation. This hall was at one time famous for students in civil and canon law, and produced many eminent characters in that faculty. In 1642 it was occupied as a mint by Charles II., who here melted down the plate presented to him by the University.

St. Mary's Hall was anciently conveyed to the rectors of St. Mary's Church for a parsonage house, but it had remained unappropriated until 1325, when Edward II. gave it, with the advowson of the church, to the society of Oriel College, who, in 1338, converted it into an academical hall under its present name. The members on the books in 1834 were 41, of whom 20 were members of Convocation. The buildings are arranged in the form of a quadrangle, containing a hall, chapel, and apartments for the principal and students, all of which have either been rebuilt or much improved within the last ten years.

St. Mary Magdalen Hall is the most considerable of the whole number. The original building was founded as a grammar school in 1480, by William Waynflete, the founder of Magdalen College. It was first called Grammar Hall, but received its present name on being enlarged and placed on the same footing with the other halls. This hall appears to have been generally in a flourishing condition, and at one time was said to have had more students than any other hall. It is difficult to conceive how so many could have been accommodated within its walls. Some exhibitions have been established for the benefit and encouragement of the students: the members on the books were 173 in 1831, of whom 58 were members of Convocation. The old hall having become insufficient for the accommodation of the members, the society obtained an Act of Parliament in 1916, authorizing them to take possession of
It may be proper to conclude this account by stating that the sum of all the numbers we have given of the members of the several colleges and halls, in 1834, is 5290, of whom 2519 are members of Convocation.

The new printing-office, of which the above is a representation, has been already alluded to, page 423.

Hertford College, formerly Hart Hall, in New College Lane, which had become extinct as a collegiate establishment. Accordingly the principal and other members of Magdalen Hall removed thither in 1822, after the necessary improvements and preparations had been completed.
Wild Ducks.—No. I.

Wild ducks inhabit Europe, Asia, and America, in summer frequenting the lakes and marshes of the north, and in autumn migrating southward in large bodies, and spreading themselves over the lakes and marshes of more temperate latitudes. Considerable numbers of them return northward in spring; but many straggling pairs, as well as former colonists, stay in this country to rear their young, which become natives, and remain throughout the year in the marshy tracts of the British isles. Large flocks visit Egypt in November after the inundation of the Nile. In an opposite direction of the globe, the lakes in the Orkneys form one of their great resorts in winter; and when the lakes happen to be frozen, they betake themselves to the shores of the islands. In these districts they may be seen in great multitudes, and on the report of a gun they rise like clouds. They are also known to abound on the lake of Zirknitz in Carniola, where they are often swallowed.
entire by the huge pikes which frequent that remarkable piece of water. On the approach of a storm they issue from the wood and fly along the coast, and fly about the country, where they are soon captured by the peasants; many of them are killed with clubs at the very openings of the cavities, being dazzled by the light of day. In England they abound most in the fens of Lincolnshire, where prodigious numbers are annually taken in the decoys. Particular spots in the fens are let to the fowlers at a rent of from 5l. to 30l. a year; and Pen- nant mentions a season in which 31,200 birds were captured in a single season. In stations near Wain- bridge the numbers taken in the decoys make them so cheap on the spot, that the decoy-men would be glad to contract to deliver the ducks at Boston for years at 10d. the couple.

Wild ducks are naturally very shy birds, and fly at a considerable height in the air, in the form of a wedge or triangle. Before they alight on any spot, they describe several turns round it, as if it to reconnoitre it, and then descend with great precaution. They generally keep at a distance from the shore when they swim; and when the greater part of them sleep upon the water, with their heads under their wings, some of the party are always awake to watch over the common safety, and to apprise the sleepers of the approach of danger. The extreme wariness of these birds renders much patience and ingenuity necessary on the part of the fowler. They rise vertically from the water with loud cries; and in the night-time their flight over head may be known sometimes to the very skirts of a whole congre- gated flock, when he has nothing to do but swim about with the greatest ease, and to feed on the nearest vegetables for the purpose:—a rick of straw customed to feed at low water, and where, otherwise, it would be glad to contract to deliver the ducks at Boston for years at 10d. the couple.

The female generally selects a thick tuft of bushes, insulated in a pool or lake, for her breeding station, and hides, cuts, and arranges the bushes in the form of a nest; sometimes she makes her nest on heaths at some distance from the water, scraping together a heap of the nearest vegetables for the purpose:—a rick of straw in the fields occasionally serves her purpose. Latham says, that she has even been known to lay her eggs in a high tree, in the deserted nest of a magpie or crow; and he records an instance of one that was found at Etchingham, in Sussex, sitting upon nine eggs, in an oak, at the height of twenty-five feet from the ground, the eggs being supported by some small twigs placed crosswise. The female, during the incubation, usually plucks the down from her breast to line her nest, in which she frequently deposits sixteen eggs, which she generally covers when she leaves the nest for the purpose of feeding. Whenever she returns to it, she alights at some distance, and approaches it by winding paths; but when she has resumed her seat she is not easily induced to quit it. The male keeps watch near the nest, or accompanies and protects his mate in her temporary excursions in quest of food. All the young are hatched in one day, and on the following mother leads them to the water; or if the nest be high, or at a distance from water, both parents convey them, one by one, in their bills or between their legs, and they are no sooner consigned to the water than they begin to swim about with the greatest ease, and to feed on insects. For this purpose the mother and father are so watchful parent until her young progeny are able to fly: this is in about three months after their birth, and in three months more they attain to their full size and plumage.

The flesh of the wild duck is more delicate and juicy,
The passage of the mountains of Caucasus is considered an undertaking of some peril, not only on account of the natural difficulties of the road, but from the fierce and barbarous tribes of people by whom they are inhabited. Travellers, therefore, when they arrive in the neighbourhood, do not proceed on their way in detached parties, but wait for the post, which crosses the mountains once a week, unless they strong enough to commonly wait at the nearest little town of Mozdok, on the river Terek, and within sight of the highest summits of the Caucasus. In exploring the neighbourhood of this town, the attention of the stranger will be drawn towards a small village of low houses formed of wattles covered with clay, while the outhouses appear to be plastered with cow-dung. They have all flat roofs, which serve for winnowing corn. In this village he will find himself among a people such as he has not hitherto seen. They are generally short and somewhat corpulent; and the dress of the men consists of a topcoat which reaches to their knees, and pantaloons of coarse woollen stuff, and commonly of a light brown colour. They wear on their heads a sheep-skin cap, which fits close, and is almost entirely flat. The women wear their hair in one long plait down their backs: they have generally a coarse handkerchief round their heads, and their trousers descend nearly to the ankles, but their feet are bare. Their upper dress consists of a sort of bed-gown with long close sleeves; and sometimes, when out of doors, they envelop themselves in a sort of sheet, but do not always keep it drawn over their faces. These people are Ossetinians, belonging to a tribe of the same name, whose proper seat is in the most elevated habitable parts of the Caucasian mountains, forming not the least considerable of several remarkable tribes that inhabit different portions of that extensive range. The remainder of our account will apply to this people as they are found in their native seats.

The Ossetinians are somewhat indistinctly divided into three sections by the character of their religious profession: some are Christians, others Moslems, and others Pagans. The distinction between them is not very definite, since both Christians and Mohammedans retain many Pagan feelings and practices, and there is a strong tendency among them to fall back upon their primitive idolatry. In fact, little more than a few instances of distinct forms denote the difference of religious profession; but it is remarkable that they all equally assume to themselves individually a particular protecting Spirit, to whom they apply in calamity and danger, and of whom they solicit assistance in the settlement of domestic feuds, in the prosecution of wars, and marauding excursions, and even in the plunder of caravans and travellers. Those of the tribe whose villages are seen by the traveller as he crosses the mountains by the principal road, which follows the course of the river Terek, and stands on the left bank of the Aragui on the south, belong almost exclusively to the Christian and Moslem portions of the tribe, principally the former. They are considered the most civilized portion, not only of their own tribe but of all the tribes who inhabit these mountains, which, if it be true, may in a great degree be owing to their great intercourse with the Russians, who have some small towns in their neighbourhood, and have established military stations through the territory, which was once theirs, and which is, in fact, still theirs, except in part, and more especially on the line of the road which the intruders have formerly pursued.

The villages of the Ossetinians are highly interesting and picturesque objects, as seen, from the distance, in the valleys, in the ravines of the mountains, and sometimes in apparently inaccessible situations upon steep declivities, and on the summits of tall cliffs. The huts are usually collected around the remains of some old stone tower, which in former times served to protect the passes from the inroads of hostile tribes. When more nearly examined, however, these villages are found to be composed of very mean and low flat-roofed huts, built of mud upon a foundation of stone. The light is admitted by the door and through a circular hole in the roof. This hole serves also as a chimney for the charge in the higher portions of their territory, however, they are not much annoyed by smoke, as fuel is very scarce, and a miserable fire composed of dry dung and a very little wood is a great indulgence. But, notwithstanding the mean huts in which they live, in those parts where the pass is narrowest and can be defended with the best effect, old castles and towers are found of considerable strength, and sometimes of very superior workmanship, erected generally on immense masses of rock or promontories, overhung sometimes by the gigantic cliffs of the parent mountain. Some of these were forts for the defence of the pass, and some were, and are still, used for the residence of the Ossetinian mirzas or chiefs.

The people chiefly appear to the stranger as engaged in pastoral or agricultural pursuits; and perhaps there is nothing in all the journey through the mountains which tends to excite more surprise than the situations in which these pursuits are sometimes conducted. Thus shepherds may be seen pasturing their flocks on steep uncleaved slopes, below which there are abrupt precipices of three, four, and six hundred feet. The processes of agriculture, such as ploughing, &c., are executed in similar situations. In some places hay-ricks may be seen upon the steep sides of the mountains more than 1500 feet above the valley of the Terek, and where it would seem impossible that any human being could maintain a footing. A considerable part of the hay is brought down on the backs of asses; and from such places as are inaccessible even to those animals it is let down on a kind of sledge with ropes, as soon as the snows of winter begin to cover the mountains. The plough is drawn by four yoke of oxen, and is nearly twice the size of a common English plough, the fore part resting on two large wheels. To manage this unwieldy implement four persons are required: one holds the plough, two guide the oxen, and the fourth walks beside the ploughman to clear away the grass that may collect on the coulter. The following is the way in which they manage to plough the steep sides of the hills. The wheels are then of different diameters,—perhaps that of the one is three feet, and of the other only ten inches; the asletree being of such extent as to allow the smaller wheel, in the upper part of the acclivity, to keep pace with the large one, which runs in the rut below. The pole is fixed not midway in the axle, but nearer to the large wheel than to the other. These contrivances, though rude and badly brought out, are in principle well calculated to do the work in the shortest space.

Nevertheless, although the Ossetinians are considerably restrained by the presence of the Russian military stations among them, they are by no means the sort of people which such pacific employments would seem to denote. They are, in fact, a daring, intractable, and high-spirited race of men; and their true character seems to be strikingly illustrated by the fact, that no man among them ever appears without a loaded gun slung over his shoulder, or at least a dagger in his girdle, and generally both. Even the shepherds who watch their flocks are thus armed; and so are the ploughmen, except the one who guides the plough, and even he has it so placed on the plough as to reach it with ease. The dagger is a curious weapon: it is broad near the handle, and tapers to the point, being altogether about eighteen inches...
in length. In using this weapon the assailant stoops down and endeavours to thrust it into the abdomen of his opponent.

This warlike appearance is not assumed merely for ostentation, as among the Persians and Turks. It is in part a result of a principle which operates strongly among the Ossetinians and other mountaineers of the Caucasus, and which renders revenge not a passion, as it is generally seen among ourselves, but a deliberate and solemn duty, involving the consequence that every man goes armed, either to defend himself against the avenger who seeks his life, or to be ready to take any opportunity that offers against another whose life he seeks. Dr. Henderson mentions a striking instance of this in his "Biblical Researches and Travels in Russia;" and although the statement refers to another tribe of the Caucasus (the Ingush), the quotation is perfectly applicable, the practice being precisely similar among the Ossetinians.

"The most trivial circumstance is often sufficient to produce quarrels, which seldom terminate without murder. Adhering tenaciously to the Oriental law of "blood for blood," they never rest satisfied without avenging the death of their relatives; and the principle is followed out in their generations till it effects the death of the murderer or one of his descendants, on whom he is supposed to have entailed his guilt. The missionaries were acquainted with a young man, of an amiable disposition, who was worn down almost to a skeleton by the constant dread in which he lived of having avenged upon him a murder committed by his father before he was born. He can reckon up more than 100 persons who consider themselves bound to take away his life whenever a favourable opportunity shall present itself. There is scarcely a house in which there is not one implicated in something of this nature."

Another cause for the belligerent appearance of the Ossetinians is that propensity to plunder which they share with the other tribes in these mountains. In their case, however, this propensity is considerably checked by the Russian military stations established in their territory, and by the manner in which merchants and travellers are conducted across the mountains. Nevertheless, they watch with vigilance for opportunities of surprising the unguarded or unwary, and in the robberies which they commit on such occasions murder are sometimes committed; but it is more usually their endeavour to carry off as prisoners persons whose appearance warrants the hope that a good ransom may be expected. Instances have occurred in which Russian officers of rank have been thus seized, and only liberated on the payment of the required ransom. The Ossetinians sometimes resort to such measures in retaliation for what they consider unjustifiable conduct of the Russian authorities towards them. They have retreats among the mountains so difficult of access, that such proceedings can only be effectually stopped by measures of extreme precaution. The boldness with which such aggressions are committed almost within sight of the military stations is amazing. The individuals of the party with which the writer crossed the mountains were on all occasions anxiously cautioned against venturing out of the view of the sentinels. On one occasion, in the deep and narrow pass of Dariel, the writer saw a soldier posted high up, on a projection of the perpendicular cliffs, and was informed that he was stationed there in consequence of a gentleman having been shot only a few days before near this spot, which was only a short distance above the military station of Lars.

BIRTH-PLACE OF SIR WALTER RALEIGH.

Hayes’ Farm, in Devonshire, situated in the parish of East Budleigh, fourteen miles east of Exeter, and near the spot where the river Otter discharges itself into the British Channel, is celebrated as the birth-place of Sir Walter Raleigh. The interior of the dwelling, which now constitutes a comfortable farm-house, has been
in a Report presented to Parliament in the course of the last Session.

Previous to the year 1816, not less than 150,000£, a year were paid as the price of the services rendered to this country by the Indians. A government department [sic] has been created, called the "Indian department," whose functions are only consistent in maintaining the relations of Great Britain with the different tribes in an amicable footing. This was chiefly accomplished by annual presents to the chiefs and to all the members of a tribe, and was considered as a sort of retaining fee of the nature of half-pay. Annual payments were also made to those tribes whose lands had been ceded to the Crown.

In 1837, the Earl of Ripon (then Lord Goderich) took means for ascertaining the proper expense of the "Indian department." Great reductions have since been effected, and the value of presents does not now amount to 20,000£ a-year. The expenses of the department are also reduced to about 8,500£. It consists of one chief superintendent and one secretary; six superintendents and an assistant; eight interpreters, five missionaries, and one schoolmaster.

In 1835, among the Indians in the provinces of Upper and Lower Canada, the presents were distributed to the following claimants, some of whom received 1600£ to receive these pledges of our friendship. There were 84 chiefs and 94 warriors, who had been wounded in action; 184 wives or widows of chiefs or warriors; 821 chiefs; 4949 warriors; 5910 wives of warriors; 1400 boys, aged from one to four; 1101 from five to nine; 1226 from ten to fifteen; 1592 girls, from one to four years of age; 1011 from five to nine; 998 from ten to fourteen --- Total 18,709.

The distribution of articles of personal comfort and utility consisted of 20,000 blankets, 2625 yards of cloth, 22,986 yards of printed calico, 3064 yards of Irish linen, 21,435 yards of Scotch shooting, 53,268 yards of gartering or binding. The blanket is an inestimable article to the Indian as a covering in severe weather both by night and day. Sometimes it is made up into a coat with a coloured edging. In articles of decoration and adornment, we find 30 pairs of silver gorgets, the rarest, and consequently highest, mark of honour which can be conferred on an Indian. Individuals of somewhat inferior pretensions receive silver arm-bands, of which 46 were distributed, or perhaps a silver medal, there being 42 in the list of presents. The females, we should suppose, are not less gratified with their presents than the other sex. Their influence is secured by 3939 pairs of silver "ear-bobs" and 7156 silver brooches. To complete their toilet there are 93 dozen looking-glasses, 9162 horn, ivory, and box-combs, 702 silk handkerchiefs, 5324 yards of ribbon, and 2387 ounces of vermillion. The gradual progress of the habits of civilized life is indicated by the following articles:---176 chiefs' laced hats and 172 plain hats, and 606 pairs of shoes. We are glad to perceive such as the following:---18,248 sewing-needles, 6021 ounces of sewing-thread, 803 pairs of scissors, and 124 dozen buttons; there are but 50 thimbles. Frying-pans have been discontinued; but there is a supply of 870 brass and 803 tin kettles. Of articles which are to be used either in the chase or in war, there are 12,978 butchers' knives, 16,745 lbs. of powder, 48,387 lbs. of shot, 22,598 flints, 5447 gun-worms, 607 chiefs' guns, 310 rifles, 679 common guns, 216 gun-locks, 450 tomahawks with pipe-handles, and lances. There is also a supply of fishing-hooks and lines, thread and wax, beaver-traps, and 5449 fire-steels. Above 11,000 lbs. of tobacco are issued, but the supply of pipes has been discontinued, in consequence of the immense quantities which used to be broken in their conveyance to the different stations,
It was proposed that money should be given in lieu of presents, but to use the strong expression of Lord Dalhousie, who was governor at the time when such a plan was contemplated, His Majesty's Government "would be loaded by the executions of the country," if such a measure were adopted. The Indians would have soon felt its fatal effects in the increased intermixture which it would have induced, and they would have flung back still farther from the state of civilization to which they have begun to perceive it was their interest to cling as a means of preserving their national existence. This view of the nature of their position could not fail to be forced on them. The advances of agriculture were gradually destroying the value of their hunting-grounds on the one hand, and on the other, if they should be driven for subsistence towards those of more westerly tribes, their intrusion would not only be regarded with jealousy, but would occasion bloodshed and murder. The British Government surely and humanely, therefore, does everything in its power to induce the Indians to settle and to pursue agricultural employments. In a conference which two deputies of the Iroquois nation had with Sir George Murray, at the period when he was Secretary for the Colonies in 1830, he pointed out to them how much it would be for the advantage of the Indian nations generally, that they should depart gradually from their old habits of life. In an official memorandum of this interview, Sir George is stated to have held the following language to the Iroquois:—"He represented to them that the white population, by the habits of cultivation, were spreading everywhere over the country like a flood of water; and unless the Indians would conform themselves to those habits of life, and would bring up their children to occupy farms, and cultivate the ground in the same manner with the white people, that they would be gradually swept away by this flood, and would be altogether lost; but by accepting grants of land, and cultivating farms, they would gradually increase their numbers and their wealth, and retain their station in a country in which they were so well entitled to have a share, and in which he had a very sincere desire to see them prosperous and happy." Considerable tracts of land have been allotted to Indians who are disposed to settle, but their previous habits are a strong obstacle to the application of regular industry; and their notions of hospitality, which compiled them to share their all with any wandering Indians that join them, is a great discouragement to the increase of industrious and settled habits.

The preservation of wild animals, especially of the larger class, is incompatible with the due cultivation of the land. The situation of the Indians is therefore surrounded with difficulties, and would be desperate if no indications of their desire to overcome them. But we are glad to state that proofs abound both of their wish to settle themselves on the land and to receive instruction. A portion of the Mohawks who separated from their tribe many years ago, have become tolerable farmers, and some of them have assumed the dress of Europeans. The Chippewas, who amount to about 500 souls, have expressed a strong desire to be admitted to Christianity, and to adopt the habits of civilized life. The Mississisquas, who were lately notorious for their drunkenness and disorderly habits, are now settled in a village consisting of twenty-two houses; and eighteen feet by twenty-four, each having an upper story. The school is attended by thirty-one boys, who spell and read English fluently. They have two enclosures of about seven acres of wheat and a field on the banks of the river containing about thirty-five acres of Indian corn in a promising state of cultivation. A small plot is attached to each of their dwellings for potatoes and garden produce. The expense of erecting these log-houses was about 250l. They have since added some of their own construction similar to those first erected. About 2000 of the Mohawks and the Iroquois have obtained 22,000 tons of coal for the use of a furnace in Upper Canada. Their knowledge of farming is stated to be exceedingly limited, being chiefly confined to the cultivation of Indian corn, beans, and potatoes; but some of them, of more industrious habits, raise most kinds of English grain. The following statement of their possessions has been compiled with care and attention:—dwelling-houses, 416; computed number of acres of land in cultivation, 6872; horses, 735; cows, 809; oxen, 613; sheep, 192; swine, 1530. In 1826 the government settled 200 Indians on the Credit River, and built twenty huts for them. They have since built seven more for themselves. They have a meeting-house, which is also used as a school-house for the boys; there is another school-room for the girls, and a house for the resident missionary. They are generally anxious that their children should learn some trade, and particularly that a blacksmith should be settled among them who might instruct their children in his art, as they now incur a heavy expense by sending their farming implements to different forges. A change of a cheering nature has also taken place in their tastes. Those trinkets and gaudy-coloured clothes which they formerly admired so much are now held in light estimation; and they would prefer receiving twine, rope, and lead sufficient to make a couple of nets, which would supply them with fish. The women are in general industrious, and can earn a considerable sum by making baskets.

In consequence of these and other gratifying indications, it has been proposed to furnish them with agricultural implements in lieu of the presents. This would doubtless greatly contribute to the improvement of their condition, and enhance the value of civilization in their eyes; but the scale on which exertions of this nature should be carried on ought to be comprehensive, and have reference also to their moral advancement. They already thirst for instruction, and one of the Potagunner Indians, being assembled with the whole of his tribe, expressed in the following terms their desire to receive the rudiments of knowledge. In the presence of the missionary and members of the mission, he said:—"Father, we have observed with some degree of jealousy the establishment of a place at Michilimackinac, at which (missionary school) the children of our great father (Indians) are taught the means of living the same way the whites do, where they also learn to mark their thoughts on paper, and to think the news from books (to read and write) as you do; we have heard too, my father, something which gives us hopes that our great father will give us the means to live as the white people do."

Father, our younger men who carried your papers to York last winter, tell us, that our brethren about that place, who, like ourselves, were great drunkards and bad people, are now become sober and industrious. The Great Spirit favours them because they know how to ask his blessing. I am sure if our fathers at York and Quebec were acquainted with the misery and hardships we undergo, they would teach us how to be beloved of the Great Spirit (to become civilized), and we would be more happy.

I have the honor to be your obedient servant, Mackinac.
Although we cannot point out an Indian community in Canada exhibiting so many of the characteristics of civilization as the Cherokee nation, yet the remarkable desire which is experienced by many of the Canadian tribes to give up their wandering life is a symptom which, if turned to good account, is capable of producing equally happy results.

MINERAL KINGDOM.—Section XXXI.

Tin.—(continued).

Separation of the metal from the ores.—The ores found in veins and that of the stream works are subjected to different processes of smelting, for they produce metal very different in point of purity. That obtained from mine tin is always of inferior quality, owing to the mixture of other metals, and which it is probable could not by any mode be got rid of; it is known in commerce by the name of common or block tin, and the quantity produced forms a large proportion of the whole that is brought to market. Stream tin produces a superior metal, known as garnet tin, which is principally used by the dyers, and for the finer purposes.

The first operation after the mine tin is brought to the surface, is to break it into pieces the size of a man’s fist, and to reject such portions as do not contain more ore than will repay the cost of dressing, the first great operation in the smelting process. The ore, roughly broken, is taken to the stamping mill, which consists of several heavy upright wooden beams, shod with iron, and raised successively by wheels set in motion either by steam-engine or water-wheel; and the ore passing beneath these beams in succession, as it becomes smaller and smaller, and through sieves of various bores under the surface of water, is at last brought to the state of coarse powder. This powder is now subjected to a great variety of washings and siftings, in all of which the purpose is to take advantage of the high specific gravity of the ore, and so to separate it mechanically from the lighter stony substances with which it is united in the vein. All these operations are conducted with more than ordinary care, for as the ore contains so large a proportion of valuable metal, it is important to guard against waste. But being sometimes mixed with other metallic ores which, from their specific gravity approaching so near that of the tin, cannot be removed by any process of washing, and these being for the most part decomposable by heat, the pounded ore is roasted in furnaces with a moderate and regular fire; after which it is again washed, and the tin ore, which is unsatable by that low heat, is obtained in a greater degree of purity. It is now in a state to yield from fifty to seventy-five per cent. of metal, and it is then sold to the smelter, who determines its value by assaying a sample carefully taken from the whole quantity.

The smelting-furnaces hold from twelve to sixteen hundred-weight of ore, and this is mixed with certain proportions of coal and slack. The ore is an oxide of tin: the carbon of the coal unites with the oxygen, and thus the metal is set free, the lime acting as a flux to assist the melting. The heat employed is a very strong one, and such as to bring the whole mass into fusion, and is continued for seven or eight hours. The liquid tin is run off into an iron kettle from a hole in the bottom of the furnace, leaving the slag or impurities behind. The tin is ladled into moulds, to form plates of a moderate size, to be refined by an after process.
The impurities still adhering are generally iron, copper, or arsenic, and these are separated by fresh meltings and exposure to heated air; and then the pure tin is cast into granite moulds capable of containing somewhat more than three cwt. each. These are called blocks; and are sent, according to the provisions of the stannary laws, to be stamped (or coined, as it is termed) by the Duchy officers, and it then comes to market under the name of block tin. The stream tin ore, after being brought by poundings and washings, is carried to a blast furnace, where, being mixed with wood-charcoal, it is subjected to a very powerful heat urged by bellows moved by an engine. The melted tin is received in an iron kettle, under which there is a gentle fire, and it is kept in agitation by plunging pieces of charcoal—which have been soaked in water—into it, and which by means of an iron tool are kept at the bottom of the kettle; the water in the charcoal is rapidly converted into vapour, and so the agitation is kept up, and any impurities in the tin are thrown up to the surface and skimmed off; and then the metal, which is peculiarly brilliant in appearance, is removed by ladles into moulds to form blocks. This is grain tin.

The Stannaries (so called from stannum, Latin for tin) are courts in Devonshire and Cornwall for the administration of justice among the tinners. They are of very ancient date, and were instituted, according to the Duchy officers, and it then comes to market under the name of block tin. The stream tin ore, after being brought by poundings and washings, is carried to a blast furnace, where, being mixed with wood-charcoal, it is subjected to a very powerful heat urged by bellows moved by an engine. The melted tin is received in an iron kettle, under which there is a gentle fire, and it is kept in agitation by plunging pieces of charcoal—which have been soaked in water—into it, and which by means of an iron tool are kept at the bottom of the kettle; the water in the charcoal is rapidly converted into vapour, and so the agitation is kept up, and any impurities in the tin are thrown up to the surface and skimmed off; and then the metal, which is peculiarly brilliant in appearance, is removed by ladles into moulds to form blocks. This is grain tin.

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The privileges of the tinners are confirmed by a charter in the island of Banca, which lies off the south-eastern quarter of Sumatra. The discovery was accidental, in the year 1710, when some stream tin was smelted in a furnace, where, being mixed with wood-charcoal, it was subjected to a very powerful heat urged by bellows moved by an engine. The melted tin is received in an iron kettle, under which there is a gentle fire, and it is kept in agitation by plunging pieces of charcoal—which have been soaked in water—into it, and which by means of an iron tool are kept at the bottom of the kettle; the water in the charcoal is rapidly converted into vapour, and so the agitation is kept up, and any impurities in the tin are thrown up to the surface and skimmed off; and then the metal, which is peculiarly brilliant in appearance, is removed by ladles into moulds to form blocks. This is grain tin.

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The only part of Europe besides Great Britain in which tin is now obtained in any quantity is Germany. There are mines in Bohemia, Saxony and Silesia, and the produce is sufficient to supply a large proportion of the demand for this metal in that part of Europe. There are some mines of high antiquity in Spain, in Galicia, but we have no information respecting their present state. It was not known to exist in any part of France till the year 1809, when it was discovered not far from Limoges, in the department of Haute Vienne; and in the year 1817, it was accidentally found in the department of Deux Sevres. It is not thought that the falling off is more to be ascribed to a want of skill in the art of mining than to any deficiency in the ore. The higher mountains of Banca are of granite; and the stream tin is found in gravel composed of granite and other primary rocks. Sir Stamford Raffles is of opinion that the tin ore found in the Malayan peninsula, and in the islets on its coast, and in the island of Borneo; but the richest mines are in the island of Banca, which lies off the south-eastern part of Sumatra. The discovery was accidental, in the year 1710, when some stream tin was smelted, and it then comes to market under the name of block tin. The stream tin ore, after being brought by poundings and washings, is carried to a blast furnace, where, being mixed with wood-charcoal, it is subjected to a very powerful heat urged by bellows moved by an engine. The melted tin is received in an iron kettle, under which there is a gentle fire, and it is kept in agitation by plunging pieces of charcoal—which have been soaked in water—into it, and which by means of an iron tool are kept at the bottom of the kettle; the water in the charcoal is rapidly converted into vapour, and so the agitation is kept up, and any impurities in the tin are thrown up to the surface and skimmed off; and then the metal, which is peculiarly brilliant in appearance, is removed by ladles into moulds to form blocks. This is grain tin.

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This room, which is situated parallel to that which contains the Elgin marbles, and is about one-third of its size, has been lately erected, from the designs of Mr. Smirke, for the reception of the massive Egyptian antiquities which were formerly deposited in an unplastered barn-like apartment. In such erections, we always feel a desire that, so far as is compatible with their uses as show-rooms, care should be taken to give to the apartment a distinct architectural character, corresponding with that of the class of objects which it is destined to receive. So we would that the Egyptian Room should have a character distinctly Egyptian. We do not mean that its columns, walls, and ceiling should display ornaments such as occur in an Egyptian building,—for the imitation would have been misplaced and revolting in the midst of the true productions of Egyptian art;—but we mean that the apartment should have something of that heavy and massive character which distinguishes the architecture of ancient Egypt, and which so well agrees with the gigantic and passionless forms by which its sculpture is distinguished.

The present room does not gratify this taste so much as we should have desired, although it is plain that, in the peculiar construction of the room, it has not been wholly kept out of view. The reader will receive a better notion of the room from the engraving than from any verbal description. The fluted columns, at each corner, and all the statuary which line the apartment, are in very good taste; and the latter, which are peculiar to this room, must have been designed with a distant reference to Egyptian architecture, which required many pillars to support the roof. They form recesses, about three feet deep, in which the smaller antiquities are deposited, and where sculptured tablets and paintings are ranged on shelves against the wall. All the other apartments in which sculptured antiquities are deposited are lighted from the top, for the convenience of the artists who frequent them for the purposes of study; but in the present instance the architect has availed himself of the circumstance that the Egyptian antiquities are not in any way studied as models to throw the light through the side walls by common oblong windows, one of which is between two pilasters. Merely in point of taste and effect, the light thus admitted is, however, too glaring and abundant. *A dim religious light, without which they seem as crowded as the plaster figures on the head-board of an Italian vender: such space they cannot obtain in this room; and we perceive, indeed, that some Egyptian figures which ought to have been there have not been able on any terms to obtain admission. Nevertheless, so far as the limited extent allowed, the antiquities appear to have been arranged with considerable taste, and are displayed to the best advantage. The larger sculptures have been mounted on pedestals corresponding to their proportions. It is evident that the removal of immense blocks of stone, such as some of these sculptures are, and the placing them upon pedestals, must have been a work of great labour and some peril. This was performed by artillerymen from Woolwich, under the direction of officers of engineers; and, upon the whole, was accomplished without any very serious accident to those engaged in it, and without damage to the figures.

MINERAL KINGDOM. Section XXXII.

Tin—(continued).

Use of Tin.—The principal consumption of this metal is in the preparation of tin-plate, which is not solid tin, but iron coated with tin. This is a very important branch of manufacture, both for home consumption and for export. Although tin has been so long a staple article of England, this has been known here until about the year 1665, when it was brought into this country from the tin-works in the Erzgebirge, a range of metalliciferous mountains which separate Saxony from Bohemia, by an enterprising Englishman of the name of Yarranton, who went to Germany on purpose. He met with considerable obstacles in introducing it, and it was not carried on to any extent for nearly half a century afterwards. The manufacture was first established on a large scale at Pont-y-Pool, in Monmouthshire, probably on account of the vicinity of the iron-works in the Forest of Dean, the iron there being, from its purity, particularly adapted for tin-plate. This stealing of the process from the Germans was, however, only a return for a benefit of a similar nature they had received from England, for it was a Cornish miner who first discovered the tin-ore of the Erzgebirge; and in gratitude, a monument was erected to his memory on the spot. The process of making tin-plate may be thus briefly described. English bar-tin of the finest quality is used; it is rolled into plates of different degrees of thickness, and cut into plates of various dimensions for the different kinds of tin-plate commonly used. The iron-plates are first cleansed by immersion in diluted muriatic acid;—then scaled by exposure to a strong heat, when scales of oxide of iron fall off;—rolled a second time, immersed in diluted sulphuric acid, and then well rubbed with a cloth. The object of these processes is to obtain a smooth, uniform, and purely metallic surface,—that is, without any oxide adhering to it, by which the particles of iron and tin may be brought into more direct contact, and so adhere more strongly. An iron pot is nearly filled with equal parts of lead and grain tin, and when this is melted, a quantity of tallow is added, sufficient to cover the fluid metal to the depth of four inches. This prevents the oxidation of the tin. The prepared iron-plates are immersed in melted tin, and a coating of it firmly adheres to the iron; and after some further manipulations, to render the tinned surface as entire and uniform as possible, the process is completed.

Vessels for cooking and other purposes, which are made of iron or copper, being liable to be acted upon by the air, water, acids, fat, and other substances, must be tinned; and this is done by first rubbing the clean surfaces of the vessel with sal-ammoniac, heating them, pouring in melted tin, and revolving them, so that the tin may come in contact with every part of the iron or copper. Pins, which are made of brass wire, are whitened by being boiled in a solution in which tin is dissolved by the acid of cream of tartar. Pewter, when of the best quality, is composed of 100 parts of tin, 8 of antimony, 4 of copper, and 1 of bismuth; but the common sorts contain a large proportion of lead. Bell metal is a compound of copper and tin; and the solder used by plumbers and glaziers is composed of these parts of lead and one of tin. The silvering of looking-glasses is a mixture of tin and mercury. When heated into thin leaves it is called tin-foil,—a substance extensively used in the arts. These are the principal purposes for which metallic tin is employed. Combined with oxygen it forms a white powder called putty, which is used for polishing metals and glass, and is the basis of the finest white enamel. This must not be confounded with glaziers' putty, which is a mixture
of chalk and linseed oil. A solution of tin in nitro-
muriatic acid is extensively used in dyeing as a mordant: it
is an essential ingredient in producing the finest scarlet
and crimson in woollen cloths. A compound of sulphur
and tin yields beautiful golden-coloured scales, very
soft and glossy to the touch, readily rubbed between
the fingers, and when the colour is brought out by a
little friction, having a fine golden metallic lustre: this
is what is called Mosaic gold, and it is extensively used
for bronzing, and by japanners for gilding ornaments
on tea-trays and other wares;—so that here, as in other
lands, it is not all gold that glitters.

GOLD FISH (CYPRINUS AURATUS).
[From a Correspondent.]

These beautiful fish are of the carp genus, and are natives
of China. The rivers of that country, according to Du
Haide, abound with them, and when preserved in vases
the food is lost; and, if uncooked, the fish has a fishy
flavour. These fish, though naturally very tender, have long been
naturalized in Britain, where they also breed freely. They
were first introduced into this country about the year 1691,
but were not generally known till 1728, when a great number
were brought over. They wish to assert their independence,
and any general rule on minstrelsy of the islanders, which might have suggested
ideas of the ancient bards in our own islands, though in point of simplicity the instrument far surpassed that of our
ancestors. It was formed of two gourds, one considerably larger
before the other, into the neck of which that of the smaller
fish stood lowing at the door, and resisted every effort of
deprivation they should change the water very
frequently, and remove the fish by a small landing-net. It
is also of advantage to keep them during the night in a
pail or tub of water, and remove them into the more con-
fined place in the morning. The best time of the year
to take them from the pond is during the month of April,
or before they become heavy with spawn; for in a state of
maturity they will generally begin to congregate on
the sound of the human voice. It is not at all
unusual for them to be brought together at the sound of a
whistle, or other shrill noise. But if any attempt is made
to catch them with a hook or net, they become extremely
shy, and it is not until after a considerable time that they
again become familiar.

Pride of a Cow.—A correspondent informs us that, while
on a visit at the country-house of a lady, it one day happened
that they were passing the cow-house just at the time when
the dairy-maid was driving home the cows to be milked.
They all passed in quietly enough, with the exception of one,
which stood lowing at the door, and resisted every effort of
the dairy-maid to induce her to enter. When the maid was
interrogated as to the cause of this obstinacy, she attributed
it to pride; and, when surprise was expressed at this, she explained that, whenever any other of the cows happened to
get in before her, this particular cow would become afrighted, and would not enter at all unless the others were
turned out again, and she had an opportunity of walking in
before them. This statement having excited curiosity, and
her more humble-minded companions following meekly in her train.

Fluid Ink.—All ink may be rendered fluid by putting
into the inkstand a small quantity— that is, a piece not
bigger than a pin's head— of prepared Or-galls, which
may be purchased at any artist's colour-shop.

General Jackson's Snuff-box.—We have been furnished
with a extract of a letter from Washington, the writer of
which, in describing an interview with the President of the
United States, relates that the latter showed him a
snuff-box, which he had just then received as a present from
England. It contained a paper, stating that it was offered
as a grateful memorial from a British soldier of the kind
which had been received since his escape from General
Jackson. The old soldier stated that he was now employed
in a manufactory of porcelain in Staffordshire, and begged
that the General would receive the box as a humble tribute
of his gratitude.

Minstrelsy in the Sandwich Islands.—In one of our
country excursions we were entertained with a specimen of
the minstrelsy of the islanders, which might have suggested
ideas of the ancient bards in our own islands, though in point of simplicity the instrument far surpassed that of our
ancestors. It was formed of two gourds, one considerably larger
than the other, into the neck of which that of the smaller
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that the General would receive the box as a humble tribute
of his gratitude.
In an account of the various methods employed in capturing wild ducks, we must not overlook the system of "hut-shooting" pursued in France, which is described by Colonel Hawker, from whose book the following account of it is derived, as the only method by which a very bad shot with a very bad gun may kill ducks while as warm and dry as if by his fire-side."

There are few places where a lover of comfort can shoot more at his ease than at the lakes of Peronne in Picardy. The water, being part of the Somme, is not quite stagnant, and is, in every part, about four or five feet deep, surrounded and intersected by numerous islands and walls of rushes. The waters are here reeled by different "huttiers" (hut-shooters), who get their livelihood principally by supplying the markets of Paris and other towns with wild-fowl, which they shoot, instead of taking them with decoys, as in this country. Though the French in some places are very expert at catching birds,—particularly on that vast tract of sand between Crotoy and St. Valery, where the whole mouth of the Somme may be seen spread with nets and surrounded by lines of horse-hair (nooses),—yet shooting from the hut is the favourite and most general method of capturing wild-fowl in France. The common way of making a hut is, to cut down a large square in the reeds, about eight feet by four; and after a foundation of wood, stone, or brick has been laid, six piles are driven in on each side, on which are placed hoops precisely like those of a tilted waggon. The sides are then built up with turf or whatever else is most convenient, and the roof is thatched over. In front there must be three or four port-holes to fire through, and, at the back, a small door at which the fowler enters. This hut being built amidst high reeds, and afterwards strewn over with them, is completely undistinguishable, although as commodious inside as a large covered waggon. Hither the "huttier" of Peronne repairs regularly every night,—wet or dry,—and takes a great coat (if he has one), with a piece of brown bread and a sour apple for his supper. In front of his hut are fastened, to piles at each end, three separate ropes about twenty yards long. On the centre rope he ties four drakes, and four ducks to the one on each flank, making in all twelve decoy birds. The birds thus separated will, in general, be calling to each other, and, if so, a wild one will seldom pass without coming down to them. As the decoy birds are (to use a military term) dressed in line, whatever bird the fowler sees out of the ranks he knows must be a wild one: and as the lake in moderate weather is like a mirror, the night is seldom so dark but that he can see to shoot at the very short distance which his miserable gun and powder will allow. The huttiers never permit shooting from a boat, or at birds on the wing, through the fear of disturbing the pond. One of the principal of them informed Colonel Hawker that his plan was to take his night's rest, and leave the birds till a little before daylight, when they would be all doubled together, and when a shot would do much less mischief to the decoy than if fired before the birds had fed and slept.

But all the methods we have described, which more or less involve much watching and fatigue, are vastly inferior to the decoys used in England, particularly in the fens of Lincolnshire,—a circumstantial account of which is given by Bewick, and illustrated by our woodcuts.

In the lakes to which the wild ducks resort, their most favourite haunts are observed. Then, in the most
sequestered part of this haunt, a ditch is cut, which is about four yards across at the entrance, and decreases gradually in width from the entrance to the farther end, which is not more than two feet wide. The ditch is of a circular form, but does not bend much for the first ten yards. The banks of the ditch are not so high as the bottom of this ditch (or "pipe," as it is called) are kept clear from reeds, coarse herbage, &c., in order that the fowl may get on them to sit and dress themselves. Along the ditch poles are driven into the ground, close to its edge, on each side, and the tops are cut over across the ditch and tied together. These poles, thus bent, form at the entrance of the ditch or pipe an arch, the top of which is ten feet distant from the surface of the water. This arch is made to declare in height, so that the remote end is not more than eighteen inches in height. The poles are placed about six feet from each other, and connected by poles laid lengthwise across the arch and tied together. Over the whole is thrown a net, which is made fast to a reed-fence at the entrance and nine or ten yards up the ditch, and afterwards strongly pegged to the ground. At the end of the pipe farthest from the entrance is fixed a "tunnel-net," such as is used in the deer-parks in England, of a round form, and kept open by a number of hoops, about eighteen inches in diameter, placed at a small distance from each other to keep it distended. Supposing the circular bend of the pipe to be to the right when one stands with his back to the lake, then on the left-hand side a number of reed-fences are constructed, called "shooting," for the purpose of screening the "decoy-man" from observation, and in such a manner that the fowl in the decoy may not be seen while they are driving those that are in the pipe. These shootings, which are in number, are about four yards in length, and about six feet high. From the end of the last shooting a person cannot see the lake, owing to the bend of the pipes, and there is then no further occasion for shelter. Were it not for these shootings, the fowl that remain about the mouth of the pipe would be alarmed if the person driving the fowl already under the net should be exposed, and would become so shy as entirely to withdraw from the place. The first thing the decoy-man does when he approaches the pipe is to take a piece of lighted turf, or peat, and hold it near his mouth, to prevent the birds from smelling him. He is attended by a dog, trained for the purpose of rendering him assistance. He walks very silently about half-way up the shootings, where a small piece of wood is thrust through the reed-fence, which makes an aperture just large enough to enable him to see if any fowl are in; if not, he walks forward to see if any are about the entrance of the pipe. If there are, he stops and makes a motion to his dog, and gives him a piece of cheese, or something else, to eat; and, having received this, the animal goes directly to a hole through the reed-fence, and the birds immediately fly off the bank into the water. The dog returns along the bank between the reed-fences, and comes out to his master at another hole. The man then gives him something to reward and encourage him, and the animal repeats his round until the birds are attracted by his motions, and follow him into the mouth of the pipe. This operation is called "working" them. The man now retreats farther back, working the dog at different holes until the ducks are sufficiently under the net. He then commands his dog to lie down behind the fence, and going himself forward to the end of the pipe next the lake, he takes off his hat and gives it a wave between the shooting. All the ducks that hear it see him, but none that are in the lake can. The former fly forward, and the man then runs to the next shooting and waves his hat, and so on, driving them along until they come to the tunnel-net, into which they creep. When they are all in, the man gives the net a twist, so as to prevent them from getting back. He then takes the net off from the end of the pipe, and taking out, one by one, the ducks that are in it, dislocates their necks. This is the scene represented in the cut at the head of this article, to present the picturesque scenery. The net is afterwards hung on again for the repetition of the process; and in this manner five or six dozen have sometimes been taken at one drift. When the wind blows directly in or out of the pipes the fowl seldom work well, especially when it blows into the pipe. The reason of this is, that the ducks always prefer swimming against the wind, otherwise the wind blowing from behind catches and ruffles their feathers. If many pipes are made in the same lake, they are so constructed as to suit different winds, and are worked accordingly. The better to entice the fowl into the pipe, hemp-seed is occasionally strewn on the water. The season allowed by Act of Parliament for taking ducks in this way is from the latter end of October until February.

Willoughby states that formerly before the young ducks took flight, or while the old ones were in moult and unable to fly, they were driven by men in boats furnished with long nets. The fowl, having splashed the water, between long nets stretched vertically across the pools in the shape of two sides of a triangle, into lesser nets placed at the point, and in this way he says that 4000 were taken at one drive in Deeping Fen; and Latham has recorded an instance in which 2646 were taken in two days near Spalding, in Lincolnshire; but these practices being considered injurious, were prohibited by statute in the reign of George II.

Tame ducks are also used for the purpose of leading the way into the pipe. Hence the term "decoy-ducks." These birds are fed on the pond, and made quite tame, and come to the keeper's whistle, to eat the hemp-seed which he strews on the pond. They generally lead the way into the pipe when whistled to. As they are used to the sight of the keeper, they do not rush forward with the wild ones into the net, but return back again safe into the pond; or if any of them should be driven forward, they are easily, by their cur, distinguished from the others.

Although our account more particularly relates to the bird in its wild state, it will not be improper to mention that the rearing of ducks is made an object of great importance in China. The greater part of them are hatched by artificial warmth; the eggs being laid in boxes of sand, are placed on a brick hearth, so which a proper degree of heat is given during the time required for hatching. The ducklings are fed with crawfish and crabs, boiled and cut small, and afterwards mixed with boiled rice; and in about a fortnight they are able to shift for themselves. The Chinese then provide them with an old step-mother, who leads them where they are to find provender, being first put on board a "sampane" or boat, which is destined for their habitation, and from which the whole flock, often 300 or 400 in number, go out to feed, and return at command. This method is used nine months out of the twelve, for in the colder months it does not succeed; and is so far from a novelty that it may be seen everywhere, more especially about the time of cutting the rice, when the masters of the duck-boats row up and down the rivers, according to the opportunity of procuring food, which during that season is found in plenty, at the ebb of the tide, on the rice plantations, which are overflowed at high water. It is curious to see how the ducks obey their master; for some thousands belonging to different quacks may all be seen on the same spot, and on a signal given, follow the leader to their respective boats, without a stranger being found among them.
Old Travellers.—Busbequius.—No. VI.

Having obtained a six-months' truce, and taken his leave of the great Solymon, our traveller left Amasia, of which important city he says,—"It is in a manner the chief city of Cappadocia, where the Turkish governor of that province usually has his residence." Strabo, the Greek geographer, writes that he was born here. It lies on the side of two opposite hills, the river Iris, dividing the city in the midst, running between them, so that from each part you may look down upon the river as from the seats or stairs of an amphitheatre; and one side of it is conspicuous and open to the view of the other. It is so compassed with hills that there is but one way in, either by reach or waggons. [Fifteen centuries before Busbequius's visit, Strabo wrote that匈奴 was sold at Constantinople, brought out of Hungary to be sold at Constantinople, so here, every now and then, there passed by us abundance of poor miserable Christian slaves, which were going to be sold in the markets to a perpetual bondage. There was no distinction of age; old and young were driven in herds, or troops, or else they were branded, and we are wont to sell horses when we carry them to fairs. When I beheld this woful sight, I could not forbear weeping and mourning the unhappy state of poor Christendom."

On the second day of his journey, Busbequius perceived that a person in his retinue was lying sick, and he came to Adrianople, and there departed this life. Upon his death another mischief did succeed: as soon as the breath was out of his body, the Hungarians with me ran in greedily to the prey,—one caught up his stock, another his doublet, a third his shirt, a fourth his other linen; thus casting themselves, and us too, into great distress.

It is well for travellers and sailors to know these things, continues, "the chiefest of the place came to bid me welcome, and presented me with large Hungarian gold pieces where there are no physicians, or medical advice, or medicines of any kind at hand.

In modern times we have been accustomed to hear talk of no other kind of slavery than that of the poor negroes, and have lost sight of the days when Europeans and Christians were dragged by thousands to the slave-markets of Constantinople, and sold like beasts. Let us listen to our old traveller.

"I stayed about fourteen days at Constantinople to refresh myself, and then I entered on my journey back again to Vienna: but I was entertained with an insidious omen,—even a very sad spectacle; for, just as I was gone out of the gates of Constantinople I met a whole squad of the most exquisite young girls, which were brought out of Hungary to be sold at Constantinople, no merchandise being more frequent among the Turks than this. For, as when we leave Antwerp we meet with all kinds of goods and merchantable commodities importing into the town, so here, every now and then, there offered us abundance of poor miserable Christian slaves, which were going to be sold in the markets to a perpetual bondage. There was no distinction of age; old and young were driven in herds, or troops, or else branded, and we are wont to sell horses when we carry them to fairs. When I beheld this woful sight, I could not forbear weeping and mourning the unhappy state of poor Christendom."

On the second day of his journey, Busbequius perceived that a person in his retinue was lying sick in a sort of coach, with one of his legs bare and in pain. Approaching nearer, he saw to his horror a plague-ulcer upon the leg.

"We were sore troubled," he says, "at this sight, as fearing that infectious disease would surely spread further; but the poor man lived till we came to Adrianople, and there departed this life. Upon his death another mischief did succeed: as soon as the breath was out of his body, the Hungarians with me ran in greedily to the prey,—one caught up his stock, another his doublet, a third his shirt, a fourth his other linen; thus casting themselves, and us too, into great distress.

It was in the month of June when Busbequius began his homeward journey, and the heat was so excessive that he was soon thrown into a fever. In spite of his illness, however, he contrived to travel much quicker than he had done in going to Amasia; and he arrived at Constantinople on the 24th of June. He says, very good-humouredly, "You must needs think that I had a troublesome journey of it, having such a companion with me as a quotidian ague all the way, so that when I came thither I was almost nothing but skin and bone; yet, lean as I was, when I came to rest, and, by the advice of Quackelben my physician, using warm baths, I quickly recovered. One thing I particularly remarked in the method of my cure, that, when I came out of the warm-bath, he would sprinkle me over with cold water, which, though it were troublesome and unpleasant to me at the moment, yet I found that it did me much good."

We beg attention to the words marked in Italics, as we have, more than once, seen the same mode of treatment successful in cases of malaria fever—about the worst kind of fever and ague. Sulphate of quinine is a sure remedy, and a medicine that no traveller ought to be without. In the same disorder, which is generated by the miasmata from stagnant water, and the decomposition of vegetable matter, we have seen the Greeks of Asia Minor employ, with success, pills made of lemnian earth and diascordium, "mixed up with some Lemnian earth and diascordium," we may reasonably suppose that they had not caught the fatal infection at all.

Travelling on, in all the heat of the dog-days, through Servia and the country of the Rascians, which were "almost parched and withered with drought," he at last re-entered the fertile territories of Hungary, where, notwithstanding the heat, "the grass was so tall, that a coach that went before could hardly be seen by another that came after; which is a great argument of the goodness of the soil." At the town of Essek, which was almost inclosed by mucky marshes, he was again attacked by his fever and ague. Ill as he was, he, however, crossed the river Drave, and went on to another Hungarian town, "being wearied with the heat of my journey and my ague, I laid me down to rest." * * * And here, he continues, "the chiefest of the place came to bid me welcome, and presented me with large Hungarian
THE PENNY MAGAZINE.

melons, pears, and plums of several sorts, besides choice wine, and other provisions, all of them very good; the noted country of Campania in Italy hardly producing better.

After resting a day or two he travelled on to Mohatz, noted for a great victory obtained there by the Turks over Lewis, King of Hungary, not long before. Our traveller adds, "Not far from that town I saw a river whose waters were deep, and its banks very steep: here that unhappy prince leaped in with his horse, and was drowned, being for his fall as much to be lamented, as condemned for his imprudence in venturing, with a small and newly-raised army of his countrymen, to cope with the more numerous, veteran, and well-disciplined forces of Sultan Solyman."

From Mohatz Busbequius travelled on to Tulna to Pelduar, after which he re-crossed the Danube, and arrived at Buda on the 4th of August, having lost many of his horses by the way; "that were chocked with eating new barley and drinking over-cold water."

He had, besides, a very narrow escape from the Heydus or robbers that then infested all Hungary. It pleased the obstinate and arrogant Pasha of Buda to make the ambassador wait three days before he would grant him an audience, and when he admitted him he showered down reproaches on him and on the Christians, and made use of some threatening expressions of revenge.

"It may be," says Busbequius, "he thought that the sight of his host of Janizaries and troops he had gathered round me, would terrify me; but he was mistaken. I answered him roundly, that the Hungarians might rather find fault with the Turks. ** *

And so, after a warm altercation, I was dismissed, being in very bad plight, for my ague-fit was strong upon me all that day."

The day after this unceremonious audience he continued his journey with an escort of Turkish cavalry. At a certain stage of this day's march, he sent two Turkish soldiers ahead to prepare the ferry-boats that were to carry him and his retinue across the Danube again.

The adventure that follows is best told in the author's own words:—

"When these two Turks were gone an hour's march before us, they espied four horsemen standing under a tree, a little from the highway side. They judged them by the appearance to be Turks, and therefore turned aside to accost them; and as they drew near, they accosted them with these words:—

'What news?' The strangers answered them not a word, but made at them with their drawn swords, and thoroughly learnt the character and conduct of the one of them gave one of the Turks such a blow at the back of his head that he fell down over his chin, and then catching at the Turk's good steed, which he held by the bridle, he left his own sorrow behind, and mounting the Turk's horse, set spurs and away. The two Turks came presently back to us, and crying with the masked face, and with a woful lamentation bid us prepare for battle, for we were waylaid. I, to encourage my men, leaped immediately on horseback; but we came too late, when the scuffle was over; for they had more mind to preserve the prey they had got, than to fight; and thereupon fled speedily to Javarin, an Hungarian garrison of the Christians to which they did belong: the Turk, indeed, showed them to us as they were scouring the country round Javarin.

After this adventure he reached the town of Gran without any accident. The next day, when the Turkish escort was to leave him, he being now on Christian ground, the fellow who had been wounded presented himself "with his nose sewed together, through which he made a lamentable moan," and begged Bussbequius would have pity on his condition. The ambassador said he would give him two ducats, which were enough for his cure. The Turk would have more, but his superior officer told him two ducats were quite enough for a slit nose, and that his misfortune was not to be charged upon the ambassador.

"Being thus dismissed," continues Busbequius, "I came the same day to Commora, where I expected my ague-fit; but when the usual period of it drew near, I found it had left me—as if a fever got in Turkey durst not accompany me in the Christian territories. Whereupon I gave God thanks, who had freed me from my ague, and had also brought me safe to the end of my long and dangerous journeys."

He was, however, so much reduced, and looked so ill, that when he arrived at Vienna, two days after, the people about the court thought the Turks must have given him a poisonous dose, and his friend the Archduke Ferdinand did not know him again. It appears that he was kindly received by the Emperor, and that his travels, which were considered extraordinary at that time, made a great noise in the society of the Austrian capital. He says, with sufficient self-complacency,—

"There are many persons here who refused to accompany me to Constantinople, either through fear or I know not what other motive, who wish they had given any money to go along with me, now that they see me returned in safety. But what saith he in Plautus? 'If you will eat the kernel, you must take the pains to crack the nut.' He is wrong who hopes to reap part of the fruit without taking part of the pains.

Busbequius had scarcely recovered from the fatigues of his first embassy to Turkey, when he was appointed to a second; the Emperor Ferdinand, who was anxious to conclude a permanent peace with Sultan Solyman, not being able to find any other well-qualified person who would undertake the journey, and face the proud and fierce sovereignty of the Turks.

This time also he set out in the depth of winter;—and this winter (of the year 1556) was a very cold, rainy, and tempestuous one. He travelled by the route he had already performed to Constantinople, where he found the great Solyman, and so little encouragement to press the negotiation with which he was charged by the Emperor, that the Turkish pashas told him if he did so, two of his companions would most assuredly be cast into a dungeon in the Seven Towers, and he himself, after having his nose and ears cut off, would be sent back to his master. One good traveller, however, was not easily to be bullied or frightened from his duty:—he remained steady at his post; he persevered; he most thoroughly learnt the character and conduct of the oddly-constituted Turkish cabinet; and, after residing for nearly seven years at Constantinople, succeeded in obtaining a very advantageous treaty of peace. During all this time, the labours of his difficult mission, and the minute attention he paid to the politics of the East, did not wholly absorb him. He was always fond of an honest man, and a true friend; and the relations he formed of this sort were strong, lasting, and true friendship. He was not only a man of exalted tastes and
intellect, but of a most generous mind. Besides other liberal acts, while at Constantinople, he relieved at his own expense and credit a number of Spanish prisoners that had been taken by the Turks in a naval engagement.

When he returned with honour from his second embassy he was inclined to retire to a private and literary life; but his character, talents, and manners had attracted the attention of princes, and he was drawn more than ever into courts. He was appointed tutor or governor, to the sons of Maximilian II.; and when that emperor's daughter, Elizabeth, was married to Charles IX., King of France, he was charged with the commission of conducting her to Paris. There that queen made him steward of her household; and when she retired from France, on the death of her husband, she left him at Paris as her ambassador, or agent. He also was ambassador at the same court for the Emperor Rudolph down to the year 1592. In the autumn of that year, having obtained permission to make a journey to Flanders and visit his patrimonial estates, he left Paris, and took the route through Normandy. He was in the seventieth year of his age: and now we come to the melancholy conclusion of a long, and honourable, and most useful life. At the period we speak of, France was distracted by the civil war of the League. On arriving at the village of Cailli, about three leagues from the city of Rouen, the venerable Busbequius, the general benefactor of Christianity, was stopped, robbed, and ill-treated by a party of the insurgents. As a man experienced in all such matters, he had prudently procured passports, not only from the King of France, but from the chiefs of the League faction; and when the latter were presented, and the lawless men heard him speak and explain the inviolable rights of his character as ambassador, they set him at liberty, and restored the mass of his baggage. But the good old man would not continue a journey that had been thus brutally interrupted. He caused himself to be carried to the house of a friend at St. Germain, close to Rouen, where, in a few days, a violent fever carried him off. He died on the 28th of October, 1592. His body was buried in a church on the spot;—his heart was carried (whether he had wished to go) to his native district, to be placed in his father's tomb.

Our correspondent has known a sublime account of his 'Travels' is written in Latin, and in the form of letters to a friend. The Latinity has been much admired by scholars. Several translations have appeared in various modern languages. In these short articles we have quoted from a good old English version which seems to have been first published about 100 years ago. Three or four editions of it appeared during the last century, but the book is now out of print, and little known, except to literary men. The latter half of it is especially rich in quaint and interesting and happy descriptions. The whole of it forms a better book of travels in Turkey than any single work that has been written since the days of old Basbequius.

How to ensure success.—The surest way not to fail is to determine to succeed.—Sheridan.

Skull of Queen Matilda.—M. Berzelius, of Stockholm, sends, to the Academy of Sciences at Paris, the skull of Dessevax, who died in Sweden in the year 1650. Cuvier, to whom the present of the learned Swede was in the first instance consigned, remarked on the occasion, that skulls and other bones might be preserved in leaden chests for ages without decay. In conclusion of this opinion he cited the instance of the skull and bones of the Queen Matilda (who died in the year 1183), which had been found in good preservation in the tomb in her Abbaye-aux-Dames at Caen—Magasin Universal.

Ancient Services of Tenants.—In the Harleian collection at the British Museum there is an ancient survey of the manor of Barking, in which the services due from the inferior tenants to the abbess and convent are stated at large. One of them was, among other services, to gather a full measure of nuts, called a pyhut, four of which would make a bushel; to go a long journey on foot once a year to Colchester, Chelmsford, Ely, or the like distances, on the business of the convent, carrying a pack; and other shorter journeys, such as to Brentford, &c., maintaining himself upon a road. He was to pay a fine for the marriage of his daughter, if she married beyond the limits of his manor, otherwise to make his peace with the abbess as he could. It appears also that he could not sell his ox, fed by himself, without the permission of the abbess. Of the tenants were obliged to watch and guard thieves in the abbess's prison. There is no reason to suppose that there was any singularity at the time in these stipulations, some of which strikingly manifest the degraded condition of the inferior tenantry in this country at a former period.

OLD METHOD OF TAKING HONEY FROM THE HIVE

A Correspondent, who apprehends that many of our readers are unacquainted with the manner in which bees are usually deprived of their honey, sends us a description of the process, which he hopes will soon be superseded by the more humane and efficient method of Mr. Nutt, which he has described in No. 113, page 11 of the third volume.

When the time for taking the honey arrives, which is at the end of August or the beginning of September, on some evening after the bees have retired into the hive, a small hole is dug in the ground near to the stand or bench on which the hive rests. This hole is filled with pieces of cotton or linen previously dipped in melted butter; and when all is ready, these are set on fire, and the hive is gently lifted off the stand and placed upon the hole. The escape of the bees, which is prevented by the earth which is out of the hole being heaped around the bottom of the hive; and thus the poor insects perish amidst the sweets for which they have toiled all the summer, and by the hands of those who have afforded them a house in which to lay up their stores. The cruelty and treachery of this measure could only be excused by that necessity for it which has now been superseded. That our readers may have an idea of the number of these industrious little beings deprived of life for the sake of a few pounds of honey, it may be stated that one single hive is supposed generally to contain about 16,000 bees; but let us say 10,000,—then, as each hive affords about sixteen pounds of honey, 400,000 bees must be killed in order to obtain, from forty hives, 640 lbs. of honey. When the honey is collected, the bees are deprived of it by being expressed from the combs in a fine sieve, and that which remains in the sieve is boiled in water, which is afterwards strained through a finesieve, and that which remains in the sieve is the substance called "bees-wax," so much used for polishing furniture, &c.

If the season proves unfavourable for the gathering of honey the bees are not destroyed, as that would be an unprofitable sacrifice of insect-life, but they are reserved for another season, and fed during the winter with brown coarse sugar, moistened with ale. A wet summer is very unfavourable to the collection of honey; and in a fine summer it often happens that the bees are deprived of their honey by wasps and wild bees. Our correspondent has known instances in which a hive of bees, in a very prosperous condition, have been deprived of all their honey, and a great number of the bees destroyed by wasps. A wasp will conquer five or six bees at once by means of its sharp incisors, with which it cuts large pieces out of their wings, and thus prevents them from flying; and being unable to reach the hive, it is raised on about one foot above the ground, and from which the wasps always thrust them, perish during the night.

* * * The Office of the Society for the Diffusion of Useful Knowledge is at 50, Lincoln's Inn Fields. LONDON.—CHARLES KNIGHT, 22, LUDGATE STREET. Printed by William Gower, Duke Street, Lambeth.
The village of Binfield, in Berkshire, situated about
seven miles west of Windsor, and within the precinct
of the forest, is remarkable from having been the
residence of Alexander Pope, during his early years.
The father of the poet, having accumulated a considera-
tble fortune by business in London, retired to this
place during the infancy of his son, and here pur-
chased a house and estate.

Speaking of this house, which, although probably
much altered from its original state, is still standing,
Pope calls it

"my paternal cell.
A little house, with trees a-row,
And, like its master, very low."

About half-a-mile from the house, an interesting
memorial of the poet still remains, or at least did so
a few years since, when the writer last visited the
spot. There is here a fine grove of beeches, pleasantly
situated on the gentle slope of a hill, which commands
an agreeable though not extensive view of the
surrounding country. This grove was a favourite
resort of Pope's, who is said to have composed many
of his earlier pieces sitting under the shade of one of the
trees, below which a seat was then placed. The
recollected of this circumstance was preserved by
Lady Gower, an admirer of the poet, who caused the
words "Here Pope sung"
to be cut in large letters in the bark, at some height
from the ground; and as this inscription, at the time
we mention, was distinctly legible, it was no doubt, at
one period, occasionally renewed.

About twelve years ago, when first seen by the
writer the tree was standing in a sound state, and apparently
little injured by time, although the bark, to the
height of seven or eight feet, was nearly covered with
the names of visitors, many of which, with the dates,
were cut deeply into it.

[The Penny Magazine, Volume IV, February 21, 1835]
This interesting relic of the poet (if still in existence) will not, however, endure much longer. When the writer last saw it, a year or two after his first visit, it presented a sad appearance of dilapidation, the upper part of the tree having been entirely broken off by a violent storm which had happened a short time previously, and lying prostrate on the ground, stripped of its branches, as shown in the annexed drawing, which was made at the time.

It is somewhat remarkable that none of the neighbouring trees were injured by the storm, which thus destroyed the object which, for near a century, had consecrated the spot.

COMMON SALT.

We propose to give a brief account of this great necessary of life, salt, without entering into any purely chemical disquisitions upon its nature and properties.

Common salt is found in a solid state as "rock-salt," or is obtained by evaporating sea or salt-spring water. The evaporating process is conducted either by exposing the liquid to the atmosphere, or by boiling it over a fire. In countries where the rays of the sun possess sufficient heat to occasion rapid evaporation, salt of the finest quality is obtained without the assistance of artificial heat. The sea-water is pumped from salt-pans, or shallow pits lined with clay: as the evaporation advances, and the salt is deposited, the brine is pumped off till a crust of salt about three inches thick remains. When this crust becomes hard it is broken up, and deposited in heaps in a place protected from rain. A fluid called the bitters, containing a number of the earthly bitter salts, continues for a long time to drain from the heaps: the salt indeed is not considered perfectly good till after three years' draining. The result of this process is the "hay salt," so much in request for preserving animal food. The "bitters" is sometimes preserved for the purpose of obtaining from it the sulphate of magnesia, and other substances containing magnesia. Glauber's salts are made from it.

In countries where the sun's heat is too weak to effect the evaporation with sufficient rapidity, and where, at the same time, fuel is cheap, the other process of boiling the liquor is adopted. The boiling is repeated four or even seven times, the boiler being each time refilled with the brine. When the liquor is sufficiently evaporated, the salt is left in crystals at the bottom of the pan. From a pan of 1800 gallons from 15 to 20 bushels of salt are obtained every day. In this process the draining of the salt requires after being removed from the boiler seldom takes more than four days. Not only brine must be subjected to the process of evaporation, but even rock-salt, if impure, must be dissolved in water, and again consolidated by heat.

It is supposed that brine-springs are formed by a stream of water flowing through a stratum of rock-salt. It is stated that charcoal is very generally found in strata above brine-springs. Such springs are very numerous in America, and are extensively used in the manufacture of salt. They appear also to be generally of greater strength than the springs of Europe. Yet some of those in England are remarkably strong. Though the strongest brines can yield little more than one-fourth of their weight in salt, the springs of Cheshire afford 22 per cent., in one remarkable case 25 per cent., and in another even 26 per cent. In Switzerland, from 13 to 14 per cent. is the usual strength of the salt-brine springs, and the average is only 11 per cent. in France.

Dr. Reusselaer conjectures that rock-salt is composed of deposits from salt-lakes, or seas, which have now ceased to exist. Some of the salt strata are consider-
fodder, they return again to the woods. Salt is now extensively used in England, and in all Europe, for fattening cattle. In Spain they attribute the fineness of their wool to the quantities of salt given to the sheep.

In England, 1,000 sheep consume at the rate of a ton of salt annually. About 1,000,000, or more, tons of salt are given to animals in this country. It is also much in use as a manure for the soil. The proportion of half-a-peck of salt to an area of soil equal to forty yards long by one broad has been found to succeed. About twenty years since, Lord R. Manners applied salt in solution to the irrigation of herbage: one ounce of salt to a gallon of water was used with success: a stronger solution,—of two ounces to a gallon of water,—was found to destroy the blades of grass; but in the next season an abundant crop of herbage came up. Dr. Holland recommends from eight to sixteen bushels of salt per acre. A mixture of salt and sott is a good manure; it is, indeed, the best compound, as manure, into which salt enters as an ingredient. Corn is steeped in salt to prevent smut: in orchards irrigation with a salt solution is recommended; and, spread on the surface of the soil, it destroys slugs and snails in gardens; but it will also destroy vegetation if dropped on the leaves of young growing plants. The use of salt as a manure is thus confined to harvested land; the salt is thrown on the land in the fall of the year. The coast is regularly treated with sea-water in China and Hindoostan. It is to ferruginous sandy soils that salt is understood to be particularly adapted as a manure.

COD-FISHING IN LABRADOR.

The following account of cod-fishing is abridged from a somewhat diffuse but interesting article on the subject, by the celebrated ornithologist of America, Mr. Audubon.

Though the coast of Labrador is visited by European as well as American fishermen, the business is most extensively carried on by the traders of the latter country, and especially by the citizens of Boston and other eastern sea-ports on the American coast. The vessels employed leave their respective ports from the beginning of May to that of June, that is, as soon as the spring has dissolved the ice, which during the winter had blocked up the Gulf. A vessel of one hundred tons is provided with a crew of twelve men, each being furnished with a coat and pair of trousers, and an overcoat, with oil-jacket, trousers, boots, &c. The owner supplies lines, hooks, nets, and every requisite for fishing; and the hold is stored with casks, some containing salt for curing the fish, others intended for receiving the oil that may be collected. For every two men there is allotted a "Hampton boat," which, when not used, is lashed on deck, or hung in stays. The baits employed at first are mussels salted for the purpose; but as soon as the shoals of capelings reach the coast, these are succeeded by the flesh of sea-fowl. At three in the morning the crew are prepared for their day's labour, and ready to betake themselves to their boats, each of which has two oars and lug-sails. They all depart at once, and either by rowing or sailing reach the banks to which the fish are known to resort. The little squadron drop their anchors at short distances from each other, in a depth of from ten to twenty feet; and the business of fishing is immediately commenced. Each man has two lines, and each stands in one end of the boat. The fish is hoisted in the hold of the fish, the baited lines have been dropped into the water, one on each side of the boat, their leads have reached the bottom, a fish has taken the hook, and, after giving the line a slight jerk, the fisherman hauls up his prize with a continued pull, throws the fish asthwart a small round bar of iron placed near his back, which forces open the mouth, while the weight of the body, however small the fish may be, tears out the hook. The bait is still good, and over her side the line goes again to catch another fish, while that on the left is now drawn up, and the same course pursued. In this manner, a fisher busily plying at each end, the operation is continued, and the boat is so laden that her gunwale is brought within a few inches above the water. At three in the morning they again prepare for another day's labour, and thus continue their toil until the vessel be duly laden. It often happens that there are not less than 100 vessels in the harbour, each of which sends out three boats to the fishing bank. Now each boat procures, on an average, 2,000 fish per day, so that the total taken by these vessels during the week will amount to 600,000.

The fish already procured and salted are from time to time taken aboard (at the New Harbour) by part of the crew, who are the worst hands at fishing, the others continuing at their lines. "There, on the bare rocks, or on elevated scaffolds of considerable extent, the salted cod are laid side by side to dry in the sun. They are turned several times a day, and in the intervals the men bear a hand on board at clearing and stowing away the daily produce of the fishing banks. Towards evening they return to the drying grounds and put up the fish in piles resembling so many hay-stacks, disposing those towards the top in such a manner that the rain cannot injure them, and placing heavy stone on the summit to prevent their being blown down should it blow hard in the night."

Such then is the mode of taking the cod till the arrival of the countless myriads of capelings, which migrate to the shallows in July in order to deposit their spawn. "The cods follow them as the bloodhound follows his prey, and their compact masses literally line the shores." The fishermen now adopt another mode: they have breast with them long and deep seines, one end of which is fastened by means of line to the shore; the other is, in the usual manner, drawn out in a broad sweep to enclose as great a space as possible, and hauled on shore by means of a capstan. Some of the men in boats support the corks part of the net, and beat the water to frighten the fishes within towards the land; while others, armed with poles, enter the water, hook the fishes, and fling...
them on the beach, the net being gradually drawn closer as the number of fishes diminishes. The number of cod secured at a single haul amounts to many thousands, while a net made by securing a handkerchief at the four corners may be filled with capelings at each sweep in the shallows among the rocks. The seining of cod-fish appears to be a most injurious way of procuring them; for the meshes of the nets are necessarily so small as to imprison thousands of young fish, which are perfectly useless, and which, instead of being returned to the water, as good policy would dictate, are left on the shore to feed ravens, kites, and beasts of prey.

It is not in every case that the cargo of the vessel is dried on shore,—in many instances the fish are merely salted, and carried in this state to different ports, where the owner disposes of them to agents from distant places. The business is very lucrative; and instances are known of men who by industry have in the course of ten years acquired a comfortable independence.

LA TRAPPE.

When the Reformation occurred, monastic institutions were no longer strictly identified with social interests, but many vigorous attempts were made to arrest their decline, and, if possible, to restore their former influence. Among others who struggled to promote this object, the Abbé de Rancé was one of the most strenuous. In 1636, being then only ten years old, the Abbey of La Trappe had been conferred upon him as a sinecure benefice. In 1664, after a life of dissipation, he suddenly directed the whole powers of his mind to the accomplishment of a rigid reform of his monastery. The rules which he laid down for this purpose were remarkable for their austerity. Each member was called upon daily to devote eleven hours to prayer, and the remaining part to labour and silent meditation. Their diet was of the simplest description, and consisted chiefly of fruit and pulse; flesh, wine and butter were prohibited. De Rancé himself, although often labouring under bodily weakness from the ascetic life which he led, never allowed the energy of his spirit to be daunted; and he died at last on a bed of straw and ashes, at the age of seventy-four. So great was the admiration excited by his superior devotion and mortifications that a new order sprung up called the "Order of La Trappe," the members of which endeavoured to imitate his life. A female community of this order was formed by Louisa, Princess de Condé.

The Abbey of La Trappe is situated thirty-four leagues north-west of Paris, in a valley of Normandy. It was founded in 1140, and derived its name from its benefice. In 1664, after a life of dissipation, he suddenly directed the whole powers of his mind to the accomplishment of a rigid reform of his monastery. The rules which he laid down for this purpose were remarkable for their austerity. Each member was called upon daily to devote eleven hours to prayer, and the remaining part to labour and silent meditation. Their diet was of the simplest description, and consisted chiefly of fruit and pulse; flesh, wine and butter were prohibited. De Rancé himself, although often labouring under bodily weakness from the ascetic life which he led, never allowed the energy of his spirit to be daunted; and he died at last on a bed of straw and ashes, at the age of seventy-four. So great was the admiration excited by his superior devotion and mortifications that a new order sprung up called the "Order of La Trappe," the members of which endeavoured to imitate his life. A female community of this order was formed by Louisa, Princess de Condé.

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A traveller, who visited, a few years ago, one of the establishments of the order in France, in the department of the Landes, has written an interesting description of its appearance, and the habits of the brotherhood. The "Landes" is the name given to a vast uncultivated wilderness in the south of France, on the confines of which the convent was situated. For some miles before reaching it, the way passed through a sort of composite country, made up of woods and thickets, enlivened here and there by small green glades, where springs, or splashes of rain-water, had coaxed up the scanty vegetation; or where some more vigorous pine-tree, peering above its neighbours, had bereft them of their fair portion of light and air, and thus created a space in which it reigned pre-eminently picturesque, with many a naked and sapless branch contrasted with the masses of its dusky foliage. Emerging from thence, the eye rested on the boundless horizon of Les Landes; on which, like gigantic cranes, or herons, in the distance, shepherds were seen, in the costume of the country, stalking about on elevated stilts. At length, on a small piece of common ground, appeared a low wall, surrounding a comfortless, dilapidated-looking structure, comprising the convent and out-buildings. Universal stillness reigned around, interrupted only by the tinkling of the porter's bell, announcing to the inmates the approach of strangers. No bustling footsteps, no hum of voices, betokened an immediate answer to the summons; but in process of time the visitors espied, through a chink in the door-way, a figure descending a flight of steps, and approaching slowly, with his head bent towards the earth, across a spacious court, half overgrown with weeds and rank grass. At length the key grated in the lock, and the gates, turning upon their hinges with a corresponding solemnity, admitted the party, before whom the figure they had seen prostrated himself; after which, on requesting an audience with his Superior, he bowed consent, and slowly waving an arm terminating in a bundle of emaciated and bony fingers, silently led the way. As mass was being performed, the visitors were directed to a small chapel, in which the whole community was assembled, consisting of about half-a-dozen monks in dark-brown robes and cowls, a few noviciates in white woollen vestments, and three in black who were temporary boarders on a penitentiary visit. The walls of the chapel were simply whitewashed, and the wood-work was unpainted;—it was almost a caricature of simplicity. The Superior was kneeling at an altar, nearly as primitive as the rest of the structure, and for a time there appeared no prospect of coming in contact with him. All and everything was noiseless and motionless,—lips spoke not, eyes looked not, hands stirred not; when lo! in an instant, the dead silence was broken by a torrent of words, streaming forth from the Superior's mouth with a gar- rulous rapidity, equally monotonous and unintelligible; and as if the tongue had no other object in its vibrations than to make the most of its brief moments of liberty. Of the nature, language, or meaning of this burst of articulation, no idea could be formed; and they waited patiently till, having run itself down like the rattle of an alarm clock, it stopped. Silence again ensued for a short time, when the service ceased, and the noiseless congregation by degrees dropped off. While waiting for an opportunity of introducing them-

[A Monk of La Trappe at his Devotions.]
selves to the chief, our travellers followed two or three of the brothers into a small room, and ventured upon a few questions, to which no answers were given, though they were evidently disconcerted, and each eyed and pointed to the other as a hint that the individual thus designated should be the spokesman. Not unwilling to press for an explanation of any infringement of the rules, they retired. Fortunately another whose answers were not so insuperable, but his speech was so measured and vague, that it might have admitted a doubt whether he was in actual possession of either his wits or words. Having apologised for the intrusion, the threadbare state of his raiment, and certain other causes which rendered a windward position with respect to his person preferable to what sailors would denominate "hugging him under his lee," led to question or two relative to change of linen and cleanliness—"Apparently you are not accustomed to change your dress?" "Never, never," was the answer in a drawling, sepulchral tone. "Apparently also, you never wash yourselves?" "Never, never," he said again; and certainly, as far as externals went, there was symptomatic evidence of his speaking the truth, the whole truth, and nothing but the truth, though the party were subsequently assured by the superior that an under-garment (which or what garment could not be ascertained) was exchanged once a week, and that washing was not a prohibited luxury.

The superior himself was a Spaniard by birth, and, judging from his countenance and manner, a second Loyola in character. He was enthusiastic of course, but shrewd and intelligent; and full of energy, and it was evident he had within him wherewith to play a conspicuous part in the scene of life had he been brought up under more favourable circumstances.

From a copy of the rules which the travellers saw, it appeared that the hour of rising both in winter and summer was half-past one o'clock, and, on certain specified days, at midnight; to which is added the incomparable luxury of sitting bolt upright for several successive hours on a hard-bottomed bench. The diet consisted of roots and vegetables, rice, and a few similar articles, but never either of fish or eggs, and cheese and milk only on rare occasions. Three hours' daily labour was required of each member. The vow of obedience is so strictly enforced, that in no case is it even permitted to the innocent party to exculpate himself from assumed guilt with which he may be unjustly charged. If indisposed, and required to take medicine, the sick man must at once swallow the draught which is presented to him, as the exhibition of a preference for any particular medicament is considered a mark of sensual indulgence, and in point of sinfulness ranked with the desire to partake of meat, to vary the accustomed regimen of the order, or the hour at which it is usual to serve up their repasts. Notwithstanding the apparent absence of fish, there were many in this convent, and a plentiful supply of fish could be procured from the market. Nothing could be more suitable than a plate of fresh fish. "Did you ever eat fish?" asked Daniel, in order to make Beggé Jân feel at his ease. "Marvel not, dear Daniel," answered the young Franciscan; "there is nothing here to despise. We eat nothing that cannot be eaten; and we hate as much as we can. The wits or words, however, must not be taken off for the purpose of quickening the circulation in a pair of frozen extremities, and the fire is to be kept at a respectful distance. All social ties must be dissolved on entering the convent-walls, friendship being termed "a pagan virtue," and in relation to social intercourse it is observed,—some of the greatest obstacles to the judicious employment of time is the habit of paying and receiving visits; and the rule which prohibits the brethren visiting each other in their respective cells is lauded as a peculiar specimen of wisdom. The intellectual gratifications, which it might be imagined would be liberally encouraged, are not less circumscribed than the sphere of their bodily enjoyments. The library was of the most meagre description; but yet no book could be obtained from it but with the sanction of the superior, whose liberality in this respect was not very freely exercised. The rules observe that nothing is more pernicious than the perusal of works which are not inspired by the Holy Ghost, and that one of the despotic abuses of age is the practice of making use of profane works in the education of youth. The only visible approach to utility in connexion with the establishment was a school, in which a few little children were taught the use of their mother-tongue by one of the order. The following appropriate reflections conclude the account from which we have borrowed the foregoing details:

"My heart sickened as I turned away from the convent-gate, and pondered on the melancholy mummery and strange unsuitable garb in which religion, the greatest of all pleasures, is most frequently represented; and the inexpressible regret and respect for men, with such palpable sincerity, sacrificed so much of the present to the future; with all their faults I could not but respect them still.

The subject of one of the engravings is the porter of a convent of the order in France, and that of the other a monk of La Trappe at his devotions. They were both taken by an English artist during a tour in 1833.

BEGGÉE JÂN.

There are some men the history of whose lives furnishes a degree of interest and instruction much beyond that which the merely personal details they contain could afford; and this proceeds from the incidental illustration which such narratives supply of the character and habits of a whole people. Of this class is the life of Beggée Jân,—a man who raised himself to supreme power among the Usbegs of Bokhara, and rendered himself the most powerful prince between Persia and the Indus. It is under the impression that the measures taken by this remarkable man for the purpose of obtaining power, and of consolidating that power when acquired, would make an instructive view of the people with whom he had to deal, that we have prepared the following narrative chiefly from the more extended account furnished by Sir John Malcolm in his History of Persia.

About fifty years since an almost supreme authority was exercised over the Usbegs of Bokhara by the Ameer Daniel, who had possessed himself of the person of the nominal prince. When this Ameer died he divided his wealth among his family, but declared his eldest son, Beggée Jân, to be his heir. This person had, how- ever, for some time previously to the death of his father, clothed himself in the patched garment of a religious mendicant, and shut himself up in a mosque, that he might enjoy his devout meditations undisturbed. When his portion of the inheritance was brought to him, he refused to receive it, but directed it to be distributed among those who had suffered from the extremities of his father. He then clothed himself in the coarse dress of a supplicant for mercy, and hanging a sword around his neck, went through the streets of Bokhara, imploring, with tears in his eyes, the blessings and forgiveness of the inhabitants for his late father, for whose sins he begged that his own life might be taken in expiation. Beggée Jân was before this known to the learned as one deeply versed in theology, and the writer of some esteemed treatises: but he had not, until this time, appeared before the people, who were
much struck by his apparent humility and sanctity, and crowded around him as if he had been a prophet, joining with him in prayers for blessings upon the

Abdoul Daniel. Beggee Jân then returned to his retirement, and secluded himself from all but a few chosen disciples.

Having professed himself one of those devotees who seek or have attained a state of mental blessedness and abstraction which leads them to despise all human pleasure and ambition, it was requisite that he should not easily be persuaded to assume that power which the people entreated him to undertake. They were wearied of the contests among his relations for the power which he seemed to scorn, and crowds assembled daily about the mosque where he resided, and followed him wherever he went. It is said there were at that time several thousands of gambling and drinking-houses in Bokhara, and the first proof which Beggee Jân gave of his authority with the people was to destroy all these houses; and so generally was he reverenced, that even those who were ruined by the measure are said to have assisted in carrying it into effect.

Beggee Jân had offered so much in the conflict for power, that its surviving members at last joined in the general request that he would assume the government. But he continued to refuse, until, upon occasion of a serious commotion in the capital, in which about a thousand lives were lost, the nominal king and all the nobles went to the mosque where he resided, compelled him to attend them to the tomb of his father, and at that sacred spot solemnly invoked him to save his country. Apparently overcome by their entreaties, he promised to give his counsel in the management of public affairs; but he continued to abstain from active interference, until a neighbouring chief, presuming upon the apparent weakness of the government, ventured to invade Bokhara. This so excited the indignation of Beggee Jân, that he accepted the title of Regent, and marched at the head of a large army against the invader, whom he compelled to retreat from the territories of Bokhara, and to abandon some of those countries, the possession of which he had at a former time espoused. For that time table Beggee Jân became the actual ruler of the Usbegs, although he never bore any other title than that of Regent, and continued to pay a nominal obedience to Abdool Ghâzee Khan, the nominal king.

It may seem strange that Beggee Jân should have chosen this process of acquiring the power which he might probably have taken, without much difficulty, as the heir of his father. But he knew that merely as the head of a tribe he should, in a station to which he could have no distinct claim, be exposed to the jealousy and opposition of other chiefs; whilst, as a religious mendicant, compelled by his countrymen to assume regal power, he should have no rival to fear, and would be able to establish his authority on a permanent basis. Therefore in his subsequent life he never lost sight of that character in which he had won "golden opinions" from his countrymen. In his regulations for the management of public affairs, he gave to each institution a shape consonant to his apparent situation; and in his private life, he wore the dress of a foreigner, and adoration, that he found little difficulty in establishing a fabric of power—by the consolidation of the Usbeg tribes, and by victories and successful negotiations—which even Persia contemplated with great and just apprehension.

We will now proceed to state some of the more peculiar traits of the domestic government of this remarkable man and furnish some details of his habits in private life.

Beggee Jân abolished the splendid court at which the nobles of Bokhara had been accustomed to attend, and in its place established what may be called a hall of justice, in which he sat as president, assisted by forty mollahs, or learned men. All who had complaints to make came to this hall; but the prosecutor was never allowed to speak unless the accused were present. No person, whatever might be his rank, dared neglect a summons to attend this court, before which even a slave might cite his master. Beggee Jân was accustomed to listen very patiently to the statements of both parties, and in all cases not criminal he sent them away with the advice to endeavour to settle the matter amicably between themselves. If they did so, the cause terminated; but if not, he took notes, at their reappearance, of the evidence produced; and these were given, together with his opinion on the case, to the mollahs, who were directed to prepare a decision according to the holy law. The parties, even after this, had a week allowed them to state their difference; but if they failed to do so, sentence was then passed, and became irrevocable.

Criminal justice was administered according to the Koran. Daring robbers were punished with death; petty thieves by the loss of their right hands; drunkards were publicly whipped. Tobacco having come into use since the time of Mahomet, the Koran says nothing about it; but smoking is rather discountenanced by severe religious penalties. From all classes in the city of Bokhara the strictest attention to the forms of religion was required; the police officers were continually employed in driving the inhabitants to the mosques to hear the stated prayers; and they were authorized to use their whips to awaken the devotion of the negligent. These officers had also authority to interrogate the persons they met as to their knowledge of the proper prayers, and to inflict summary punishment on such as were found wanting. Of these proceedings we cannot form a proper estimate without recollecting that an attention to the required prayers is an essential duty of daily life, the observance of which is made imperative upon a Moslem by the Koran, the directions of which have the force of public laws in every Mohammedan country.

The nominal monarch, Abdool Ghâzee Khan, and his family, were supported from the produce of the royal estates. But Beggee Jân drew daily from the same fund from which he paid his soldiers, for the support of himself, his cook, his servant, and his tutor, the sum of one tungâh (about five pence) for each, being the amount of the stipend allowed to the poorest student. The wife of Beggee Jân, who was one of the royal family, was allowed only three tungâhs. This princess had a fortune of her own, which placed her above the necessity of receiving this pittance; but she took it nevertheless, in order to please her husband, who often told her that it was too much. "That which is actually necessary," he used to say to her, "is alone lawful;" and when she remonstrated, he was wont to add,—"learn, lady, to be content with little, that thy God may be content with thee." Nevertheless the joy which he felt at the birth of a son induced him to abate the rigour of his domestic regulations. A sum of not less than 5l. was allotted for the support of the mother and infant; and an equal amount was given for the support of two other sons the moment they were born. Gradually Beggee Jân showed his intention to educate his children in the enjoyment of the luxuries which, as for himself, he appeared to despise. He allowed his family to reside in a palace; while he himself occupied an unfurnished room, or rather cell, into which per-
sons of all classes were admitted at all hours. He usually wore a coarse and filthy dress, and had every appearance of a common beggar. This dress he seldom changed except when he went to see his family, and then the skin of a deer was thrown loose over his shoulders. Nevertheless the same policy which led him to condemn himself to every privation made him desire to be surrounded with splendour; and there could hardly be a greater contrast than that between the mean and disgusting appearance of this extraordinary man, in all that pertained to him personally, and the display of magnificence and wealth made by his nobles and principal officers.

An ambassador from a neighbouring chief wrote an account of his mission to the court of Beggee Jân. From the long extract from this journal which is given by Sir John Malcolm, we select a few particulars describing the personal appearance and habits of the remarkable man who forms the subject of this article.

"After riding a short distance, we came to a one-pole tent, which I judged, from its size and tattered appearance, to belong to some cooks, or water-carriers. An old man was seated on the grass so near it as to be protected from the sun by its shade. Here all dismounted and advanced towards the old man; who was clothed in green, but very dirty. When near him, they stood with their hands crossed, in a respectful posture, and made their salutation. He returned that of each person, and desired us to sit down opposite to him." * * *

While we were conversing, a great number of nobles came in; and I could not help observing the extraordinary richness and splendour of their arms and dresses. Beggee Jân returned the salute of each of them in a kind and affable manner, and bade them be seated: but the shade of his small tent did not protect one-half of them from the rays of the sun. Soon after their arrival, their chief fell into a deep reverie; and, till evening prayers were announced, he appeared wholly absorbed in religious contemplation. At the time of prayer, all arose and retired.

On a following day, the same person had an opportunity of seeing Beggee Jân at dinner. He says—"His cook, a diminutive person, with weak eyes, came into the tent. What do you think of dinner?" said Beggee Jân: 'it will soon be time for prayer.' The little cook immediately brought a large black pot, and, making a fire-place with stones, put four or five kinds of grain, and a little dried meat, into it. He then nearly filled it with water; and, having kindled a fire, placed it to boil while he prepared the dishes: these were wooden platters, of the same kind as are used by the lowest orders. He put down three, and poured out the mess. Beggee Jân watched him; and the cook evidently understood, from his looks, when more or less was to be put into a dish. After all was ready, he spread a dirty cloth, and laid down a piece of stale barley-bread (Allah knows in what year of the Hejirah it was baked), which Beggee Jân was pleased to eat. The first dish was given to the ruler of the Ubes, the second was placed between Ishân Nukeeb and me, and the cook took the third to himself, sitting down to eat it opposite his master. As I had dined, I merely tasted what was placed before me. It was very nauseous, the meat in it being almost putrid: yet several nobles who came in ate the whole of our unfinished share, and with an apparent relish which could only have been derived from the pleasure they had in partaking of the same fare with their holy leader. After dinner, I obtained leave to depart.

A few years after this Beggee Jân died, and his eldest son, Hyder Tûrrâl, ascended the throne of Bokhara; and assumed, as his father had always intended, not only the dignity, but the name of a sovereign.

STEAM-BOAT EXPLOSIONS IN THE UNITED STATES.

In the American Almanac for 1835 there is an article on this subject which presents us with some important information, and from which we take the substance of what follows.

We are all familiar with the numerous and occasionally distressing reports which, from time to time, have appeared in the newspapers relative to steam-boat accidents on the American rivers. The subject has attracted so much attention at the American legislatures that Two reports were presented to Congress in the years 1832-33. From these documents it appears that rumour has magnified the number of those disastrous accidents, and the nature of their results. "The whole number of explosions in the United States is ascertained to be 52, number of killed 256; number of wounded 104." Mr. Redfield of New York, agent of the Steam-boat Navigation Company, supplies a list of all the steam-boat explosions, giving the name of the vessel, the year in which each accident occurred, the place where it occurred, and, as far as can be ascertained, the number of killed and wounded. He says, "In making an approximate estimate of the whole number of lives which have been lost in the United States by these accidents, I should fix it at 300. Although this is a melancholy detail of casualties, yet it seems less formidable when placed in comparison with the ordinary causes of mortality, and especially when contrasted with the insatiate demands of intemperance and ambition. It is believed that it will appear small when compared with the whole amount of injury and loss which has been sustained by travelling in stages and other kinds of carriages. More lives have probably been lost from sloops and packets on the waters of this State (New York) since the introduction of steam-boats than by all the accidents in the latter, though the number of passengers exposed has been much smaller."

Compare this with the rapid increase of steam-boat navigation—"The amount of steam-boat business in this country has been increased immensely since 1824; and perhaps the average of the preceding by fifty or a hundredfold. In the spring of 1824, but one steam-boat ran in the waters of the Connecticut, and but two from New York eastward, and with a small number of passengers compared with what they now carry. Now we have sixteen or twenty in full activity in that direction. One boat on the Hudson, built in 1825, has carried near 200,000 passengers; and we have sixteen or eighteen boats plying on the Hudson, while southward from this city (New York) the change has been equally great." And this is only a section of the United States: now numerous steam-vessels are rushing up and down the majestic Mississippi, branching off into the Ohio, the Arkansas, the Missouri, and carrying a stream, an ever-flowing stream, of population into wilds, which, very lately, knew no other lord than the red Indian of the forest.

But though, in the words of the American Congress Committee, "no legislation is competent to annihilate those causes" which produce the rather numerous explosions of steam-boat boilers, yet legislation, discreetly applied, may do something; and where it cannot directly reach the evil, it may still, by directing public attention to it, effect its removal through the force of public opinion. The inquiries of Congress will therefore probably tend to the accomplishment of so desirable an object.
"Art thou a thing of mortal birth, 
Whose happy home is on our earth? 
Does human blood with life imbue 
Those wandering veins of heavenly blue? 
That stray along thy forehead fair, 
Lost 'mid a gleam of golden hair? 
Oh! can that light and airy breath 
Seal from a being doomed to death? 
Those features to the grave be sent, 
In sleep thus mutely eloquent? 
Or art-thou, what thy form would seem, 
The phantom of a blessed dream? 
Oh! that my spirit's eye could see 
Whence burst those gleams of ecstasy! 
That light of dreaming soul appears 
To play from thoughts above thy years. 
Thou smil'st as if thy soul were soaring 
To heaven, and heaven's God adoring: 
And who can tell what visions high 
May bless an infant's sleeping eye?"

The above lines, descriptive of an infant's sleep, by Professor Wilson, are not inappropriately introduced in this place, the repose of a child being exhibited with much truth and effect, and forming so prominent a circumstance in the painting under consideration. The same lines form the introduction to the description of this picture in the great national work the 'Musée Français.' The picture, which is called 'Silence,' scarcely needs an explanation, its story being told with so much simplicity as to be at once understood. St. John, being desirous of the company of the infant Jesus, is about to awake him, but is checked by the interposition of the mother, who, with her finger on her lip, enjoins him not to disturb his repose. The principal figure, as well in the intention of the artist as in the perfection of its art, is undoubtedly that of the sleeping child. It is difficult to conceive how the most engaging of spectacles—the soft and happy slumber of a child—could be more correctly represented. The whole frame is abandoned to the listlessness of repose, while the features exhibit such an expression of quiet enjoyment as results from those flitting impressions which probably supply the place of connected dreams to a sleeping child. The inquiring expression in the countenance of the elder boy and the quiet tenderness of the Virgin are also beautifully depicted, although not remarkable in an equal degree with the attitude and expression of the principal figure.

The Bolognese School of Painting was formed at Bologna, in Italy, during the sixteenth century, by the three Carracci—Ludovico, and his two cousins, Agostino and Annibale, who were brothers. Annibale had previously followed the calling of his father, who was a tailor; and
Lead has been sometimes found in the pure, or native, state; but very rarely, and always in small quantity. It is one of the metals which is found in the greatest variety of combinations: but there is only one kind of ore which is very abundant; the rest are chiefly known as objects of interest to the mineralogist;—many of them afford very beautiful specimens for the cabinet. The common ore is a combination of eighty per cent. of lead and eight per cent. of sulphur, and is called usually by the name of Galena, or sulphuret of lead. It very often contains silver, and in sufficient quantity to pay the expense of a process for separating it. That of the north of England contains from 2 to 24 ounces of silver to the ton, and the average quantity is 11 ounces. The galena of the mine Huel Pool, in Cornwall, yielded 60 ounces; of Guarnock Mine, near Turr, 70 ounces; and a mine near Bereslant, in Devonshire, yielded galena so rich as to give 133 ounces of silver to the ton. A great proprietor of lead-mines in the north of England, Sir John Molyneux, had a splendid service of silver plate made of the silver so separated from the lead-ore.

In geological position, lead is most abundantly met with in the lower strata of the secondary sedimentary deposits, especially in the carboniferous limestone. (O, in Diagram No. 1, 'Penny Magazine.' No. 51.) It is found also in considerable quantity in the strata below these, in the granwacke, clay-slate, mica-slate, and even in gneiss, which is the lowest of the stratified rocks. (Q and R of Diagram No. 1.) It is found also, but more rarely, in the unstratified rocks, both in England and in trap; but in all the instances that have been mentioned, the granite and trap have always been associated with stratified rocks containing lead-ore. It is occasionally found in the coal-measures (M), but not hitherto in any of the strata above the coal. Galena, next to pyrites, or sulphuret of iron, is the most common of the metallic ores, and it is found in almost every country of the globe; but there are large tracts without any deposit of it in sufficient abundance to be worked. It is very rich in instances amongst the silver mines, much lead as all the other countries of Europe put together. The chief mines are in the north of England, in Derbyshire, North Wales, and Devonshire, on the borders of Cornwall. The great seat of the north of England mines is in that high district, around the mountain of Cross Fell, where the counties of Northumberland, Cumberland, Westmoreland, the North Riding of Yorkshire, and Durham, meet, as it were, in a central point, and from which they radiate. The mines first become of importance on Muggleswick Moor, on the borders of Northumberland and Durham, about twenty-seven miles from the east coast of Sunderland, and at Blanchland, on the river Derwent, a little west of Muggleswick; and they continue to the summit of Cross Fell. Aldstone Moor, in Cumberland, and Duffer, in Westmoreland, are important places in this district; and there are mines in Weardale, Teesdale, Allendale, and Askendale. Mr. Forster reckons that, in this part of England, there are no less than 175 lead-mines, which either have been or are now off work. The prevalent rock in this carboniferous limestone,—that great deposit which lies immediately under the coal-strata in most parts of England. It is associated with strata of sandstone and slate; and there are about twenty different beds of limestone which the miners distinguish by distinct names. The series of strata at
Alestone Moor, according to a section given by Mr. Wiich, consists of about sixty alterations of slate, sandstone, and limestone, in 159 fathoms, or 954 feet. The whole are covered by the coarse sandstone commonly known by the name of "millstone grit." The above dimensions are only a part of the strata where they are bored through in sinking the well, or shaft of a mine; but if we include the whole deposit from the upper surface of the Old Red Sandstone, on which the series rests, we obtain a total thickness of nearly 1000 feet. It is of trap, one of which is particularly designated in the "Whin Silt," a miner's term, are interposed between the strata in several places. The lead-ore occurs in veins, which traverse the strata in various directions, and in many irregular ways, sometimes being very slender, at other times extending to great widths. They are usually of larger dimensions in the limestone than in the slate and sandstone: one vein, which is seventeen feet in a limestone stratum, contracts to three feet in the sandstone below; and they are always much richer in ore even in proportion to the ore in similar veins in the limestone. That part of the series which is richest in lead does not exceed 300 feet. The mineral substances which accompany the ore, forming what is called the "vein stone," are calcareous spar, fluor spar, quartz, and a few others of less frequent occurrence. The mines in this part of England have yielded, of late, on an average, about 25,000 tons of lead annually, which is more than one-half of the whole produce of Great Britain; and of that amount nearly a third is obtained from the mines belonging to Greenwich Hospital. In the year 1831, 28,000 tons were raised from the mines of Cumberland, Northumberland, and Durham. The lead-mines of Derbyshire are situated in the northwestern part of the county, extending as far south as the neighbourhood of Matlock. That district is almost wholly composed of the carboniferous limestone, which is surrounded on all sides by the millstone-grit that lies above it. The limestone is very much disturbed in its stratification, and is intersected by dikes and beds of trap. There are limestones of various qualities and colours in the series, chiefly of a grey and fawn colour, but sometimes quite black; and several of the beds being of a texture which receives a good polish, they are used as marbles for architectural and ornamental purposes. The limestone-beds contain numerous great caverns, which are often visited by travellers. The ore is galena; but it contains in general too little silver to repay the cost of extracting it. The vein-stones that accompany the lead-ore are usually calcareous spar and fluor; the latter being the substance which is so generally known by the name of "Derbyshire Spar,"—a beautiful mineral, and capable of forming handsome vases, and such like ornaments. This mineral is a compound of lime with a peculiar acid, which, from having been first found in it, was called "fluoric acid." Farey, in his Mineral Survey of Derbyshire, enumerates no less than 250 mines which had been, or were then (1811), working.

Next in importance to the mines of the north of England, those in North Wales, in Flintshire, and in Denbighshire, are the most productive: a small quantity is raised in Shropshire, and in the neighbourhood of Tavistock in Devonshire. Lead-ore has been found in different places in the Isle of Man, and mines were worked there in the reign of Henry IV.; they were even in some activity as late as the early part of the last century, but they are now almost given up. It is found in the counties of Down and Wicklow in small quantities, but chiefly, however, to be worked in adjoining parts of the southern counties. The lead-mines of Scotland are more productive. The most important are those situated in the graurus, or slate-rocks, composing the range of hills which runs quite across the south of Scotland, from St. Abb's Head, north of Berwick, and in that part of it called Lead Hills and Warlock Head, on the borders of the counties of Lanark and Dumfries, north-east of Sanquhar. These mines were discovered in the year 1540, and have yielded large revenues to the proprietors ever since. The veins traverse the graurus rock from north to south, and vary considerably in thickness, some of the principal ones being from four to ten feet in width. At one time, the Susannah vein exhibited a mass of solid ore no less than fourteen feet thick; this was probably a junction into one of several small veins. Some years ago, the mines of Lead Hills and Warlock Head together yielded about 3400 tons annually. Lead has been wrought at Tyndrum, in Argyllshire, where the ore is found in a bed of quartz, which is part of a series of strata of the primary rock, mica slate; and also at Strontian, in the same county, where the galena traverses gneiss, the oldest of the primary strata. The produce of the different lead-mines in Scotland was at one time estimated to amount to 4800 tons, but it has, of late years, fallen off very considerably. Mr. Taylor, in his Records of Mining, gives an account of the quantity of lead raised from the mines of Great Britain in the year 1828, which, he says, was the result of a careful inquiry among those best acquainted with the subject. It is as follows:—

<table>
<thead>
<tr>
<th>County</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>North of England</td>
<td>26,700</td>
</tr>
<tr>
<td>Derbyshire and Shropshire</td>
<td>4,900</td>
</tr>
<tr>
<td>Devonshire and Cornwall</td>
<td>2,000</td>
</tr>
<tr>
<td>Flintshire and Northumberland</td>
<td>1,000</td>
</tr>
<tr>
<td>Scotland</td>
<td>4,700</td>
</tr>
<tr>
<td>Ireland, Isle of Man</td>
<td>500</td>
</tr>
</tbody>
</table>

Five years prior to this, the whole amount was only 36,000.

Nuisance.—The idle levy a very heavy tax upon the industrious, when, by frivolous institutions, they rob them of their time. Such persons beg their daily happiness from door to door, as beggars their daily bread; and, like them, sometimes meet with a rebuff. A mere gossip ought not to wonder if we evince signs that we are tired of him, seeing that we are indebted for the honour of his visit solely to the circumstance of his being tired of himself. He sits at home until he has accumulated an intolerable load of ennui, and he sallies forth to distribute it amongst all his acquaintance.

—Colton's Lecon.

Hair and Nails of the Dead.—It sometimes happens that the hair and nails continue to grow after death, notwithstanding the decomposition of the body. The Journal des Savans mentions a female whose hair was found, forty-three years after the interment of the body, to have forced its way through the cushions of the coffin. This hair crumbled on being touched. During the middle ages, such phenomena caused the dead to be regarded as sorcerers. Their bodies were dug up, and, after having been burnt, the ashes were scattered to the winds.

Elephant.—The first instance of an elephant brought to the west was in the year 807, when the Caliph Haroun al Rashid presented one to Charlemagne. The first elephant that came to England was presented by the King of France to King Henry III., in the year 1255; a notice of the arrival, as well as a sketch of which was preserved by Matthew Paris, in his own manuscript of his Chronicle, now preserved in the British Museum. It is stated that the elephant was exhibited at Sandwich, and was conveyed to the Tower of London, where the sheriffs of London had been directed, by the king's precept, to build a house for it, forty feet in length and twenty in breadth. (Rot. liberat. 39 Henry III., m. 11. Rot. Claus, ex ante m. 13.) The animal was ten feet in height to the top of the back, and was ten years old. It lived to the forty-first Henry III., in which year it appears upon the Chancellor's Rolls that, for the maintenance of the elephant and his keeper from Michaelmas to St. Valentine's Day, immediately before the Mummings dance, it was no less than 76s. 13d. Its keeper was one John Goach.
The cormorant belongs to a genus of aquatic birds, of which there are about fifteen varieties. The distinctive characteristic of the order consists in the peculiar formation of the foot. The outer toe is the longest, and edged externally by a small membrane; the webbing membrane is broad, full, and entire; the hind toe is half as long as the middle, and all are provided with broad curved claws, but not sharp, and the middle toe is serrated so as to retain with security the slippery prey on which this bird feeds. The cormorant is an excellent swimmer and diver, and also flies well, and the voracity for which it is proverbially famed calls into constant activity the peculiar faculties with which nature has enabled it to satisfy its craving appetite. As soon as the cormorant perceives its prey it darts upon it with destructive rapidity, and soon retains it in security by means of the saw-like indentations of its middle toe. With the aid of the other foot the fish is brought to the surface of the water, and then tossed upwards by an adroit motion so as to be seized by the head. By this means it is swallowed without the fish offering any resistance. The throat of the cormorant is susceptible of considerable expansion, should any obstacle occur in taking its prey. Cormorants are
fond of society, and, except in the pairing season, they are generally found in flocks, and often in company with other water-fowl, which are unmolested except when the greediness of the cormorant tempts it to snatch from them their prey. Owing to its activity and success in fishing, the services of the cormorant have been made use of in another element in the same manner as the falcon. Faber has described the manner in which these operations were carried on. He says,—

"When they carry them out of the rooms where they are kept to the fish-pools, they hoodwink them, that they may not be frightened by the way. When they come to the rivers, they take off their hoods, and having tied a leather thong round the lower part of their necks, that they may not swallow down the fish they catch, they throw them into the river. They presently dive under water; and there, for a long time, with wonderful swiftness, pursue the fish; and when they have caught them, rise to the top of the water, and pressing the fish lightly with their bills, swallow them; till each bird hath, after this manner, devoured five or six fishes. Then their keepers call them to the fist, to which they readily fly; and, one after another, vomit up all their fish, a little bruised with the first nip given in catching them. When they have done fishing, setting the birds on some high place, they loose the string from their necks, leaving the passage five) and went on deck. I found one of my fellow servants, at the proper place, at the first signale given each fliesthatsome part of the cargo appeared to have been taken. He then stated the case to be this: that it being necessary, in his opinion, to do this, he had done so; and, after this explanation, the hatch was opened. I said nothing; but the smoke passed through the after-hatchway, the draught having being admitted forward in order to enable the men to work. Several bales were removed, but the heat began to be intolerable below, and the smoker rolled out in a damp state. It had probably been wetted by heavy rains as it was brought down from the gulf, and had not been dried at the warehouse previously to being screwed. This operation is performed by a very powerful compression; and it seems not unlikely that the fire-damp may be generated within, in the same manner as in a hay-stack when it has been stacked damp.

On the 26th of September, after a series of baffling winds and calms, and heavy rain with squalls of wind, we got into 7° 27' south latitude; and the trade-wind appeared to have fairly caught hold of our sails. We began now to anticipate our arrival at the Cape. On the morning of the 27th I rose early (about half-past five) and went on deck. I found one of my fellow passengers there; and we perceived a steam and smoke arising from the fore-hatchways. I mentioned at the time to — that I thought it might be caused by fire-damp; and, if not immediately checked, might become fire. The captain came on deck, and I asked him what it was; he answered steam; and that it was common enough in cotton-loaded ships when the hatches were opened. I said nothing; but the smoke becoming more dense, and beginning to assume a different colour, I began to think that all was not right; and also that he had some idea of the kind, as I saw the captain knock at my door, and told me that part of the cargo appeared to have been taken. 

The Chinese cormorant is of a blackish brown on the upper part of its body, the lower parts are whitish, spotted with brown, and the throat is white. The plate represents the manner in which the fishing is managed on the lakes and canals of China, and the process is explained in the following extract from Le Comte, an old French writer:—

"To this end cormorants are educated as men rear up spaniels or hawks; and one man can easily manage a hundred. The fisher carries them out into the lake, perched on the gunwale of his boat, where they continue tranquil, and expecting his orders with patience. When arrived at the proper place, at the first signale given each fliesthatsome part of the cargo appeared to have been taken. He then stated the case to be this: that it being necessary, in his opinion, to do this, he had done so; and, after this explanation, the hatch was opened. I said nothing; but the smoke passed through the after-hatchway, the draught having been admitted forward in order to enable the men to work. Several bales were removed, but the heat began to be intolerable below, and the smoker rolled out in a damp state. It had probably been wetted by heavy rains as it was brought down from the gulf, and had not been dried at the warehouse previously to being screwed. This operation is performed by a very powerful compression; and it seems not unlikely that the fire-damp may be generated within, in the same manner as in a hay-stack when it has been stacked damp.

On the 24th of August, 1834, I embarked on board the ship Earl of Eldon, of London, 600 tons, Captain

NARRATIVE OF THE LOSS OF THE EARL OF ELDON BY FIRE.

[From a Correspondent.]

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Thesker, at Bombay, with a view of returning to my native land on furlough. She was one of the finest and strongest ships in the trade; and any insurance might have been had on the chances of her successfully resisting the winds and waves. She was laden with cotton; and, as the number of passengers was small, the space between decks was quite filled up with cotton-bales, screwed so compactly and tightly as to render it a matter of more difficulty to take them out than it had been to put them in. The number of individuals on board were forty-five, including three ladies and an infant, and the captain and his crew. It unfortunately happened that the cotton had been brought on board in a damp state. It had probably been wetted by heavy rains as it was brought down from the gulf, and had not been dried at the warehouse previously to being screwed. This operation is performed by a very powerful compression; and it seems not unlikely that the fire-damp may be generated within, in the same manner as in a hay-stack when it has been stacked damp.

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jam and preserved meats as we could get at, and the day's provision of fresh and salted meat. It was now about two o'clock: the hatches were then opened, and all hands set to work to endeavour to extinguish the fire. The main hatchway being lifted, and a tarpauling removed, there was a sail underneath which was so hot that the men could hardly remove it. When they did, the heat and smoke came up worse than ever; and it being now known, from inspection, that the fire was underneather that part, orders were given to hoist out the uppermost bales in order to get at one that was burning underneath. But when the men laid hold of the lashings to introduce a crane-hook they were found to have been burnt through beneath, and came away in their hands. The case now appeared bad indeed. However, we cut a bale open, and tried to remove it by handfuls; but the smoke and heat became so overpowering that no man could stand over it; and water, in the quantities we dared to use it, only seemed to increase it; for had the captain ventured to pump water into the ship sufficient to extinguish the fire, the bales would have swelled so much as to burst open the deck, or have increased so much in weight as to sink the ship, so that either way destruction would have been the issue.

Under these circumstances, perceiving the case to be utterly hopeless, the captain called us together on the poop, and asked if any one could propose any expedient likely to avail in extinguishing the fire and saving the ship? as in that case, said he, we will stick by her whilst a hope remains. It was unanimously agreed that all had been done that could be done: the men were all perfectly sober, and had been most arduous in their exertions; but one and all seemed coolly and positively decided that the case was hopeless. The heat was increasing so much that it became dangerous to leave the poop; the captain therefore requested the gentlemen to get into the boats; next he dismissed his men, and at three o'clock he himself left the ship, the last man who did so, just as the flames were bursting through the quarter-deck. We then put off the two boats, towing the longboat. The progress of the ship had been previously stopped by backing her yards; and when we were about a mile from her, she was in one blaze, and her masts began to fall in. Between eight and nine all her masts had fallen in, and she had burnt to the water's edge; suddenly there was a bright flash, followed by a dull and heavy explosion, the fire having reached the powder. For a few seconds the splinters and flaming fragments glittered in the air, and then all was darkness, for the waters had closed over the Earl of Eldon.

Sad was the prospect now before us! There were in the longboat the captain and twenty-five persons, including an infant four months old; the size of the boat 23 feet long by 7½ broad; in each of the others ten individuals, including the officer in charge. One of the boats had some bales of biscuit; but the boat's provision was in the longboat. We were, by rough calculation, above 1000 miles from Rodrigue, and 450 from Diego Garcia, the largest of the Chagos Islands; but to get there we must have passed through the squally latitudes we had just left, and been subject to variable winds and heavy or calms, neither of which we were prepared to resist. Seeing, then, that our stock of food was sufficient, we determined on trying for Rodrigue, and having burnbly committed ourselves to the guidance of that Providence, in whom alone we had hope, we accomplished rigging the boats, and got under sail.

On the 3rd day of our boat-navigation the weather began to threaten a change, but as we were in the trade we did not apprehend foul or contrary winds. In the course of the night it blew fresh with rain; we were totally without shelter, and the sea dashing its spray over us, drenched us, and spoilt a great part of our biscuit, though we happily did not discover this until we had almost ceased to want it. The weather grew worse, and one of our small boats, in which were Mr. Simpson, the second mate, with nine others, was split by the sea. She came alongside, and we put the carpenter into her, who made what repairs he could, but with little hope that they would answer. We then proceeded to fasten a spray-cloth of canvas along our weather gunwale, having lashed a bamboo four feet up the mast, and fixed it on the intersection of two stanchions, at the same height above the stern, the spray-cloth was firmly lashed along so as to form a kind of pent-house roof. Had it not been for this imperfect defence, we must have been swamped; and even as it was, we still shipped seas to so great an extent that four men were obliged to be kept constantly employed in bailing to keep her clear of water. Towards evening it blew hard, with a tremendous sea, and not thinking the other damaged boat safe, we took in the crew, and abandoned her. We were now thirty-six persons, stowed as thick as we could be, and obliged to throw over all superfluities, and we had not more than eight inches of clear gunwale out of the water. Wet, gloomy, and miserable, the night passed away; at last the day broke, and though the weather was still very bad, I again felt hope, which had never entirely forsaken me, that we should still weather the storm. During the last night the sea had broken right over us more than once; a tremendous sea came roaring down, and while I held my breath with horror, it broke right over our stern, wetted the poor ladies to their throats, and carried away the steersman's hat. The captain then cried out in a tone calculated to inspire us with confidence (which I afterwards told me his heart did not re-echo) —"that's nothing; it's all right; bale away, my boys: he never expected us to live out the night, but harassed as he was both in mind and body, he gallantly stood up, and never, by word or deed, betrayed a feeling that might tend to sink our hopes. He stood on the bench that livelong night, nor did he ever attempt to sleep for nearly forty-eight hours.

After the change of the moon the weather began to moderate, and we enjoyed a comparative degree of comfort. We had three small meals of biscuit, and some little jam, &c., and three half-pints of water per man per day, with brandy if we liked it.

On the thirteenth evening we began to look out for Rodrigue; the captain told us not to be too inquisitive, as his chronometer was not to be depended on after the rough treatment it had met with. The night fell, and I went forward to sleep; but, about twelve, I was awakened by the cry that land was right a-head. I looked and saw a strong loom of land through the mist. The captain had the boat brought to for an hour, then made sail and ran towards it, and, at half past two, it appeared still more strong. We then had to until day-light. I attempted to compose myself to sleep, but my feelings were too strong, and, after some useless attempts, I sat down and smoked with a sensation I had long been a stranger to.

With the first light of dawn Rodrigue appeared right a-head, distant about six miles; and, by eight o'clock...
SPRING.

There is no season of the year so interesting to the naturalist as Spring. A thousand operations in nature now call forth his attention, and crowd upon his notice. Vegetation has commenced in earnest. The folded leaves are bursting through the ground,—the buds are swelling,—and the bark of the trees is covered with a green coat of delicate velvet moss. The snowdrop, the crocus, and the daisy, have already expanded their blossoms, as if to welcome the springing year. Nor is the change which now takes place among the animated tribes of earth, or air, or water, less remarkable. The insect race are teeming around us. The gnat tribe (tipulidae) which even during winter, when the day was sunny, we saw swarming in the air, are now in countless myriads, moving as we move, and dancing around us. The sulphur butterfly (papilio sulphurea) flits along the sheltered bank and hedge-row. Several species of humble-bee have left the evanish of their chrysalis state in the earth, and are roaming in search of nectar-giving flowers. Numbers of the beetle tribe (coleoptera), which, like the dormouse, passed the winter in a state of hibernation, are now alert. Of these some had buried themselves, on the approach of the preceding winter, deep in the earth, as the dor (geotrupes stercorarius); others, as the water-beetles (dytisci, hydrophil, &c.), had burrowed into the mud at the bottom of the stagnant pools, in which they habitually reside; others again, as the rose-beetles (stephylinus, oxytelus, &c.), earwigs, and many more, had taken up their winter abode in crevices of walls,—beneath the bark or in the chinks of trees,—some solitary, others in clusters:—but the sun has effectually restored them to their wonted vigour.

There are few reptiles that inhabit the British isles, and all of them hybernate. The snake buries itself in holes in banks, or retires beneath stumps of wood or heather; its long tail projected to the breast, and in the meantime, sent to tell the gentlemen of the island of our arrival. Two of them came down immediately, and having heard our story, said that we had been most miraculously preserved, and separated us into two parties,—the married men and their wives to one, and the single ones to the other, while the crew were taken inland and encamped. They then gave us bundles to their negroes, and took us to their houses, where every thing was had, as if it were every arrangement made for our comfort, and, during the period of our stay at Rodrigue, we were treated with such invariable kindness and attention as demands from us the fullest expression of our gratitude towards those to whom we are under so many obligations, without forgetting our paramount obligations to that Power by whom we were preserved through all the dangers that had surrounded us.

Of the eggs of the frog were collected; on the 13th the tadpoles were hatched, but the filaments were not visible,—a deep notch on each side appeared nearly to separate the head from the body. On the 23rd the ten filaments on each side were distinct; on the 27th the tadpole had divested itself of the gills. Perfect in June to pass off from the gills, was obliterated, but that on the left was still very distinct: it gradually closed. July 8, the hind legs began to appear, but the toes were not separated. 14th. Hind-legs seen externally, and completely formed; the fore-legs were also formed, but concealed beneath the skin of the chest, and only to be discovered by dissection: the legs completely formed. 18th. The elbows of the fore-legs projected under the external skin, and the lower part of the body became taper. 19th. Fore-legs disengaged, and the mouth, which was previously small and round, became wide and froglike; the tail had a notch at that part where it afterwards separates. 23rd. The tail dropped off, leaving the projecting root. The animal left the water and remained among the grass. 28th. The root of the tail completely obliterated.

Afters the frog the newt appears; and soon afterwards the snake leaves his bed to bask in the sun, and the warm showers invite the toad to crawl forth in quest of slugs and insects. Many of the fishes which live in the depths of the ocean now visit our shores in search of sandy or gravelly shallows in which to deposit their spawn; and some, as the salmon, ascend the clear and rapid rivers, advancing far inland, prompted by insensible instinct. The feathered tribes are full of bustle, and their lively notes are heard in coppice, wood, and field. Ever attractive, their actions now become doubly interesting. Some are selecting their mates, others are already preparing for the great work of nidification; nay, some have already callow broods demanding their assiduous protection. A remarkable change has, however, taken place, with respect to the ornithology of our island, and that so speedily, that it seems as if the impulse of some common cause; and so it is. The warm gales which bring our summer birds of passage (the swallow, the goatsucker, and the nightingale) from the south, give notice to our winter visitors, who in our more temperate latitudes have found an asylum which their native wilds and morasses within the arctic circle denied,—that it is time for them to return,—that the earth is unbound, and the waters thawed. While, then, many have disappeared, many have arrived. Thus may the law of migration be compared to the flux and reflux of the tide; the stream sets northward in spring, and recoils southward on the approach of winter. Many birds common to Europe generally, while they are permanent residents in our island, are migrating in countries towards the north; this is the case with the thrush, and the skylark, which arrive in vast numbers towards the end of autumn, especially if the winter in the north be of more than usual severity.

Whence come our summervisitors? From Egypt and the northern regions of Africa, their winter place of refuge. Gradually have they been travelling northward, as the season opened,—now delayed, now encouraged to proceed; a few as if impatient to reach their destination, and advancing before the rest, anticipate the spring, and often perish; hence the adage, "one swallow does not make a summer."
In due time, however, all arrive. Nor is this journey one of toil or difficulty, either going or returning. If we place a map before us we shall see how easily a bird of very moderate powers of flight may pass from our island into France, traverse Spain, and proceed into Africa; but the swallow from our island is not to cross the Bay of Biscay, and doubtless advances in its aerial course with fewer delays than birds of feeble wing, performing the same voyage to the east, and celerity.

Latham informs us that the swallow, on its return to Europe, "first appears at Gibraltar in the middle of February, and becomes numerous the first week in March;" and that "in September and the first part of October myriads of swallows arrive from the more northern tracts, and migrate daily to the Barbary shore, but always appear most numerous in a W. or S.W. wind."

Adanson mentions the swallow as arriving in Senegal after October. The flight of migratory birds is mostly, if not always, performed during the night. Woodcocks are well known to arrive during this period; all the day they rest, and at night resume their journey. The red-backed shrike, and the wheatear, which abound on the downs of Kent and Sussex as autumn draws to a close, are well known to cross the British Channel at night, taking the opportunity of a favourable wind.

Spring, however, does not rouse the energies of the feathered tribes only; it calls forth of our smaller mammalia as hypermene from their dormitories. The bat is seen to flit along the lanes, and around the barn,—the hedgehog steals forth as evening closes in,—the dormouse is active, and the water-rat leaves its nightly tracks on the mud of the bank, and among the green chick-weed on the surface of the water. Such then are the effects of spring on the vegetable and animal kingdom; and hence is it a time of interest to the lover of nature,—to him who delights to read her laws and trace her operations. We subjoin an imperfect journal of the great events of February, March, and April, recommending our readers to improve it for themselves.

February 1 to 7. The call-notes of the great tit and the blue tit heard.

"Early lambs in the pastures.

The mole busy; fresh hillocks appearing every morning.

Occasionally a solitary bat appears, as we observed a few days since.

Hazl e ornamented with catkins.

Furse in blossom; snowdrop.

7 to 14. Yellow-hammer chirps its call-note.

Brimstone-butterfly now and then seen.

Haven preparing to incubate.

Rooks are patching up their nests, and clattering.

Pertilegus calls, and begins to pair.

Clarion in flower.

21 to 28. Notes of goldfinch heard.

Vijer crawls abroad.

Missel-thrush begins to incubate.

Frog begins to be heard in the pools and ditches.

Stone-curlew calls to its mate.

Wood-pigeon pair.

20 to March 7. Violet blooms.

Wryneck heard.

Cuckoo butts away.

Pheasant crows to his mate.

The frog now abundant and clamorous.

Peach blossoms.

Willow has downy catkins.

Ducks and geese prepare to incubate.

March 7 to 14. Peacock-butterfly seen.

Golden-cres (Regulus) warbles.

Yellow wagtail on the commons.

Trout in condition, and takes the fly.


Wheat ear seen in small numbers.

Dormouse lively.

Hedgehog creeps forth.

Bittern booms in the marsh.

House-pigeon has young.

21 to 28. Common snake seen.

Greenfinch chirps.

A few days after, as I was hunting, I started, at the same moment, an elk and three young bears, the latter running into a tree. I shot at the young bears, and two of them fell. As I thought one or both of them must only be wounded, I sprang immediately towards the root of the tree, but had scarcely reached it when I saw the old she-bear come jumping in an opposite direction. She caught up the cub which had fallen nearest her, and raising it with her paws, while she stood on her hind feet, holding it as a woman holds her child, she looked at it for a moment, smelled the ball-hole, which was in its belly, and perceiving it was dead, dashed it down, and came directly towards me, gnashing her teeth, and walking so erect that her head stood as high as mine. All this was so sudden, that I had scarcely reloading my gun, having but very little time to raise it when she came within reach of the muzzle. I was now made to feel the necessity of a lesson the Indians had taught me, and which I very rarely neglected, namely, after discharging my gun, to think of nothing else before loading it again.—Tunster's Narrative.

American Bear Hunting.—Shortly after this I killed an old she-bear, which was perfectly white. She had four cubs; one white, with red eyes and red nails, like herself; one red, brown, and black; and the third one, black-cap appears, if the weather be fine.

Swallow appears, and martini.

Snipe pipes.

Lizard comes forth.

Ladyaxon in blossom.

Blackthorn in blossom.

Blackbird in blossom.

Lark mounts and warbles.

March 21 to 28. House-pigeon mates.

Chiffchaff appears (Syl vana Hippelita).

Yellow-wren (Sylvia Trochilus) appears; and black-cap appears, if the weather be fine.

April 4 to 11. Swallow appears, and martini.

Woodpigeon appears.

Snipe pipes.

Lizard comes forth.

Ladyaxon in blossom.

Blackthorn in blossom.

Blackbird in blossom.

Lark mounts and warbles.

March 21 to 28. Sand-martini arrives.

Chiffchaff appears (Syl vana Hippelita).

Yellow-wren (Sylvia Trochilus) arrives; and black-cap appears, if the weather be fine.

April 4 to 11. Swallow appears, and martini.

Woodpigeon appears.

Chiffchaff appears (Sylvia Trochilus).

Whinchats arrive.

Grasshopper-warbler arrives; and the hedge-warbler (Sylvia Phagmio); and the reed-warbler (Sylvia arundinaceus).

The cuckoo heard.

18 to 26. Black slug abounds.

Appletree flowers.

Cabbage-butterfly begins to appear.

Cherry and plum in flower.

Turtulove coos in the woods.

The larger bats appear.

Red-backed shrike arrives.

26 May. Glow-worm shines.

Chaffer appears (Melolontha).

Nightingale and lesser whitethroat arrive in the south: they do not spread to the northern counties.

Common whitethroat and garden-warbler arrive.

Goatsucker arrives.

Swift places; and also the spotted flycatcher, if the weather be fine. This is one of the latest of our spring arrivals.

The jarring note-call of the green woodpecker may be heard.
HOGARTH AND HIS WORKS.—No. XI.

[GIN LANE.]
The Indians of North America, a bold, active, and intelligent race, present perhaps the most remarkable examples of the intenseness of the passion for drinking ardent spirits. Living, as all uncivilized people do, in a perpetual struggle to supply the commonest wants of life, and enabled to purchase a few only of the necessary products of civilization by their traffic as hunters, they not unfrequently sacrifice the skins they have secured by weeks of incessant labour for a keg or two of rum, presented to them by artful traders. In a book before us, which describes the adventures of a white man, John Tanner, who lived for thirty years amongst these Indians, we find some singular passages descriptive of the mad desire for ardent spirits in which himself and his companions indulged. Our readers will not be displeased with a few extracts from this curious book.

The first instance which he gives of Indian drunkenness is that of the woman who adopted him as her son. She was a person of vigorous mind, and of great authority amongst her tribe:—"The old woman," he says, "had been drinking something, and was not entirely sober. I put on the chief's coat and ornaments, and taking the keg on my shoulder, carried it home to our lodge, placed it on one end, and knocked it out some distance of her hopes of returning to Lake Huron, and other misfortunes, began to drink. In the course of a single day she sold 120 beaver-skins, with a large quantity of buffalo-robes, dressed and smoked skins, and other articles, for rum. It was her habit, whenever she drank, to make drunk all the Indians about her, at least as far as her means would extend. Of all our large load of peltries, the produce of so many days of toil, of so many long and difficult journeys, one blanket and three kegs of rum only remained, besides the poor and almost worn-out clothing on our bodies."

The next passage which we shall give is descriptive of his own folly. The love of rum made the old woman sacrifice her property with a fatal recklessness. The same love made one of her tribe a thief, despised by all, for the Indians have a great respect for property.

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with which the painter had hit off the manners of the day; while to us they have the grave historical value of materials which afford us an insight we could not otherwise obtain into the condition, habits, and pursuits of the people in a past age. Putting before ourselves the picture of 'Gin Lane' under this view, who is not constrained to ask,—"In what were the days of our fathers better than our own?" None can lament more deeply than ourselves the scale on which habits of intemperance are exhibited in this country, and the facilities which are afforded for the indulgence of such habits. We have never, however, subscribed to the justice of the outcry against the increased intemperance of the age beyond all former ages. Our wood-cut may be accepted as one proof to the contrary; if only as showing that the intemperance of the people was as much a subject of satire and complaint eighty years ago as it is at present. Compared with the amount of the population, the quantity of intoxicating liquors consumed now is much less than in the time of Hogarth; and the number of places for the sale of such liquors has equally decreased. There are two other points also which are of great importance in this comparison. The number of habitual drunkards has actually diminished, as considered with a view to the increase of the population; and the habitual drunkards are now more exclusively in the streets than hitherto. On referring to the evidence taken before the Select Committee for Inquiry into Drunkenness, we find our impressions on these points substantiated by the statements of those witnesses who appear to possess the largest amount of practical knowledge on the subject.

We could quote much interesting information illustrative of the view we have taken; but what will suit our immediate purpose of commenting upon Hogarth's print, is to avail ourselves of the speech of Lord Cholmondeley, as given in the 'Parliamentary History,' vol. xii. p. 1213, to furnish a short account of the various liquor acts previously to 1743, in connexion with the evidence of Mr. Francis Place before the Committee, with reference to the legislative measures taken about the epoch of Hogarth's picture, with a view of placing a check on the evil of drunkenness.

The trade being thus free, many persons of London and Westminster entered upon it with zeal; and it was prosecuted with success, although strong efforts were made by the Vintners' Company to retain it in their own hands. In the Mutiny Act, passed the first year of George I., the houses of distillers, who did not allow such unfortunate creatures, in order to protect him wherever they could meet with him, and Westminster entered upon it with zeal; and it was sent by a multitude of informations; but as soon as any prosecuted with success, although strong efforts were made by the Vintners' Company to retain it in their pelted by them in full cry, and would probably have torn him in pieces if they could have laid hold of him, for they had before actually murdered one of these informers.'
It appeared also that even magistrates endangered their safety by the exhibition of zeal in the execution of this law; and between intimidation and the expenses of prosecuting, it became a dead letter: the people, according to the statements of the noble speaker, became more than ever addicted to the excessive use of ardent spirits.

In the evidence of Mr. Place, to which we have alluded, it is shown that within the period embraced in the preceding statement, that is in the year 1750, a report was made at Hick's Hall by eight justices, who were appointed to make an inquiry on the subject, that within Westminster, Holborn, the Tower, and Finsbury division, exclusive of London and Southwark, there were 7044 houses and shops in which spirituous liquors were sold. They believed this short of the true number, and computed that there were not less than 20,000 such houses within the bills of mortality. It was considered, at the same time, as a low estimate, that there were 20,000 other such shops in England alone. At a period about ten years subsequent, and therefore more nearly approaching to the date of our inquiry, a report, probably more authentic, made by the magistrates to a Committee of Parliament, states positively that there were 12,000 gin-sellers in the metropolis, exclusive of the city and Southwark; and the Bishop of Salisbury, in his speech, says that there were 7044 licensed for spirits, and 3007 alehouses; and that boards were put up inscribed with "You may here get drunk for one penny; dead drunk for twopence; and have clean straw creased.

The report last adduced confirms the preceding statement, that there were 20,000 houses and shops for drinking within the bills of mortality. On authority, at least equally certain, the Population Returns for 1831, we find that the number of public-houses and gin-shops within the largest extent of the metropolis, did not exceed 5000,—an amazing difference, which allowing for the greater extent of these establishments in the present time, would hardly allow us to imagine that the people are more addicted to intemperance now than they were ninety years since.

We shall not arrive at any better conclusion in behalf of the habits of the people in Hogarth's days, as compared with our own, if we simply consider the quantities consumed at the respective periods. It appeared, from the investigations of a Committee of the House of Commons, that, in 1742, 19,000,000 gallons of spirits were made from malt, and 800,000 gallons from foreign materials, in England and Wales. It does not appear that any of this quantity was exported. Now we find that the British and Foreign spirits retained in this country from the rags on which she slept: the father, the wife, and the baby, slept together on one batch of rags, and the others huddled up in a corner, without any rags at all; and the father and mother went immediately into the gin-shop, and the same gin-shop. I had the keeper of the gin-shop before me; it was kept by a woman, and she certainly seemed ashamed of it. And the boy described his mother as getting up and going into the gin-shop; and the biggest boy then went into the market, and tried to get a few pence by holding horses, leaving the other children to wander about, and pick up cabbage-leaves, and so on, to eat; they never were washed; they never were carried to a church: and the whole of this was brought on by drinking. The man shook like a aspen leaf, and the woman was reduced to the greatest state of misery and wretchedness; she had scarcely a rag on. I believe she had not undressed herself for many months; and they had become addicted to these habits; and then, when his money was all expended, the man went to work; but there was no money expended on the education of the children, and they had never been washed. They were like a and whores; they all lay down together and got up together; the children sent out, and those children
could be nothing, if left to themselves, but thieves; and that was brought on by habitual spirit-drinking, first taking possession of the mother, and then the husband got into the practice; and there was no breakfast ever had, and no tea: there was not one of the comforts or conveniences of civilized life. Nothing in ‘Gin Lane’ could be worse than this.

One of the means which the good sense and benevolent feelings of some real benefactors of their race have devised for the repression and final removal of the miseries which drunkenness produces, has been the formation of Temperance Societies.

These praiseworthy institutions commenced in the United States. Before the influence of Temperance Societies had been attended by the successful results which have since followed their introduction in the United States, the consumption of ardent spirits annually for 12,000,000 inhabitants, was estimated at 45,000,000 gallons. The expense to the consumers was not less than 35,000,000 dollars. The proportion of persons dying directly and notoriously of drunkenness and long-continued habits of intemperance was one in twenty-four, or 10,000 in the course of every year. The amount expended in ardent spirits would, if invested in the best manner, have called for the establishment of 2,000 public institutions for the promotion of the good of the community. The education of children could be nothing, if left to themselves, but thieves; and no reason could be assigned for the improvement of society, if the education of the children of the community was not attended to.

In 1826, 114,277 gallons were brought into Sandy Hill, New York, where twenty licences had been previously granted, two only were required. In some places the retail trade had entirely ceased. The importations of foreign distilled spirits, which in 1827 amounted to 4,847,258 gallons, for the year ending September, 1829, had diminished to 2,515,878 gallons, a diminution of nearly one-half, although Temperance Societies had not acquired the power which they have since done in checking the use of spirits. At the same time the consumption of domestic spirits was everywhere less. In 1826, 114,277 gallons were brought into Fredericksburgh by water; in the year ending July, 1830, 52,621 gallons. From August 1 to December 1, 1828, the quantity of whiskey that passed Utica on the canal was 1,053,305 gallons; during the same months in 1829, only 345,159 gallons. A great increase had taken place in these corresponding periods of the quantities of wheat and flour passing along the canal. In 1828, 2,714,404 gallons were inspected in the west district of the States; in 1829, 1,622,400 gallons. The consumption of the whole population had diminished one-third. An amount of 7,800,000 dollars was saved in the consumption of this pernicious article. At this early period of the existence of Temperance Societies, 700 cases were mentioned of the reformation of habitual drinkers.

Four years later, i.e., about seven years after the formation of the first society, the effects which had been produced in the States were still more important. Five thousand Branch Societies had been formed, more than twenty of which embraced a whole State as their sphere of action; and they included among their members men of the first rank and character in America. The whole number of members of Temperance Societies was not less than 35,000,000 dollars. The sixth Annual Report of the General Society stated that 2000 persons had discontinued the business of distilling; more than 6000 had given up retail trade; and 5000 drunkards had left off their habits of intoxication, and become sober men. Seven hundred vessels, visiting every clime, made long voyages without supplies of spirits being given to their crews; the result of which was proved to be beneficial to the men, who enjoyed improved health, and advantageous to the community generally, as the risk from accident being diminished, the premium paid on insuring vessels which took no ardent spirits was less than the ordinary rate. The same improvement was also said to be visible in the character, and habits, and mental and bodily constitution of the inhabitants of many villages, manufacturing establishments, and the whole mass of the population generally. Temperance Societies have been very generally formed here, upon the same principle of entire abstinence from spirits. The success of these societies has not been so great here as in the United States—perhaps because the evil to be arrested was not so general. The number of members belonging to Temperance Societies in England and Wales, according to the ‘British and Foreign Temperance Herald’ for February, 1835, is 106,945. The Society is making considerable exertions to increase this number; and, from a document in the same publication, we perceive that 2326 adhered to the temperance plan in the month of January. In Lancashire there are 29,198 members; Yorkshire 12,045; Cornwall 10,575; Middlesex 7,159; Gloucestershire 4,170; Somersetshire 3,628; Durham 3,808; Cumberland 2,047; Devonshire 1,895; Cheshire 2,814; Warwick 2,050; Surrey 2,039. None of the remaining twenty-eight counties contain 2000 members; and Wales possesses only 1864. But temperance societies, however valuable they may be as examples of what may be effected by a prudent abstinence from a pernicious indulgence, are not likely, in this country, to be the main cause of the establishment of universal habits of sobriety. That good will be effected by the general progress of education, which will lead all men to cultivate intellectual pleasures instead of those which are merely sensual. Education, and the refinement which it produces, has already rooted out the vice of drunkenness among the higher classes. By the same means must the work of improvement be effected among other orders of society. There is, however, a peculiar difficulty in directing education to this end, and in ascertained the temperate and the indolent, the excessive and the temperate. With them, the craving appetite for drink is paramount in its demands. The education of children cannot go on, because the resources for education are swallowed up by the selfish and slavish habit of intoxication. Faculties, which might be reared up into useful and honour to society, must run to waste and be wasted on the possessor, or be turned to the community, and be turned to the community, to become an honour to society. 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Mr. Place supplies interesting evidence of the direct manner in which education and a love of information may be supposed frequently to operate, we give it here as an encouraging illustration of the advantage of directing the mind to the acquisition of useful knowledge. The Committee having observed that news was always the topic of conversation amongst the children that were brought up among the gin-drinkers, Mr. Place said,—"I would not say that entirely. I think the 'Penny Magazine' is an exciting publication. I know that if you teach ignorant men, especially young men, something of geography, and something of natural history, you give them a taste for reading which hardly ever leaves them. I can give you an instance,—a striking one,—which may stand for the character of a large class as to the efficacy of a little learning. I was going up Constitution Hill one Sunday in the spring, when the moon was up, before church-time; I overheard three lads; they appeared to be what are termed serve-boys, plasterers' labourers; the middle one was a lad of seventeen or eighteen; the other two were about fifteen or sixteen.

I heard the eldest lad say, 'There is the moon!' 'Yes,' says another. 'The moon is round, do you not see?' said the largest boy. 'Yes,' said the other. 'It is a part of the solar system.' What is that?' asked his companion. 'Oh, do you not know what it is?' The lad then explained to them the solar system, beginning with the sun in the centre, and describing the planets, their size, distances, motions, &c. When I got a little farther, some vagabonds were being turned out of a gin-shop, among them was a lad about the same age as the eldest of the three boys; he was three parts drunk, and began to spar in the street, offering obstruction, to draw the passersby to his gin-shop. I knew that they were teaching the solar system could not have come out of a gin-shop, among them was a lad about the same age as the eldest of the three boys; he was three parts drunk, and began to spar in the street, offering obstruction, to draw the passersby to his gin-shop.

As Mr. Place proceeds, the same evidence of the injurious effects of drinking is given; and it is observable that the example and influence of the parents is also referred to, in the same manner as in the 'Penny Magazine.' Those engaged in the manufacture of gin have long been aware of the evil consequences of its use, and they have pointed to the gin-shop as the] cause of the lowering of the moral character of the lower classes...
British growth. The quantity of malt-liquors which some persons will consume in a day is prodigious. Seven English pints is quite a common allowance; and yet so uneventfully twice that quantity is without any perceptible effect. Many of the coal-heavers of the Thames think nothing of drinking daily two gallons of porter, especially in the summer-season, when they labour under profuse perspirations.

"Both wine and malt-liquors have a greater tendency to swell the body than ardent spirits. They form blood with greater rapidity, and are altogether more nourishing. The most dreadful effects, upon the whole, are brought on by spirits, but drunkenness from malt-liquors is the most speedily fatal. The former break down the body by degrees; the latter operate by some instantaneous apoplexy or rapid inflammation."

After this description, of the accuracy of which we believe there can be no doubt, our readers may be surprised at the gentleness with which many well-meaning persons treat the vice of intoxication by beer, when compared with their extreme indignation against the slightest approach to ardent spirits. It appears to us that this indulgence in beer is a mistake. The temperance societies of the United States naturally directed their laudable efforts to repress intemperance against spirits, because spirits are the common drink of their country. It seems to us that any resolution to avoid spirits, which would leave a man free to an immoderate use of beer, is a gross delusion. Every one knows that there is much mischief, if not a great deal more, in the tipping of the beer-shops in the country, than in the hasty excitements of the gin-shop of the town. In truth, the efforts of all ought to be directed to the eradication of intemperance, whether the vehicle for intoxication be spirits, beer, or wine. It is not decorous now for gentlemen to be intoxicated. Twenty years ago drunkenness was a "gentlemanly vice." There is a print by Hogarth, called ‘A Midnight Modern Conversation,’ in which a company, evidently of the rank of gentlemen, are exhibited in the most beastly state of drunkenness. There is nothing but their dress to distinguish these members of a London club from the wretched creatures of ‘Gin Lane.’ Such scenes long survived the time of Hogarth; they have now nearly vanished amongst the higher and middle classes. The cure of gin-drunkenness, and of beer-drunkenness, must be the same as that of wine-drunkenness;—the cultivation of a higher standard of taste and morals. We trust the day is not far distant when ‘Gin Lane’ and ‘Beer Street’ will record a past state of society as much as a ‘Midnight Modern Conversation.’

As an antidote against all intemperance, whether of the rich or the poor, we print an impressive paper, descriptive indeed of an imaginary case, but possessing all the force of truth. It is understood to be from the pen of the late Mr. Lamb:

**Confessions of a Drunkard.**

"Could the youth to whom the flavour of his first wine is delicious as the opening scenes of life, or the entering upon some newly-discovered paradise, look into my desolation, and be made to understand what a dreary thing it is when a man shall feel himself going down a precipice with open eyes and a passive will—
to see his destruction, and have no power to stop it, and yet to feel it all the way emanating from himself; to perceive all goodness emptied out of him, and yet not for a moment think of reforming himself; to bear about the piteous spectacle of his own self-ruins; could he see my fevered eye,—fetid with last night’s drinking, and feverishly looking for this night’s repetition of the folly; could he feel the body of the death out of which I cry hourly with feebler and feebler outcry to be delivered,—it was enough to make him dash the sparkling beverage to the earth in all the pride of its mantling temptation."

"O if a wish could transport me back to those days of youth when a draught from the next clear spring or slab of icicle, or the first dew which summer throws upon the green, had power to stir up in the blood, how gladly would I return to thee, pure element, the drink of children, and of child-like holy hermits! In my dreams, I can sometimes fancy thy cool refreshment purling over my burning tongue. But my waking stomach rejects it. Which that refreshes innocence only makes me sick and faint."

"But is there no middle way betwixt total abstinence and the excess which kills you? For your sake, reader, and that you may never attain to my experience, with pain I must utter the dreadful truth, that there is none, none that I can find. In my stage of habit (I speak not of habits less confirmed; for some of them I believe the advice to be most prudential), in the stage to which I have reached, to stop short of that measure which is sufficient to draw on torpor and sleep,—the benumbing apoplectic sleep of the drunkard,—is to have taken none at all. The pain of the self-denial is all one. And what is that I had rather the reader should believe on my credit than know from his own trial. He will come to know it whenever he shall arrive at that state in which, paradoxical as it may appear, reason shall only visit him through intoxication: for it is a fearful truth, that the intellectual faculties, by repeated acts of intemperance, may be driven from their orderly sphere of action, their clear day-light ministeries, until they shall be brought at last to depend for the faint manifestation of their departing energies upon the returning periods of the fatal madness to which they owe their devastation. The drinking man is never less himself than during his sober intervals. Evil is so far his good."

"Behold me, then, in the robust period of life, reduced to imbecility and decay. Hear me count my gains, and the profits which I have derived from the midnight cap."

"Twelve years ago I was possessed of a healthy frame of mind and body. I was never strong, but I think my constitution, for a weak one, was as happily exempt from the tendency to any malady as it was possible to be. I scarce knew what it was to ill anything. Now, except when I am losing myself in a sea of drink, I am never free from those uneasy sensations in head and stomach which are so much worse to bear than any definite pains and aches."

"At that time I was seldom in bed after six in the morning, summer and winter. I awoke refreshed, and seldom without some merry thoughts in my head, or some piece of a song to welcome the new-born day. Now, the first feeling which besets me, after stretching out the hours of recumbency to their last possible extent, is a forecast of the wearisome day that lies before me, with a secret wish that I could have lain on still or never awakened."

"Life itself, my waking life, has much of the confusion, the trouble, and obscure perplexity of an ill dream. In the day-time I stumble upon dark mountains."

"Business, which, though never particularly adapted to my nature, yet as something of necessity to be gone through, and therefore best undertaken with cheerfulness, I used to enter upon with some degree of alacrity, now wearies, affrights, perplexes me. I fancy all sorts of discouragements, and am ready to give up an occupation which gives me bread from a harassing contest of incapacity. The slightest commission given me by a friend, or any small duty which I have to perform for myself, as giving orders to a tradesman, &c., haunts me as a labour impossible to be got through. So much the springs of action are broken."

"The same cowardice attends me in all my intercourse..."
with mankind. I dare not promise that a friend's honour, or his cause, would be safe in my keeping if I were put to the expense of any manly resolution in defending it. So much the springs of moral action are deadened within me.

My favourite occupations in times past now cease to entertain. I can do nothing readily. Application, for ever so short a time, kills me. This poor abstract of my condition was penned at long intervals, with scarcely any attempt at connexion of thought, which is now difficult to me.

The noble passages which formerly delighted me in history, or poetic fiction, now only draw a few weak tears allied to dotage. My broken and dispirited nature seems to sink before anything great and admirable.

I perpetually catch myself in tears, for any cause or none. It is inexpressible how much this infirmity adds to sense of shame, and a general feeling of deterioration.

These are some of the instances concerning which I may say with truth that it was not always so with me. Shall I lift up the veil of my weakness any further? or is this disclosure sufficient?"
Warkworth Hermitage, situated upon the north bank of the Coquet, about half a mile west of the celebrated castle of the same name, the baronial residence of the great Earls of Northumberland, was founded at an uncertain date, for a single hermit. The provision for him was of the most liberal kind, as may be seen from the tenor of the patent by which the sixth Earl of Northumberland granted the hermitage to the last hermit, in the reign of Henry VIII. This curious document is given at length in the appendix to Dr. Percy's ballad, "The Hermit of Warkworth." The following is an extract:

"I have given and granted, and by these presents do gyrve and graunt unto the said Sir George Lancastre, myn armatyng beld in a rocke of stone within my parke of Warkworthe, in the county of Northumberland, in the honour of the blessed Trynete. With a yerly stipende of twenty merks by yer, from the feast of Saint Michell Sharehaungell, last past afofe the dater herof, yerly duryng the natural yve of the said Sir George. And also I, the said Erle, have given and graunted to the said Sir George Lancastre the occupation of one little greenground, of myn yegh adjoining the said armatyng, onely to his owne use and profite, wynter and somer duryng the saide tenne; the garden and ortyard belonging to the said armatyng; the gate* and pastoure of twel' yxe and a bull, with their calves suiking; and two horses going and beyng within my said parke wynter and somer; one draught of fysshe every Sondaire in the yere to be drawn for nest [opposite] the said armatyng; and twenty lods of fyrewode to be taken of my woodes called Shilbotell Wode, duryng the said term."

By this it would seem that the hermit of Warkworth was not at all stinted in the good things of this life.

The dissolution of monastic establishments took place in the lifetime of this Sir George Lancaster, but as the hermitage of Warkworth was never endowed in mortmain, its munificent allowance reverted to the Percy family; the hermit himself, however, was not permitted to suffer; for although the salary was reduced to ten marks, compensations were allowed him for the rest, and his other rights, under the above grant, were not disturbed.

Persons who now visit the hermitage cross the river in a boat. A narrow walk on the brink of the river then leads to the door of the hermitage: this walk is confined by perpendicular walls on either hand to a width of four feet. From the summit of the cliffs is a grove of oaks, and at their base issues a spring of the purest water, from which the hermitage was formerly supplied. The steps, vestibule, and chief apartments of the hermitage are hewn out of a free-stone rock, the outside face of which is about twenty feet high, embowered with stately trees which grow on the top of the precipice and from the fissures of the cliffs. One lower and outward apartment is of masonry, built up against the side of the rock; it is about eighteen feet square, and appears to have been the kitchen or principal dwelling, as it has a range or fireplace six feet wide. On the south side of this apartment, opposite to the entrance, is a door-way leading to an outward seat formed in the rock, and opening upon the walk on the river's brink. On this side of the room are two windows which bear the marks of irongating, and also a closet. From holes cut in the rock, it seems as if timbers had been fixed in it for the flooring of an upper chamber. This structure is built of ashlar-work, and seems to be of much more modern date than the cells formed in the rock.

Passing from this outward building by the entrance, the visitor ascends, by seventeen steps, to a little vestibule, above the inner door-way of which appear some letters, being the remains of a Scripture text, in Latin, which to this day is connected with the legend: "My tears have been my food day and night." This leads to the chapel, which, with its sacristy, forms the most interesting portion of the remains. The chapel is about eighteen feet long, and seven and-a-half feet in height and breadth. It is built with great neatness, in columns, groins, and arches, in the old Gothic style. It is lighted by a window in two compartments, in the cell of which lies a figure of a lady, whose feet rest against an animal, (most likely a dog as an emblem of fidelity) as is common in similar monuments. By length of time, and the weather beating through the window, the monument has been much injured. In a niche cut in the wall at the foot of this monument is the figure of a hermit, or, as Percy says, "a warrior," on his knees, resting his head on his right hand, and his left hand placed in his bosom. The altar is the breadth of the chapel, and the ascent to it is by two steps. From this chapel there is an entrance to the sacristy by a neat door-case, over which is sculptured a shield, with the representation of the crucifixion, and of several instruments of torture. At its east end this apartment has an altar like that in the chapel. It is lighted from the chapel by a window divided by two mullions, the summit of each division being ornamented with work formed of sections of circles,—as seen in cathedrals of the tenth century. This apartment is nine paces in length by five feet wide. A small closet is cut in its side wall to the north, from which a door-way leads to a neat gallery which has a prospect up the river; but, by the falling in of the rock above, this part has been much damaged.

From these cells, a winding stair, cut in the rock, leads to its summit, where the hermit is supposed to have had a house and garden, although it appears evident that the original hermitage consisted of no more than the apartments bewn in the rock.

The figures which we have described as in the chapel suggested to Dr. Percy the outlines of his "Hermit of Warkworth," which he first published in 1771, from which we extract the following description of the hermitage.

"And now, attended by their host,

The hermitage they viewed;
Deep bewn within a craggvy cliff,
And overhung with wood.

And near a flight of shapeless steps,
All cut with nicest skill;
And past where they've a stone arch,
Ran winding up the hill.

There, deck'd with many a flower and herb,
His little garden stands;
With fruitful trees in shawe rows,
All planted by his hands.

Then swoop'd within the solid rock,
The sacred vault he shows;
The chief a chapel neatly arched,
Of round and columned base;
Each proper ornament was there
That could a chapel grace;
The lattice for confession fram'd,
And holy-water vase.

Our either door a sacred text
Invites to godly fear,
And in a little 'sconce hung
The cross, and crown, and spear.
Up to the altar's ample bread
Two easy steps ascend,
And near a golden solemn light
Two well-wrought windows lend.

Beside the altar rose a tomb
All in living hues,
On which a young and beauteous maid
In gaily sculptured shoe.

A kneeling angel fairly carried
Lear'd bur'ning o'er her breast;
A weeping warrior bare her feet,
And near to these her crux.

The allusion in the last stanza is to some much defaced sculpture on the pillar which divides the window, and which has been supposed, apparently without sufficient evidence, to have originally represented a hovering cherub.

Our wood-cut is from an original drawing made in 1834.

ORIGIN OF THE GLASGOW MANUFACTURES.

On this subject a correspondent sends us the following interesting information, which he has taken from Ure's 'History of Rutherglen and East Kilbride.'

Towards the middle of the last century, two young men of the name of Wilson, the one from Flakefield, and the other from its neighbourhood, repaired to the city of Glasgow, and there commenced business. The sameness of name having, however, occasioned frequent mistakes in the way of trade, the one was distinguished from the other by the cognomen *Flakefield,* the place of his birth. His real surname soon became ob-scure; and the name of Flakefield, in place of Wilson, descended to his posterity.

To this man's sons the now flourishing city of Glasgow is in a great measure indebted for her rise to opulence and grandeur. Flakefield put one of his sons to the weaving-trade. The young, after learning the business, enlisted, about the year 1671, in the regiment of the Cameronians, but was afterwards drafted into the Scottish Guards. During the course of the war, Flakefield's regiment being ordered to the Continent, he there procured a blue-and-white-chequered handkerchief, which had been woven in Germany, and which greatly struck his fancy. He thought that, were he fortunate enough to return to his native city, he would attempt a manufacture of the same kind. With the greatest care the soldier-weaver preserved a fragment of the cloth; and, being discharged in the year 1700, he returned to Glasgow with the fixed determination of accomplishing his praiseworthy design.

A few spindles of yarn,—the white ill-bleached, the blue not very dark,—were all that poor William Flakefield could collect at the time, or, indeed, that could then be found in Glasgow. His first web was composed of about two dozen handkerchiefs. When the half was woven, he cut out the cloth and took it to the merchants, who at that time traded in salmon, Scotch plaidings, hollands, and other thick linen. They were delighted with the novelty of the blue and white stripes, but especially with the delicate texture of the cloth, which was thin set in comparison with the hollands into the soft yielding skin. The frames are then placed in the shade till the skin becomes dry, and the seeds may then be found in the granules, consisting mostly of gold leaf, pearls, and other precious things, dissolved, or said to be dissolved, and made into pills. One of them professed to consist of the navel seeds of the Gulf, mingled with musk. One hundred rupees had been paid in advance, and the commissioner thinking it enough, the case was dismissed. This trial exhibits a fair picture of what sometimes occurred in Europe before the healing art assumed the character of a science.

Shagreen.—Shagreen is supposed by some persons, from its scaly appearance, to be the skin of some fish. It is, however, a species of leather, or rather skin, and the process by which it is manufactured is very curious. Astrakhan is the seat of the manufacture. The material is the strong skin that covers the crupper of the ass or the horse. The skin is first soaked in water for some days till the hair is loose enough to be scraped off; after which it is cut and scraped till it becomes scarcely thicker than a hog's bladder. It is then, while soft and wet, fastened to a frame, the flesh-plaids, etc., undermost. The upper or grain side is strewn over with the hard round seeds of a species of cewpuddum, a felt is then laid over it, and the seeds are trodden deeply into the soft yielding skin. The frames are then placed in the shade till the skin becomes dry, and the seeds may then be shaken out of the skin. Next the skins are rasp'd till the sides of the holes are worn down almost to a level with their bottoms. It is then soaked, first in water, and afterwards in an alkaline lime; and as it becomes soft, three parts of the skin which were merely depressed by the seeds being thrown down upon it, rise above its part, which had been rasp'd, presenting a granular pustular surface. The skin is then stained superficicallly of a green colour by copper filings and sal ammonie, and is afterwards allowed to dry. Lastly, the grains or warts are shaved down to a level with the rest of the surface, which thus presents the appearance of white dots on a green ground; and when polished is very beautiful as well as durable. Transactions of the Society of Arts.
THE village of Boldre, on the borders of the New Forest, in Hampshire, contains nothing in itself peculiarly deserving of notice; but the traveller who visits the pleasant town of Lymington, from which Boldre is about two miles distant, may be induced to stroll towards the village-church on learning that it was for above twenty years the scene of the pastoral labours of the late Rev. William Gilpin, a man who deserves to be held in remembrance by every person of taste, and especially by every lover of the picturesque, as an excellent critic in art, and an artist himself of no considerable pretensions.

Mr. Gilpin was born in 1724 at Carlisle. Sawrey Gilpin, R.A., an eminent animal painter, was a younger brother of Mr. Gilpin. Mr. Gilpin being destined for the church, was educated at Queen's College, Oxford, and took the degree of M.A. in 1748. He kept a grammar-school at Cheam, in Surrey, many years after entering into orders; and was at length appointed to a prebend in the cathedral of Salisbury; shortly afterwards, being presented to the living of Boldre by his former pupil, William Mitford, Esq., author of the 'History of Greece,' he relinquished his school in favour of his youngest son, and removed to the parsonage, at Vicar's Hill, in 1788.

In 1753 Mr. Gilpin published a life of his venerable ancestor, Barnard Gilpin, which was followed by lives of Latimer (1755), Wickliffe, Huss, Jerome of Prague, Zizca (1765), and Archbishop Cranmer (1784). To these works were subsequently added others of a miscellaneous character, exhibiting both erudition and a great share of Christian benevolence, and which in their day deservedly enjoyed a considerable degree of popularity. Mr. Gilpin is, however, more generally known at the present time as an artist, and by his works on the principles of art. In the spirited and faithful execution of his compositions, he illustrated the rules which he so ably laid down for the guidance of others. His publications in this department, are 'Observations on Picturesque Beauty,' 8vo.; 'A Tour of the Lakes,' 8vo. 2 vols.; 'Remarks on Forest Scenery,' 8vo. 2 vols. (a new edition of this work, edited by Sir Thomas Dick Lauder, has recently been published in Edinburgh); 'Essay on Prints,' 8vo.; 'Observations on the River Wye,' 8vo.; 'Remarks on the Western parts of England,' 8vo.

It is peculiarly gratifying to view the character of Mr. Gilpin as a parish-priest. His varied attainments were made subservient to plans which more particularly contemplated the improvement of his poorer parishioners. He applied the profits which he derived from his pen and pencil to found two parish-schools, a view of which are given in the accompanying sketch. The school-houses adjoin each other, and are situated in an angle formed by the junction of two roads, one of which leads to Pilley, and thence to Boldre Church, and the other

[Boldre Church, Hampshire.]
to Vicar's Hill and Lymington. In these schools twenty boys and as many girls, "taken as far as can be out of the day-labouring part of the parish" of Boldre, are clothed and educated according to the directions of the founder; the boys being taught "reading, writing, and the first four rules of arithmetic;" and the girls "to read, knit or spin, sew, or mend their own clothes."

Mr. Gilpin gives the following history of the foundation of these schools:—"As this little institution," he says, "appeared so far to answer its intention, I was desirous of making it permanent; but not choosing to leave it as a burden to my children, I projected a scheme for raising a fund to support it after my death. I brought it to sale, therefore, on the 6th of May, 1802, several drawings and little picturesque MSS. which had been the occupation of my leisure for two or three years. The public was pleased to encourage the sale, and it raised about 1200l., which being funded in the 3 per cents., added to another little stock in the same place this sweet sequestered spot, amidst the scenes he loved, and has so well described." A plain tomb marks the grave, in which were deposited the remains of Mr. Gilpin and his wife (who died July 14th, 1807, at the age of eighty-two), on which is inscribed the following simple memorial written by himself:—"In a quiet mansion, beneath this stone, a few drawings which at my leisure I have been making. This is the last effort of my eyes, and I am willing to hope they may still be of some little use." The few drawings, so modestly alluded to, consisted chiefly of books containing from twenty to sixty drawings. They were sold shortly after his death by Christie, and produced about 1500l. One book, which is now in the possession of a gentleman of Boldre, sold for eighty guineas.

Beloved and reverenced by all who knew him, but more especially by his humbler parishioners, Mr. Gilpin lived to the venerable age of eighty. As a parish-priest he was unremitting in his attention to those committed to his charge. So scrupulously exact was he in the performance of his duties, that either himself or his curate visited every family who were attendants at the churches of Boldre and Brokenhurst, at least once in every week. Hence he had but little leisure for less important engagements; and we are assured that a great portion of his drawings were executed by candle-light. We are told that he "reproved the vicious with authority, but mildness; encouraged the worthy with a judicious generosity; instructed the ignorant without the most patient condescension; visited and relieved the sick; comforted the unhappy; and afforded advice and assistance to all who stood in need of them." He died April 4th, 1804, and was buried in Boldre churchyard, having chosen, as Mr. Strutt tells us, "for his resting-place this sweet sequestered spot, amidst the scenes he so much loved, and has so well described."

A plain tomb marks the grave, in which were deposited the remains of Mr. Gilpin and his wife (who died July 14th, 1807, at the age of eighty-two), on which is inscribed the following simple memorial written by himself:—"In a quiet mansion, beneath this stone, secured from the affictions, and still more dangerous enjoyments of life, lie the remains of William Gilpin, some time vicar of this parish; together with the remains of Margaret his wife. After living above fifty years in happy union they hope to be raised in God’s due time (through the atonement of a blessed Redeemer for their repeated transgressions), to a state of joyful immortality. Here it will be a new joy to see several of their good neighbours, who now lie scattered in these sacred precincts around them."

The view from Boldre churchyard is exceedingly interesting: that towards the north extending over an area of thirty or forty square miles of forest scenery, of
the richest and most diversified character; while on the opposite side appear the white cliffs of the Isle of Wight. The intermediate woods gently incline towards the adjacent stream, which, widening as it proceeds, flows into the sea at Lynmouth Bridge. The church itself is an ancient and primitive-looking structure, and crowns the summit of a thickly-wooded eminence.

MINERAL KINGDOM.—Section XXXIV.

Lead.—(concluded).

Method of obtaining the Metal from the Ore.—The ore, after having been properly broken, and separated as much as possible from the vegetable matter, is roasted in a furnace, with a small quantity of coal, in order to expel the sulphur, and any other volatile matter which it may contain. After undergoing this process, it is taken to a blast furnace, of a peculiar construction, called an “ore-hearth,” where, by a powerful heat, the ore is melted, and the metal separated from the dross, or slag, which swims on the surface; the mass being frequently stirred, to facilitate the separation, for a period of from twelve to fifteen hours. There are various manipulations during this process, and these, together with the supply of fuel and of lime (which is added to facilitate the reduction), are modified according to the nature of the ore, and require much skill and tact on the part of the workman. The slags, still containing a portion of lead, are subjected to another process of smelting with coke in another furnace. In all these operations a considerable quantity of the ore is volatilized, and condenses in the chimneys of the furnaces: this, which is called “smelters’ fume,” is collected from time to time, and the lead is extracted from it.

The quantity of silver contained in the greater part of the lead-ore raised in the north of England is sufficient to render its extraction profitable. The separation of lead and silver is effected by the different degrees of attraction which the two metals have for oxygen, the silver remaining unaltered, when exposed to the air of the atmosphere at a high temperature; whereas lead, under the same circumstances, becomes rapidly converted into a protoxide:—that is, becomes a new substance, composed of lead and a minimum quantity of oxygen, and which is commonly known by the name of “litharge.” The lead to be refined is placed in a furnace so constructed as to admit of the ready separation of the litharge as it is formed: it is melted and farther heated till it becomes of a bright red, and then the blast of air is made to pass over it. This not only supplies the oxygen, but is sufficiently strong to sweep away the oxide as it is formed, by which means a fresh surface of the melted lead is exposed: more lead is supplied, from time to time, as the operation proceeds, and, at the end of the process, a cake of silver is found at the bottom of the furnace. The lead is recovered from the litharge by a very simple process, which consists in mixing it with coal, and exposing it to a strong heat: the carbon of the coal has a stronger attraction for oxygen than lead has, and therefore separates it from the litharge, leaving the pure metal, which is run out into moulds to form the pigs, or bars, in which shape it is brought to market. This process of extracting the silver from the lead was not introduced in the north of England mines till the reign of William and Mary.

The working of lead-mines in Great Britain dates from a remote period. The mines of Derbyshire, it is supposed, were wrought in the time of the Romans; the Kennet, the Hampshire, and the Chertsey, which are mentioned in the Saxon laws, and in the records of the Church, they are mentioned, are of considerable antiquity. The lead which have been found with Roman inscriptions upon them. A bar of this kind was discovered on Cromford Moor in the year 1777, and the interpretation of the inscription which has been given is the fol-

flowing.—“The Sixth Legion inscribes this in memory of the Emperor Adrian.” Another bar was met with near Matlock in 1783, the inscription of which has been translated as follows:—“The property of Lucius Aurelius Verecundus, merchant of London.” The Odin and Dones, it is supposed, were also engaged in working the mines of Derbyshire, from the designation of the Odin Mine, at Castleton, which is conjectured was so called from the name of the northern deity.

Uses of Lead.—Besides the various purposes to which it is applied in its pure state, lead is employed in many different ways in combination with other substances. The sulphuret of lead—that is, the common ore, galena—is made use of, without any previous preparation, as a glazing for coarse pottery. The protoxide, or litharge, enters largely into the composition of flint-glass, which it renders more fusible, transparent, and uniform. Combined with another proportion of oxygen, it forms Red Lead, which is also used in the manufacture of flint-glass, and as a paint. White Lead, which is so extensively used as a paint, is a combination of the metal with oxygen and carbonic acid. Sugar of Lead, which is used very largely in several manufactures, particularly in calico printing, and in medicine as an external application, is a compound of lead and acetic acid, or vinegar. It is so called from having a remarkably sweet taste: it is well known, as well as most of the combinations of lead, to be a deadly poison.

Of the 45,000 tons of lead which may be estimated as the average produce of the mines of the United Kingdom, about one-third is exported. In the year ending January 5, 1833, the exports were as follows:

<table>
<thead>
<tr>
<th>Country</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>13,838</td>
</tr>
<tr>
<td>East Indies and China</td>
<td>29-0</td>
</tr>
<tr>
<td>Russia and Sweden</td>
<td>1951</td>
</tr>
<tr>
<td>Germany</td>
<td>638</td>
</tr>
<tr>
<td>Brazil</td>
<td>526</td>
</tr>
<tr>
<td>West Indies</td>
<td>514</td>
</tr>
<tr>
<td>British North America</td>
<td>4-0</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>411</td>
</tr>
<tr>
<td>Cape of Good Hope and Africa</td>
<td>415</td>
</tr>
<tr>
<td>New South Wales</td>
<td>223</td>
</tr>
<tr>
<td>Italy and the Levant</td>
<td>226</td>
</tr>
<tr>
<td>Spain and Portugal</td>
<td>226</td>
</tr>
<tr>
<td>Other places in lesser quantities</td>
<td>351</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>13,988</td>
</tr>
</tbody>
</table>

No species of property, perhaps, has undergone so great a deterioration in so short a time as that of lead-mines. In the year 1809, the market-price of lead in bars was 31l. 3s. per ton; and, according to the tables given by Mr. Macquolich in his ‘Commercio Dictionary,’ the average price for the ten years ending 1810 was 27l. 14s. 6d. It rose to 31l. in the year 1814, when speculations at the close of the war raised the value of many of our native products; but the average of the ten years ending 1820 was 28l. 6s. 6d. A sudden fall took place five years afterwards, for in 1825 the price was 25l. 6s., and the following year it fell to 19l.; and it kept falling till 1832, when it was down to 13l. 10s. From that extreme depression it has partially recovered, the present market price being about 18s. per ton. This extraordinary fall was occasioned by a sudden increase of supply from the lead-mines of Spain. These mines are situated in Andalusia, partly in a range of mountains to the north of Jœn, near Linâres, but
chiefly in another range which lies between Jaen and the city of Granada, and on the southern slope of them. We know little about these mines beyond their locality, for the geology of Spain is as yet very imperfectly understood. Bowles, who wrote in the year 1776, describes the mines to the north of Jaen, to have been worked by the Moors, and says that the lead-mines are pierced by shafts in all directions; that there are two great veins which pass through a granitic rock, which vary considerably in richness; and that at one time one of the mines produced in a year more than all the lead-mines of Saxony together had done in twelve years. But it is the mines in the mountains of Granada from which the recent great supply has been obtained. The ore lies near the surface, and is therefore obtained without much exercise of skill, and hence the machinery. Mr. Witham says, that "the tremendous limestone of the south of Spain is so rich in galena as to furnish, even in the present imperfect state of mining in that country, about 20,000 tons of lead annually." France has some lead-mines in Brittany, Languedoc, Alarce, and other parts of her territory, but imports the greater part of her consumption, and chiefly from Spain; England having sent only 70 tons to France out of the 13,959 exported in 1832. There are many lead-mines in Saxony, Bohemia, Silesia, and other parts of Germany. Although the exports to the United States from this country are so considerable, they are not without ores of that metal in their own country. The mines are situated in Pennsylvania, Massachusetts, and on the Mississippi river in the Western States; the richest being in the latter country. The total produce in 1829 exceeded 6000 tons.

We have now treated of Iron, Copper, Tin, and Lead, as the metals most largely consumed in the ordinary wants of domestic life, and as the principal metallic productions of Great Britain; and it is not a little remarkable that a territory so small as England should abound in them as not only to supply her own wants, in the full extension of her manufacturing industry, but that she should also be the chief mart to which other nations resort for these indispensable commodities. We shall next proceed to the precious metals; those productions of the Mineral Kingdom which have led so wonderful an influence on the fate of nations and on the progress of civilization throughout the world.

ROBERT SOUTHWELL.

The days are happily come when persons of all parties and opinions join in lamenting the crimes and excesses of that time when men whose sentiments were different on religious topics thought it just—thought it, perhaps, a duty—to coerce the consciences of their fellow-men even to the death. In the early history of the Reformation, it seems that all parties equally admitted, as a principle, that it was just to coerce and punish capitally persons holding an erroneous belief; and we accordingly find that the Protestants, no less than the Catholics, kindled the brands and administered the torments of religious persecution, when the power fell into their hands. It is far more in sorrow than in anger that we would speak of these things. We have no right to be angry with men who act on what they believe to be a principle of duty; but we have a right bitterly to lament that there should ever been a time when men thought it a duty to visit with criminal punishments persons who had been led by education or circumstances to entertain a class of opinions different from their own, and to turn a deaf ear to the voice of justice and human pity, which doubtless whispered the truth to their own hearts.

Among the many victims of this spirit, we find the name of Robert Southwell, an English writer of the sixteenth century, of very considerable merit, but with whose name, in that character, the large majority of our readers will now perhaps become acquainted for the first time.

Old Fuller's notice of Southwell, under the head of "Suffolk," is brief and characteristic:—"Robert Southwell was born in this county, as Pitsheus affirmeth, who although often mistaken in his locality, may be believed herein, as professing himself familiarly acquainted with him at Rome. But the matter is not much where he was born; seeing that though cried up by men of his own profession for his numerous books in verse and prose, he was reputed a dangerous enemy to the State, for which he was imprisoned and executed, March the 3rd, 1595." A brief notice of Southwell and his works appeared in the 'Gentleman's Magazine' for 1798; and this account appears to have been the fullest with which Mr. Ellis, who gives some specimens of Southwell's poetry in his 'Specimens of the Early English Poets,' was acquainted. A more complete and zealous attempt was made in the 'Retrospective Review' for 1821 to do justice to his memory. The writer in that publication gives some interesting particulars concerning Southwell, from Challoner's 'Memoirs of Missionary Priests'; and it is from this account that we have prepared the following notice of his life.

He was born about the year 1562, of a respectable Catholic family, at St. Faith's, in Norfolk, and was at an early age sent to the English College at Douay, for education. From Douay he went to Rome, and at the age of sixteen was received into the order of the Society of Jesus. Having finished his novitiate, and gone through his course of philosophy and divinity with great credit, he was made Prefect of the Studies of the English College at Rome. At this time there was an Act in force against Catholic priests, and especially Jesuits, coming to England from foreign parts; yet when he was appointed a Missionary priest to his own country, he felt the performance of his religious duties superior to all other considerations, and did not hesitate to proceed to his destination. During the time that he was acquainted with him at Rome. But the matter is not much where he was born; seeing that though cried up by men of his own profession for his numerous books in verse and prose, he was reputed a dangerous enemy to the State, for which he was imprisoned and executed, March the 3rd, 1595."
Upon this his father presented a petition to Queen Elizabeth, begging, that if his son had done anything for which by the laws he deserved to die, he might suffer as he would; and that, if his son was guilty, his Majesty would be pleased to order that he might be treated like a gentleman. The Queen was pleased to listen to the old man's prayer, and ordered that Southwell should have a better lodging, and that his father should have permission to supply him with clothes and other necessaries, together with such books as he might desire. The only books he desired were the Bible, and the works of St. Bernard. He was kept in prison three years, and what was worse for himself, and more disgraceful to the government, it is said that he was put to the rack ten or seventeen times during that period.

Weared with torture and solitary imprisonment, he at length applied to the lord-treasurer Cecil, entreat- ing that he might either be brought to trial to answer for himself, or, at least, that his friends might be allowed to come and see him. To this application Cecil is said to have answered, "Ifit was in his power to make him guilty or not guilty, he should quickly have his desire." Shortly after this he was removed from the Tower to Newgate, where he was put down into the dungeon called "Limbo," and there confined for three days. He was taken thence and carried to Westminster, to take his trial before Lord Chief Justice Popham and others. He was indicted for high treason under the statute already mentioned; and, a true bill being found against him, he was brought to the bar, and held up by his hands, according to custom. On being asked whether he was guilty or not guilty, he answered, "I confess that I was born in England, a subject to the Queen's Majesty; and that, by authority derived from God, I have been promoted to the sacred order of priesthood in the Roman Church." But he earnestly denied that he had ever entertained any designs against the Queen or kingdom; alleging that, in returning to his native country, he had no other intention than to administer the sacraments according to the Catholic church to such as desired them. He was then told that he must leave such matters, and at once plead "guilty" or "not guilty." Then he said he was not guilty of any treason whatever. The jury were sworn without a single challenge; for the prisoner observed that they were all equally strangers to him, and therefore charity did not allow him to except against one more than another. He was found guilty on his own confession; and being asked if he had anything to say why sentence should not be pronounced against him, he replied, "Nothing: but from my heart I forgive all who have been in any way necessary to my death." The judge having pronounced sentence according to the usual form, Southwell made a low bow, returning him thanks as for an unpardonable favour.

The next morning he was drawn through the streets, on a sledge, to Tyburn, where a great concourse of people had assembled to witness his execution. He again admitted that he was a priest of the Society of Jesus; but repeated his denial that he had ever instigated or imagined any evil against the Queen, for whom and for his country he offered up his prayers. The cart was then driven away; but the unskilful hangman had so adjusted the noose, that poor Southwell several times made the sign of the cross while he was hanging, and a considerable time elapsed before strangulation was effected.

"So perished Father Southwell, at thirty-three years of age," says the 'Retrospective Reviewer;' "and so, unhappily, have perished many of the wise and virtuous of the earth." Notwithstanding his death, however, (it cannot be doubted) essentially religious grounds, the circumstances of this event alone afford ample evidence, that the spirit of the age had already much improved, and had made some large advances toward toleration in matters of opinion. Private individuals were no longer exposed to personal molestation on charges of heresy, as both Protestants and Catholics had been alternately in preceding reigns; nor were even priests,—except such as, like Southwell, came from abroad—exposed to criminal prosecution. And, as we have seen, the statute which marked the exceptions was so framed as to detain the persons implicated to punishment, not as heretics, but as traitors. This shows that mistaken opinions began to be considered questionable grounds on which to take away a man's life. The intermediate and somewhat whimsical course was taken of declaring certain opinions held by certain persons in certain circumstances to constitute treason, and to be punished accordingly. In estimating Southwell's character and conduct, and the effect of the statute, it will be recollected that, the effect of other statutes, and the absence of institutions for the education of the Catholic clergy at home, rendered it almost imperative on those destined for the church to go abroad for education; and hence, as we have before intimatetd, the act under which Southwell suffered necessarily operated in excluding the Catholics of the country from the services of their priesthood; and that this effect was intended is apparent from the fact that, by the statute of a preceding year (23 Elizabeth, chap. 1.), a person performing the most important and common ceremony of the Catholic religion,—the mass,—became liable to a year's imprisonment and a fine of 200 marks. The fate of Southwell is thus an instructive illustration of the spirit of his age. The cause—which he doubtless supposed to be the best of causes,—to which he was devoted, and for which he died, has necessarily given a peculiar hue to this account of him. But it was our principal object to furnish our readers with some knowledge of a much neglected author; and with this view we shall, in our next Number, give an article consisting of extracts from some of his prose and poetical productions.

Limerick Gloves.—It used to be the custom in the south west of Ireland to slaughter many cows while in calf. The skins of these unborn calves were of extraordinary fineness and delicacy, and from such was prepared the leather of which the celebrated Limerick gloves were made. This practice, however, is now almost discontinued, and whatever merit the Limerick gloves may still possess is owing to the skill of the manufacturer, and not to the superiority of his raw material.—Transactions of the Society of Arts.

Sheep.—The Society for the Prevention of Cruelty to Animals, have recently carried into practice at Whitehaven market, plans for inducing sheep readily to enter slaughter houses. The skin of such sheep is cut off and placed on wheels in such a way as to resemble the living animal; and it is readily followed by the sheep without the necessity of employing coercion by men and dogs. As sheep also appear to have an instinctive dread of blood, and cannot be induced to cross it, the society have procured hurdles covered with straw to be placed over the kennels on market days. Under these little improvements the sheep are housed without difficulty, and without those scenes of uproar and brutality which have formed so serious a nuisance to the public.
SOME RECOLLECTIONS OF ITALIAN CARNEVALS.

[From a Correspondent.]
As I write these lines, the carnaval is just expiring; for Ash Wednesday is at hand, when all its sports and frolics give way to the dullness and fastings of Lent. I will briefly touch down some of my recollections of that gay season in Italy,—an easy task, in which I shall be assisted by the striking print before me, that happily condenses some of the most curious features of carnaval out of doors. The Egyptian obelisk that rises dimly in the back-ground of the picture, and whose austere antiquity contrasts poetically with the living bustle, uproar, and enjoyment of the principal scene, shows that it is a Roman carnaval that the artist represents. With the exception of the obelisk, how the difference in the architecture of the houses, the engraving equally illustrates the carnaval of Naples, or Milan, or Venice, or any other of the large Italian cities. The crowd and confusion, the principal masquerade characters, their action and grouping, are common to all Italian carnavals on their good days; and, as these saturnalia are limited, at Rome, to eight days, every carnaval-day may be considered a good one. In the rest of Italy, where carnaval continues from the feast of the Epiphany to the beginning of Lent, lasting five or six weeks, only the Thursdays and Sundays are observed for out-of-door displays; and these days are either not well observed at the beginning, or become languid at the close. Within doors, indeed, particularly at Naples a few years ago, carnaval used to be kept up with spirit during all its long legitimate period;—there being, every night, private masquerades, or masquerades at the opera-house, balls and suppers, and all kinds of feastings and mummeries in uninterrupted succession—and very hard work it was to go through them all! I have supported what is called a "London season" with considerably less loss of health and flesh. As soon as this riot of pleasure was over, the doctors, with their thesaurus of sugar-plums, allowed to open, closed at the sober hour of eleven, without any ballet, people had time to recover themselves; although there annually occurred a few unlucky cases where the long revelling had sown the seeds of consumption, or some other incurable disease. But this was carnaval in-doors. Let us return to our engraving and the streets of Rome.

In the afternoon, about three o'clock, the Corso begins gradually to fill with people,—some masked, and some in their usual holiday-dresses,—some on foot and some in hired carriages. About an hour later, the equipages of the nobility and gentry swell the crowd; and the open balconies and windows of every house in that long street are crammed full of company, who, for the most part, are not mere spectators, but actors in the ever-varying farce. The carriages and the horses are, for the most part, decked out in a very fine or a very capricious manner; and the anomalies represented in the print, where a coachman, dressed as a Spanish cavalier of the olden times, is driving an old Tabellone, or notary, with a huge wine-flask (extended towards a punch on stilts), and a Roman doctor, with "spectacles on nose," while a small-grown punch climbs up the side steps, and a full-grown punchinello, with a squeaking trumpet to his lips, and a sturdy, turbaned Moor, with a banner in his hand, act as footmen,—are such amusing contrasts as continually occur, and give the best parts of the drollery to the scene. As these carriages pass through the crowd, at a slow stately pace, those within them address or gesticulate to their friends at the balconies of the houses,—or in other carriages,—or in the street, on foot, and generally pelt them with sugar-plums. This fire in Roman carnaval is most lusty. If you look to the left of the picture, you will see a gentleman and a lady, with uplifted hands, full of sugar-plums, taking aim; and in another balcony, to the right, two gentlemen pelting with much vigour. The greatest part of the fun, after the hodge-podge of costume, lies in this sugar-plum warfare; for what with the noise of French horns and drums, cow-horns and guitars, fies, fifles, tambourines, and penny trumpets, and the din of thousands of voices,—the masked all squeaking in a conventional carnaval falsetto, and the unmasked roaring to the top of their lungs,—no delicate passages of wit can be well heard. It is a point of gallantry, when ladies are fired at, to mix choice bon-bons and sweets, wrapped up in pretty bits of paper, with nice poesies between, about "core" and "amo;" and when people do not mind the expense, they make use only of good eatable sugar-plums with the kernels of sweet almonds and caraway-seeds inside; however, there are so many songs and verses that there do the little fellows and ragamuffins most abound; for the Italians generally have a very sweet tooth, and these poor fellows will run the most imminent risk to fill their stomachs and pockets with confetti da signore. I have seen hundreds of them at a time down on their knees, and even crawling among the wheels of the carriages and the horses' legs to pick up the plums, which they think it a sin and a shame to waste. Pray turn to the correspondent in the London Mercury, and you will see how these revellers, instead of using good plums that cost money, employ villainous hard make-believes, composed of flour and plaster-of-paris, which hurt where it is. In the afternoon, about three o'clock, the Corso begins gradually to fill with people,—some masked, and some in their usual holiday-dresses,—some on foot and some in hired carriages. About an hour later, the equipages of the nobility and gentry swell the crowd; and the open balconies and windows of every house in that long street are crammed full of company, who, for the most part, are not mere spectators, but actors in the ever-varying farce. 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If you look to the left of the picture, you will see a gentleman and a lady, with uplifted hands, full of sugar-plums, taking aim; and in another balcony, to the right, two gentlemen pelting with much vigour. The greatest part of the fun, after the hodge-podge of costume, lies in this sugar-plum warfare; for what with the noise of French horns and drums, cow-horns and guitars, fies, fifles, tambourines, and penny trumpets, and the din of thousands of voices,—the masked all squeaking in a conventional carnaval falsetto, and the unmasked roaring to the top of their lungs,—no delicate passages of wit can be well heard. It is a point of gallantry, when ladies are fired at, to mix choice bon-bons and sweets, wrapped up in pretty bits of paper, with nice poesies between, about "core" and "amo;" and when people do not mind the expense, they make use only of good eatable sugar-plums with the kernels of sweet almonds and caraway-seeds inside; however, there are so many songs and verses that there do the little fellows and ragamuffins most abound; for the Italians generally have a very sweet tooth, and these poor fellows will run the most imminent risk to fill their stomachs and pockets with confetti da signore. I have seen hundreds of them at a time down on their knees, and even crawling among the wheels of the carriages and the horses' legs to pick up the plums, which they think it a sin and a shame to waste. Pray turn to the correspondent in the London Mercury, and you will see how these revellers, instead of using good plums that cost money, employ villainous hard make-believes, composed of flour and plaster-of-paris, which hurt where it is. In the afternoon, about three o'clock, the Corso begins gradually to fill with people,—some masked, and some in their usual holiday-dresses,—some on foot and some in hired carriages. About an hour later, the equipages of the nobility and gentry swell the crowd; and the open balconies and windows of every house in that long street are crammed full of company, who, for the most part, are not mere spectators, but actors in the ever-varying farce. 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noblest of the Church at Rome. I should think that for one pound of confetti at Rome ten are expended at Naples. I have seen the streets at night, after a good field-day, and when all the Neapolitans had betaken themselves to the theatres or other in-door amusements, look as if it had snowed; for, spite of the activity of the young plum-gatherers, the far greater part of the good confetti, and all the flour-and-plaster ones, are trodden and pounded under the feet of the multitude, and ground by the horses' hoofs and carriage-wheels into a fine snow-white powder. The amount of the fun and spirit of the afternoon may be calculated by the extent of the confetti-dust in the evening. I remember walking down Toledo one carnival night with the old Duca di , who had an energetic way of expressing himself, which is far from uncommon among his countrymen. "Corpo upon the body of these machines it is customary to extent of the confetti-dust in the evening. I remember confetti. Walking down Toledo one carnival night with the old objects in carnival processions both at Naples and one end of that mile-long street to the other, the ground wheels. There are many such in carnival countries. Duca di !" cried the Duca, "c'è stato quest'oggi un consumo di confetti magnifico! Questo nio si chiama carnivale!"—"By the body of Bacchus! there has been a magnificent consumption of sugar-plums to-day! Now this is what I call a carnivale!"

When I was first at Naples, the greatest consumer of confetti in this way was old King Ferdinand, who has been represented by contemporary historians as a sanctimonious tyrant; but who, in fact, was only a very ignorant, very indolent, and misled king, and by nature a very hearty, jovial buffoon, and very good-natured in its main. In my mind's eye I still see the old man with his plain grey coat and pantaloons, his white hanging hair, and broad-brimmed Quaker-looking hat, just as I used to see him during the carnivals of 1817 and 1818, when he went regularly to the house of the Princess Partanna (his wife by a left-handed marriage), which was conveniently situated midway in the Toledo on the left-hand side of that street as you go up from the royal palace. There he used to station himself in the spacious balcony, with a few of his favourites in his rear, and with a sackful of sugar-plums on either side of him, the mouths of the sacks being open and the edges folded over, like sample corn-sacks in our market-places; and there he used to pelt with a profusion that delighted the hearts of all the Lazaroncelli, for his majesty's confetti were of the right sort, and did not consist of small pieces of black-silk handkerchiefs, and white-duck trousers. Partanna (his wife by a left-handed marriage), which and looking for all the world like sea-water. The crew of this carnival man-of-war were all properly equipped in tarred-straw hats, blue jackets, checked shirts, loose black-silk handkerchiefs, and white-duck trousers. There was a band of music on the quarter-deck, and iced punch and other refreshments; and forwards, or in the bow of the vessel, four punchinelllos ate long macaroni to music. As the vessel sailed up Toledo, the sailors shook out the colours and handed the sails to the sound of the boatswain's whistle; and then they fought the ship according to the word of command, firing with such violence that they broke a good many of Ferdinand, that in the sugar-plum warfare he did perhaps more heartily than I shall ever laugh again,) called "Le Novanta-nove Disgraziedi Policinello," or, the Ninety-nine Misfortunes of Punch. In the last carnival but one I saw at that city, a distinguished amateur punch got up an admirable procession. He
walked along Toledo with Mrs. Policinello at his right hand, and ninety-eight young Policinellos, of both genders, and all possible sizes, followed in his wake, and "ever as he went" he smote his forehead and shouted "Ecco quà le veri novanta-nove disgrazie di Policinello!" (Here are the true ninety-nine misfortunes of Punch!)— and the joints of his tail that were spread out in almost interminable length kept crying aloud, "Give us to eat, papa, for we are dying of hunger, and all true children of papa Punch!" Talking of tails reminds me that devils are very common figuranti in Italian carnevals, and there is no getting up a good devil without a tail, which is an appendage difficult to manage in a crowd, where people will keep tugging at it. An ingenious friend of mine, however, got over this difficulty by stuffing his tail with pins and needles arranged in cheveaux-de-frise fashion, which made it a tail difficult to handle.

I remember nothing particular about the Turks, Greeks, Armenians, Jews, Romans, Hindoos, and the rest, which characters are, externally, pretty much like what we see in our own masked balls. But only conceive the difference between tens (or perhaps only units) and hundreds; between a formal affair got up in a ball-room, within four walls, and a popular general out-pouring in the streets and public places, and under the pure enlivening atmosphere and broad day-light of Southern Italy, with thousands upon thousands of the neighbouring peasantry pouring into the city to enjoy the scene, and add to its variety with their different and in general picturesque or grotesque costumes. The last-named part of the great picture always struck me as the pleasantest.

During my time in Italy, which extended, with some short periods of absence, from 1816 to 1826, I thought I discerned a gradual decline in the spirit of carnevals, which will probably go out altogether, and be forgotten of men. As a truly popular amusement—as a circumstance and season which brought people of all classes together, and put them, for the time being, on the same footing,—I should almost regret such a sober consumption. My regret may be the more excusable, as I never saw the license allowed seriously abused, or fun and frolic convert themselves into riot and shameful excess. (I mean, as far as the popular body was concerned.)

One of the principal amusements of the Roman carneval is the horse-racing; but that I have seen correctly described in a former Number [102] of the Penny Magazine. My recollections of these matters would carry me a long way farther, but I have already occupied too much room; and, after all, an attentive examination of the engraving will give a better notion of out-door carneval doings than I could give in many pages.

SEAL-HUNTING.

The limits of our former article on the structure and habits of the seal, left us room to allude but briefly to the methods pursued in hunting this remarkable animal. The seal is of more importance to the Greenlanders than the sheep is to us, or the cocoa-nut tree to the Indian. Therefore, among the Greenlanders, a man who cannot catch seals is held in very light esteem. It is the ultimate end kept in view in all the training of children. It is the only art to which they are trained

his 'History of Greenland,' from which we have drawn up the account immediately following.

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[Seal-Hunting in Scotland.]
from infancy, and it is by the exercise of it that men maintain themselves, make themselves agreeable to others, and become useful members of the community.

The Greenlanders have three ways of taking seals; either singly with the bladder, or in company by the *clapper hunt*, or in the winter on the ice; to which peculiar methods that of shooting may now be added.

When the Greenlander, properly equipped for hunting, observes the Harp Seal, he endeavours to surprise it unawares, and approaches with the wind and sun in his back that he may not be seen or heard by it. When he comes within four, five, or six fathoms of the animal, all his implements being in previous readiness, he transfers the bar to his left hand, and taking the harpoon (to which an inflated bladder is attached by a long string) in his right, launches it with all his force his feet on that which is lower to keep them from the cold: the current wears a large opening in the ice

When he comes within four, five, or six fathoms of the animal, he pierces it with his harpoon; and then, breaking the hole larger, he draws it out and kills it quite. Another method is for a man to lie along upon his belly on a kind of sledge near other holes from which the seals come out occasionally upon the ice to bask themselves in the sun. Near this great opening another small one is made, at which another man is stationed who holds, inserted through it, a harpoon with an unusually long shaft or pole. The man who lies upon the ice looks into the large hole until he perceives a seal under the harpoon; he then makes a signal to the other man, who instantly thrusts down the weapon with all his strength to run the animal through.

If a Greenlander happens to see a seal near its hole upon the ice, he slides along upon his belly towards it, wagging his head and imitating the grunting of a seal, so that the poor animal, concluding it to be one of its own harmless companions, allows the man to come near enough to pierce it with his long dart.

When the current wears a large opening in the ice

1895. [The Penny Magazine. Plate 11.]

[Sea-Hunting in Scotland, Plate 11.]

Crantz calls the "clapper-hunt." In this process the men cut off their retreat, and frighten them under water by clapping, shouting, and throwing stones; but as the seals must come to the surface at frequent intervals to draw breath, the men again persecute them, until at last the animals are obliged to remain so long under water, that when they do come up, they stay so long at the surface as to afford the men an easy opportunity of effecting their destruction.

The third method of killing seals (upon the ice) is mostly practised in Disko, where the bays are frozen over in the winter. Several methods of proceeding are adopted. The seals themselves sometimes make holes in the ice, at which they come to breathe. Near such a hole the Greenlander seats himself upon a stool, resting his feet on one that is lower to keep them from the cold: he thus sits watching; and when the animal comes and puts its nose to the hole, he pierces it instantly with his harpoon; and then, breaking the hole larger, he draws it out and kills it quite. Another method is for a man to lie along upon his belly on a kind of sledge near other holes from which the seals come out occasionally upon the ice to bask themselves in the sun. Near this great opening another small one is made, at which another man is stationed who holds, inserted through it, a harpoon with an unusually long shaft or pole. The man who lies upon the ice looks into the large hole until he perceives a seal under the harpoon; he then makes a signal to the other man, who instantly thrusts down the weapon with all his strength to run the animal through.
in spring, the Greenlanders station themselves all around it, waiting till the seals come in large droves thither to take breath, when they kill them with their harpoons. Many also are killed on the ice while they lie sleeping and snoring in the sun.

An interesting account of the habits of the seal, as observed in the Orkney and Shetland Islands, is given in Pennant's Zoology, vol. IV., from which we extract the following particulars.

Seals are very numerous in these parts, especially in the desert isles or sea-rocks that are separated from the land: there they lie in droves when the sea is low, and in season bring forth their young.

The seal swims with great rapidity, and, before a gale of wind, is full of frolic, jumping and tumbling about, sometimes throwing itself entirely out of the water, and performing many awkward gambols, at last retiring to its wonted rock or cavern, and there remaining till the storm is over. Seals seem to have much curiosity. If people are passing in boats they often come up very close, stare at them, and follow them a considerable time. If the people are speaking loud, they seem to pay much attention, and to exhibit some surprise. The church of Hoy, in Orkney, is situated near a small sandy bay, which is much frequented by these animals; and Mr. Low used to observe that when the bell rung for divine service, all the seals within hearing would swim directly for the shore, and would remain while the bells continued ringing, looking about with much appearance of wonder, but without alarm.

Numbers of seals are yearly caught upon the northern coasts, both with nets and shot, for the sake chiefly of the skins and oil. Mr. Low was credibly informed that in North Ronaldsha they were taken also for eating, and that very good hams were made from them. He had seen large numbers of seals cut up, and had no doubt that the young ones might eat tolerably well; but the flesh of the old ones is coarse-grained and black, and must be very indifferent food. We are not so much surprised as Mr. Low that the people of Ronaldsha should eat seals. He was probably aware, from Pennant, that seals formerly found a place at the tables of the great even in England, as appears from the bill from Mull, 1795, to the trunk-makers and others for eight-pence or a shilling a-piece, small and great. Mr. Low adds that the local tanners dressed the seal-skin both for shoes and breeches, but they did not answer very well for the former, being soft and spongy, but, when properly managed, they did well for breeches. They were also dressed, with the hair on, for saddle-covers; and very beautiful skins are sometimes made into waistcoats.

We recur to Pennant for further information concerning the treatment of seals in Scotland. He informs us that on the coast of Caithness there are immense caverns opening into the sea, and running some hundred yards beneath the land. These are the resort of seals in the breeding-time, where they continue till their young are old enough to go to sea, which is in about six or seven weeks. The first of these caves is near the Ord, the last near Thurso: their entrance is so narrow as only to admit a boat, but within they are very spacious and lofty. In the month of October, or beginning of November, the seal-hunters enter the mouth of the caverns about midnight, and rowing up as far as they can, they land. Each man is provided with a bludgeon, and, when properly stationed, they light their torches and make a great noise, which brings down the seals from the further end of the cavern in a confused body, with fearful cries and shrieks. At first the men are obliged to give way, for fear of being overborne; but when the throng has passed, they kill those that struggle behind, which are chiefly the young, by striking them on the nose, where a very slight blow destroys them, though they are otherwise exceedingly tenacious of life. When the work is over, the seals are dragged to the boat, which two men had been left to guard. This process is attended with great hazard, for should the torches go out, or the wind blow from the sea while the men remain in the cave, their lives are in danger.

Those who pursue the seal rather for sport than profit, adopt another method, of which the following description has been furnished by a Correspondent, whose statements our wood-cuts, from drawings by the same gentleman, are intended to illustrate:

"One fine October morning I accompanied a military friend in quest of the seals. We embarked in a boat from Mull. The major's body-servant carried two double-barrelled rifles, and had brought an oblong wooden box, fitted with a square piece of glass at one end, to be employed in searching below the surface of the water for any dead seals that might be lust. The boat was manned by four stout highlanders, who rowed us among certain small rocky islands with which the sea in that part is studded: numerous goats and sheep pick up a living on these barren rocks, the verdure being particularly scanty, though the short grass I was told is very nourishing. In a nook of one of these islands we put the boat, and leaving the crew with an injunction to remain perfectly still, ascended the craggy side of the land—behind a fragment of rock the keen sportsman crouched with rifle cocked, his eye ranging over the expanse, his whole figure as long as any seal he had seen, and with warm light, and then subdued by passing shadows, formed a romantic background. The shores were lined by steep cliffs and reefs of jagged rocks jutting out far into the sea, and the islands before-mentioned, on one of which I was seated, varied the scene still more with colour and picturesque forms. The seal in such a calm scene ventures from the ocean-depths to inhale..."
Bread Seals.—Take the crumb of newly-baked bread, moisten it with gum-water and milk, and add either ver- 
boiling it half an hour. When it is cold, four calves’ milk (in powder) or rose-pink (in powder), to colour. The stomachs are put to a gallon of the brine, with bay

GLoucester Cheese.

In the preparation of this cheese, the milk is, in the first instance, put into a cheese-cowl (which is a large deep tub) with two teacupfuls of rennet. A ball of annatto is then dipped in the milk and rubbed on a

loss of the Royal George.

In May last we were enabled to furnish an account of the loss of the Royal George, from the statements of Mr. Ingram, one of the survivors. The Editor has lately received from him the following communication respecting the woman who was saved from destruction through his exertions, in the manner formerly described. Our readers will probably be best pleased to have the communication as we received it.

Woodford, February 17th, 1835.

Dear Sir,—I received a letter, saying that you wish to see a copy of a letter that I received from the woman that in a measure saved from the wreck of the Royal George that sunk at Spithead in the year 1782, by pulling her out of one of the port-holes. You will find it copied underneath.

Dear Sir,

I remain your most obedient Servant,

James Ingram.

Wivenhoe, near Colchester, 28th August, 1834.

Sir,—I have read in the ‘Penny Magazine,’ published the 3rd of May last, a very interesting account of the loss of the Royal George at Spithead, in the year 1782; the same having been furnished through you. It is there stated that a woman was preserved, in a great measure, by your exertion, and it must be very gratifying for you to know that she is still living, and a resident in this parish. Her husband, who was on board also, was likewise saved, but he is now numbered among the dead. She is a widow, and in indigent circum-

sances; poor but honest; rather infirm, having passed her three-score years and ten. She has a list of the names of all those that were saved; her name is Horn. I trust you will excuse the liberty in addressing you on the subject. The poor woman was anxious I should write.

I remain, Sir,

Mr. James Ingram,

Your very obedient Servant,

John G. Chamberlain,

One of the Churchwardens.

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in the air, and seeing no object to alarm, sports above the wave, or swims to and fro like a dog, occasionally landing on pieces of rock, and basking at his ease. Several of these singular animals soon showed their heads above the water, the spectators waiting till they approached within hand. It is very difficult to hit them in this way, but I have seen experienced marksman kill them from the boat at the extreme limit of a rifle’s power. At one hundred yards they are frequently killed.”

Massachusetts Historical Society.

The whey that drained from the curd, during the process of cheesemaking, is put into trentles (a sort of tub) and suffered to remain till the next day, when it is skimmed. From this whey butter is made, and the residue is given to pigs. The rennet is made by mixing

to dip out the whey, which is strained through a sieve, and the small pieces of curd that are strained from it are returned to the cowl. The curd is then put into vats, in which cloths had been previously laid. The vats are placed one on another, and put in a cheese-press for ten minutes, a vessel having previously been placed underneath the press to catch the expressed whey. After this, the curd is taken out of the vats and broken small, and some hot whey is poured over it. The curd is then drawn to the side of the cowl to drain from the whey, which is ladled off and strained so that no curd may be wasted. Then the curd is again put into the vats, and they are pressed one on another; any curd that is pressed over the edges of the vats being put in the middle of the vats to make the mass as firm as possible. In an hour the vats are taken out of the press to have dry cloths, after which they remain in the press till night, when the compressed curd is taken out of the vats, turned and salted, and then replaced in the press, and there remains till morning, when it is salted, and also again the following evening. The second morning the cloths are taken off, but the cheeses are left in the vats seven or eight days, being turned night and morning. After that, they are put on the floor of the cheese-loft, (which is a large room on purpose for keeping cheese,) and turned every day for three weeks or a month. In two months the cheeses are scraped and painted. The paint is a red powder, which is strewn over the cheeses and rubbed on them with the hand. In three months, they are what is technically called “ready,” and are fit for the cheesefactor.

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the juice into a pail of milk, to which rennet is then added. The same process is observed as for other cheese till the time when the warm whey should be poured upon it, when it is broken up with as much of the simple curd as the milkmaid considers necessary, and treated as other cheese. To make the richest cream-cheese, the thickest cream must be taken, and put, with a little salt, into a straining-cloth, which is hung up twelve hours in order that the whey may drop from it. When it is taken from the cloth, it is put between two pewter-plates, with a weight on the upper one, and turned daily during five or six days. These cheeses can only be made in this manner in warm weather. The milk that the cows give when they are first turned into the fields in the spring, and when they are afterwards pastured in fields that have been newly mown, yields nearly as much curd again as at any other period; and it is also much richer. The principal season for making the thin cheese is from April to November; and that for making the thick, May, June, and the beginning of July.

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£366 0 0

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**Wild-Dogs in Van Diemen's Land.**—The annoyance and danger occasioned by the wild-dogs in Van Diemen's Land has been of great complaint in the papers of that colony; and the most active exertions hitherto used seem to have had little effect in abating the nuisance. The dogs appear rather to increase in number and boldness. A case is mentioned in a recent paper that a dog carried off six young of these animals, and would probably have been killed if he had not contrived to get up into a tree. The means hitherto employed to eradicate them do not seem to have been commensurate with the growth of the evil. A bounty has been established at Hobart Town, to effect their destruction; and the house of the chairman exhibits a collection of skins, to the number of a hundred, of dogs that have been killed, of almost all kinds, from the shepherd-dog to the Newfoundland. It is still a subject of great regret that it will be impossible to pasture sheep in the colony. The dogs bring forth six or eight young at a litter, and commence breeding at one year old, while the sheep brings forth only one, and does not commence breeding until two years of age. The same cow, on different pastures, will yield the simple curd as the milkmaid considers necessary, appear to increase in number and boldness. A case of cream-cheeses, the thickest cream must be taken, and by thirteen of these animals, and would probably have been put, with a little salt, into a straining-cloth, which is hung up twelve hours in order that the whey may drop from it. When it is taken from the cloth, it is put between two pewter-plates, with a weight on the upper one, and turned daily during five or six days. These cheeses can only be made in this manner in warm weather. The milk that the cows give when they are first turned into the fields in the spring, and when they are afterwards pastured in fields that have been newly mown, yields nearly as much curd again as at any other period; and it is also much richer. The principal season for making the thin cheese is from April to November; and that for making the thick, May, June, and the beginning of July.

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**On the Hatching of Poultry.**—In the hatching of poultry, as in most other things, Nature is the best guide. The hen and duck, if left to themselves, find some dry, warm, sandy hedge or bank, in which to deposit their eggs, forming their nests of leaves, moss, or dry grass. In this way the warmth is retained, and when the bird scents the nest for the moments it devotes to her scanty and hurried meal. The good housewife's mode is the reverse of this. She makes a nest, or box, of stone, brick, or wood, and fills it with clean long straw. By these means, less heat is generated by the hen, and the young produced are not so commonly subject to absences;—the eggs are chilled and addled, and frequent failures ensue in the expected brood. To ovulate this, the best mode is to put at the bottom and sides of the boxes of the henhouse, a sufficient quantity of fine, dry sand, or of dry earth, to which are added, to keep them dry, wood or grass, or untwisted haybands, or moss, or bruised straw. Wood ashes have been found to be the best, as they produce the effect of destroying the fles of which poultry are so much infested; and this will not be disagreeable to them because they have been seen to roll in heaps of dust, or of ashes of any kind. An experienced rearer of poultry adopted the method above described during a long course of years, and scarcely ever met with a disappointment. As this is the season for the incubation of every species of domestic poultry, we have thought the above might be acceptable to many classes of our readers.

*Originally by William Clover, Duke Street, Lambeth.*
The animals of this genus (Manis) present an appearance quite as extraordinary as that of the armadillo tribe; being covered on every part, except the belly, with exceedingly strong, large, and horny scales. These, when the animals roll themselves up, furnish a suit of armour by which they are defended much more effectually than even the armadillo is against the assaults of their enemies. This armour is a compensating circumstance in their structure, giving them the security which, from their want of teeth, their inability to grasp with their feet, and their perfectly harmless nature, they would otherwise want. The external covering, together with the unusual length of the body and tail, gives to these creatures an appearance so much resembling that of the lizard, that they have been called “scaly lizards.” These animals have, however, no proper alliance with the lizard tribe; yet, on a general view of the animal kingdom, they may be admitted to be a link in the chain of beings which connects the proper quadrupeds with the reptile class.

With the exception of their scaly covering, the animals of this genus have much resemblance to the ant-eaters in their structure and general habits. Like them they live by thrusting their long tongue into the nests of ants and other insects, and then suddenly retracting it into their mouths and swallowing their prey. They are natives of India and the Indian isles. Our engraving represents the two species of the genus which are distinguished as long-tailed and short-tailed.

The long-tailed or four-toed manis (Manis tetradactyla) is known in India by the name of the phatagen. It is of a very long and slender form. The head is small and the snout narrow. The whole body, except beneath, is covered with broad but sharp-pointed scales, which are striated, or divided by small channels like those of cockle-shells, throughout their whole length. The throat and belly are covered with hair. The tail is more than twice the length of the body, and tapers gradually to the tip. The legs are very short; each foot is furnished with four claws, of which those of the fore-feet are stronger than those of the hind. Both the tail and the legs are scaled in the same manner as the body. The colour of this animal is of an uniform deep brown, with a cast of yellowish, and with a glossy polished surface. It grows to the average length of five feet, from the tip of the nose to the extremity of the tail.

The short-tailed or five-toed manis (Manis pentadactyla) is generally called in India the pangolin, but in Bengal it is called, in the Sanscrit language, vajra cile, or the thunderbolt reptile, on account of the excessive hardness of its scales, which are said to be capable of even striking fire like a flint. This species differs from the former in being of a much thicker and shorter form. The tail in particular is very differently proportioned, not being so long as the body: it is very thick at the base, and from thence tapering gradually, but terminating very obtusely. It has also five instead
of four claws to each foot; of which those on the fore feet are of great strength, excepting the exterior one, which is much smaller than the rest. This species is scaled in the same manner as the preceding, but the scales differ in shape, and are much larger and wider in proportion to the body and tail. The larger scales of this species of pangolin, the scales are smooth; but in those that are smaller they are slightly striated at about half way from the base. In some specimens a few bristles are found between the scales; but in others this is not observed. The parts without scales are covered with hair. The animal is of a very pale yellow-brown colour, with a surface as glossy as in the preceding species. It is a native of India; and naturalists are disposed to consider that it is the same animal (the Quogelo of the negroes) which Des Marnais describes as a native of Guinea. He says, that it there grows to the length of eight feet, of which the tail is about four; that it lives in woods and marshy places, feeding on ants, which it takes by laying across their paths its long tongue, which is covered with a viscid matter, so that the insects which attempt to pass it cannot extricate themselves. It walks very slowly with its claws bent under its feet, and would be the prey of every ravenous beast, had it not the power of rolling itself up, and opposing to its adversaries a formidable defence of erected scales. The hungry leopard then vainly assails it with its powerful claws, and after much fruitless exertion is obliged to leave it in safety. The pangolin endeavours to evade the vigilance of man by retiring into holes in the rocks, or into burrows of its own excavation, where the female produces and suckles her young. The negroes despatch the animal with blows of a stick, sell the skin to Europeans, and eat the flesh, which is white and savoury, and is highly relished by the natives.

It is stated in the 'Asiatic Researches' that the Malabar name of this animal is alangu, and that the natives of Bahar call it bajar-cit, or the stone-verninum. In the stomach of the specimen examined by Mr. Burt, and described by him in the above work, about a teacup full of small stones were found. These were indeed no traces of animal or vegetable substances in its stomach or intestines; and Mr. Burt inclines to the opinion that it is capable of digesting and deriving nourishment from mineral substances. It is more reasonable to conclude, however, that stones and gravel are merely swallowed by the pangolin to assist digestion. The tongue in the specimen (a small one) examined by Mr. Burt was about the thickness of the little finger at the root, tapering from thence to a point; and when dissected out, it was capable of being extended to a length more than equal to that of the animal exclusive of the tail. The specimen was a female, and her organs were those of a viviparous animal. This it was important to notice, because Buffon had stated it as a general principle that all quadrupeds covered with scales are oviparous. In the sixtieth volume of the 'Philosophical Transactions,' a figure is given of a species of this animal which is there called the new manis, and which Pennant classes as a new species under the name of the broad-tailed manis. Dr. Shaw, in his 'General Zoology,' follows the precedent, but doubts that it is a distinct species. It has five toes on the fore, and four on the hind-feet. The belly is quite smooth. The tail is very broad, decreasing to a point. This specimen was killed in the house of a merchant at Tranquebar, having been discovered in the cavity of a wall. When pursued, it rolled itself up in such a manner as to leave only the back and tail visible, and was destroyed with great difficulty.

The animal mentioned in the 'Asiatic Researches' presents some small differences from that described under the name of pangolin by Buffon; and the last-named broad-tailed species is somewhat different from both. Alluding to this, Dr. Shaw observes:—"These differences have not seemed sufficient to constitute a specific distinction, and are probably owing to the differences of age and sex. In the British Museum are species of different sizes which show these gradations. In one the scales all over the animal are so regularly and completely truncated at the extremity as to exhibit the appearance of so many hexagons. In another, they are remarkably broad and rounded; and in a third, which is a very large specimen, they are less acute at the tips and somewhat irregularly terminated, as if notched or worn through age. The proportional breadth of the tail also varies somewhat in these specimens, and seems greatest in those that are least advanced in age."

ROBERT SOUTHWELL.—No. II.

It has been well remarked of Southwell as a writer, that his prose is, as such, more flowery and imaginative than his verse. The charm of goodness of nature and kindness of heart, united with the purest morality, distinguishes his writings; and while they afford constant traces of a poetical imagination, we discover that he seems as if afraid to trust himself in the fairy-land of poetry, lest he should imbibe some of its illusions. This dread he appears to throw off in preparing his prose; one consequence of which is, that while his verse is in general marked by gentleness and simplicity, his prose is characterized by energy and passion.

The longest and most laboured of Southwell's poems is 'St. Peter's Complaint,' consisting of 112 six-lined stanzas, in which the apostle laments his guilt in having denied his Master. This is one of the only two of his works in the British Museum. It is followed by short poems in the same style; from one of which, called 'St. Peter's Comfort,' we extract the following passage:

"The lopped tree in time may grow again;
Most naked plants renew both fruit and flower;
The sorriest wight may find release of pain,
Most naked plants renew both fruit and flower;
The cake is sweeted in the freshness of spring;
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The cake is sweeted in the freshness of spring;"
I climb high-climbing thoughts,—
The wings of swelling pride;
Their fall is worst, that from the height
Of greatest honour slide.

Since sail of largest size
The storm doth soonest fear,
I bear so low and small a sail
As double me in fear.

No change of Fortune's calm
Can cast my comforts down;
When Fortune smiles, I smile to think
How quickly she will frown.

And when in froward mood
She prov'd an angry foe,
Small gain I found to let her come,—
Less loss to let her go.

'Mary Magdalen's Funeral Tears' is numbered among Southwell's prose works, although it seems to us to be, in all but metre and rhyme, the most essentially poetical of his compositions. Indeed, his original editors would seem to have regarded it as a poem. It is printed in the same volume with St. Peter's Complaint, and the title is, "St. Peter's Complaint and St. Mary Magdalen's Funeral Teares. With sundry other selected and devout Poems." By R. S., of the Society of Jesus." The piece is of essentially the same character with the 'Complaint,' it being composed of the lamentations of Mary Magdalen at the tomb of Christ, with comments on her circumstances, in the same style of composition with her complaints.

As we have room for only one specimen of Southwell's prose, we prefer to take it from his letter to his father, which has been already mentioned in the notice given of his life. With some alterations and omissions, it appears under the title of "The Dutiful Advice of a Loving Son to his Aged Father," in Sir Walter Raleigh's Works. The following is a part of the letter:

"Remember that you are now in the waning, and the date of your pilgrimage well nigh expired, and now that it behoveth you to look towards your country. Your force languisheth, your senses impair, your body droopeth, and on every side the ruinous cottage of your faint and feeble flesh threatens the fall: and having so many harbingers of your death to premonish you of your end, how can you but prepare for so dreadful a stranger? The young man may die quickly, but the old man cannot live long; the young man's life by casualty may be abridged, but the old man's by no physic can be long adjourned: and therefore if green years should sometimes think of the grave, the thoughts of old age should continually dwell in the same.

"The prerogative of infancy is innocency; of childhood reverence; of manhood maturity; and of old age wisdom. And seeing then, that the highest properties of wisdom are, to be mindful of things past, careful of things present, and provident for things to come, use now the privilege of nature's talent to the benefit of your own soul, and procure hereafter to be wise in well doing, and watchful in the foresight of future harms. To serve the world you are now unable; and though you were able, yet you have little cause to be willing, seeing that it never gave you but an unhappy wretched entertainment, and now does abandon you with an unfortunate farewell."

Remember, I pray you, that your spring is spent, your summer overpast, you are now arrived at the fall of the leaf; yea, and winter colours have long since stained your hoary head.

"He that is tossed with variety of storms and cannot come to his desired port, maketh not much way, but is much tarmoiled. So, he that hath passed many years, and purchased little profit, hath a long being, but a short life: for life is more to be measured by well doing than by number of years; seeing that some men by many days do but procure many deaths, and others in short space attain the life of infinite ages."

Such extracts as we have given from the works of Southwell might be greatly multiplied; but we feel that enough has been furnished to serve our intended purpose, which was to indicate the character of his mind and talents, and to justify the interest our former article expressed about him, and our regret for the evil days on which he fell. It was also our desire to furnish our readers with an opportunity of becoming acquainted with one who was certainly not the least, although one of the most forgotten, of the seventy poets who flourished in the reign of Elizabeth. While we lament the most unfortunate fate of this excellent and gifted man, let us once more recall the attention of our readers to the considerations which should, in some measure, mitigate the severity of the reprehension with which we might visit the doings of former times. It is only by reference to the feelings and principles of action which are contemporary with events, that the events themselves can be completely or instructively understood.

**Louis XI.**—The following particulars are found in Philip de Comines' enumeration of the "strange fancies" of this prince. "He had a mighty curiosity for dogs, and sent into Spain for one sort, into Bretagne for another, to Valencia for a third; and bought them dearer than the people asked. He sent into Sicily to buy a male of a private officer in that country, and paid him double the value. At Naples he caused all the horses and strange creatures to be bought up that could be found; and, in Barbary, a sort of lion, no bigger than a fox, which he called sids. He sent into Sweden and Denmark for two tigers, but the price afforded, one of them called an elk, of the shape of a stag and the bigness of a buffalo, with short and thick horns; the other called rengeiero, of the shape and colour of the follow-deer, but their heads much larger,—for each of which he gave the merchants 4500 Dutch florins. Yet when all, these varieties were brought him he never valued them, and many times would not so much as see the persons that brought them to his court."
The heavy seas which break upon the rugged coasts of Northumberland and Durham render that part of the country the frequent scene of disastrous shipwrecks. In the year 1769, the ship Adventure, of Newcastle, was stranded, on the south side of Tynemouth Haven, in the midst of tremendous breakers. The crew climbed up into the shrouds for safety, from whence they dropped into the sea in the presence of thousands of spectators, not one of whom dared to venture out to their assistance in the common description of boats, although stimulated by the prospect of a high reward. The inhabitants of South Shields were so strongly affected by this melancholy occurrence that a public meeting was called, at which a committee was formed, and empowered to offer premiums for plans of a boat on a principle which should render it impossible to sink in the heaviest sea. Among many which were laid before the committee, that of Mr. Henry Greatheed obtained the most general approbation; and, in pursuance of their orders, the first life-boat was constructed by him, and launched on the 30th of January, 1790. The value of this invention was soon fully proved, and its importance to our mercantile navy acknowledged. It was fully established that no sea, however high, could upset or sink the life-boat. The originality of the invention being also clearly due to Mr. Greatheed, Parliament voted him the sum of 1200l. as a reward for his invention of the life-boat, whereby many lives have already been saved, and great security is afforded to seamen and property in cases of shipwreck. The subscribers to Lloyd’s presented Mr. Greatheed with 100 guineas, and voted 2000l. for the purpose of encouraging the building of life-boats in different ports of the kingdom. Two years afterwards, the Emperor Alexander presented Mr. Greatheed with a valuable diamond ring.

Owing to the dangerous character of the Durham and Northumberland coast, and the quantity of ship
ping belonging to our north-eastern ports, the life-boat is often launched here than from any other part of the kingdom; and, under the guidance of its crew, more frequently snatches the mariner from destruction.

The great characteristic of the life-boat is its buoyancy. It possesses this requisite quality in consequence of the bottom being hollow and perfectly air-tight; and the sides are also surrounded by several boxes, or compartments, which are also air-tight. We believe that boats are coming into use provided with a set of copper-tubes. One upon this plan has lately been constructed at Sunderland. The division of the sides into several parts prevents the boat being endangered in case of its being struck by a cross wave. This, however, can seldom occur, because both ends being formed alike, the direction of the boat can be changed without exposing it to the rude shocks to which it would be subjected by turning from one point to another in a tempestuous sea. It is also contrived that when the boat ascends the waves any water which it may have shipped passes out at the lower end; and there are also a number of holes at the bottom, through which whatever remains is immediately discharged. The Sunderland boat was built in the year 1800, ten years after Mr. Greatheed's invention had become known. It is twenty-six feet in length, and the width is nine and a-half feet. This boat, on one occasion, would have been knocked to pieces by a cross sea but for the division of the side into various parts. In the bottom are six air-holes, which are so proportioned to the size and gravity of the vessel that, when full of water, it is discharged in forty seconds. She is managed by six or ten men, as the urgency of the case may require, two of whom steer with seventeen-feet oars. The oars are secured in their places by a coiled rope. The boat is preserved in repair, and its crew paid, by a small impost on ships entering the harbour. When out of service, it is kept under a substantial shed near the beach, mounted upon a four-wheeled carriage. As soon as the thrilling cry "A wreck!" is heard, the lieutenant of the boat assembles his men; and, after a survey of the ill-fated ship, each proceeds to his place in the boat. When all their arrangements are completed, two or more horses are harnessed to the carriage, and the boat is drawn to the water's edge. By a mechanical contrivance, the frame of the carriage is then brought into a sloping position, and the boat is launched amid the breakers to pursue its benevolent enterprise.

The men who compose the crew of a life-boat often acquire a sort of moral dignity, occasioned by the exercise of the manly virtues which a faithful discharge of their duties demands, and the sympathetic feelings to which they are habituated by the nature of their vocation. A fine fellow at Tynemouth said to the artist who made the sketches which accompany this description, patting the sides of his boat as if it were a favourite animal, "Have you made a picture of my boat, Sir? She's a good one, and has been with me at the saving of twenty-seven lives in one morning."

We find the following hints in Mr. Greatheed's "Instructions for the Management of Life-Boats:"—

The men who compose the crew of a life-boat often acquire a sort of moral dignity, occasioned by the exercise of the manly virtues which a faithful discharge of their duties demands, and the sympathetic feelings to which they are habituated by the nature of their vocation. A fine fellow at Tynemouth said to the artist who made the sketches which accompany this description, patting the sides of his boat as if it were a favourite animal, "Have you made a picture of my boat, Sir? She's a good one, and has been with me at the saving of twenty-seven lives in one morning."

We find the following hints in Mr. Greatheed's "Instructions for the Management of Life-Boats:"—
care in the people employed, that the boat be not damaged. When the wreck is reached, if the wind blows to the land, the boat will come inshore without any other effort than steering;"  

In case of a ship being stranded on a part of the coast where the services of the life-boat are inaccessible, it has been recommended to fasten a boom to the boat's bow, by which means the violence of the waves are broken. In a treatise on 'Practical Seamanship,' by Mr. Hutchinson, an instance is mentioned of the preservation of ten men in a small boat only twelve foot long, by means of a log of wood tied to the boat's bow, which kept her end on to the waves, and preserved her from filling with water.  

MINERAL KINGDOM.—SECTION XXXV. Gold.  

This metal possesses above all others the qualities of utility and beauty, without any deleterious property. It has been in all times regarded as the most perfect and most precious of the metals, and among the more civilized nations it has been the standard of value for other commodities. Its peculiar rich hue is well known; and it is the only metal of a yellow colour. In its pure state it is as soft as tin, and is very flexible, but it is capable of receiving a high lustre by polishing with a burnisher, although inferior in brilliancy to steel, silver, and mercury. It possesses little elasticity or sonorosity. Its specific gravity is 19.30—that is, it is more than nineteen times heavier than water, bulk for bulk. In malleability it exceeds all other metals; for one grain of it can be beat out into a leaf so thin as not to exceed 0.0003 of an inch in thickness, and which will cover fifty-six square inches; in this state, notwithstanding the high specific gravity, it will float. But even that is not the extreme limit to which it is capable of being extended; for a coating of gold, which is calcined to be only one-twelfth part of the above thickness, is produced by another process: if a silver wire be covered with gold, it may be drawn out into wire of still greater fineness, and retain a coating of gold; and one grain of gold will in this way coat a surface of wire about two miles and three-quarters in length. In ductility it also exceeds all other metals; that is, it can be drawn into finer wire than any other. In tenacity, however, it is greatly inferior, standing only fifth in order, in respect of that property when compared with other metals: a wire 4-th of an inch in thickness will not support a greater weight than 150 lbs., whereas iron wire of the same diameter will sustain a weight of 550 lbs. without breaking. It is not a perfectly opaque body like all the other metals, for gold leaf transmits a green light; as may be conveniently observed by laying a leaf between two thin plates of colourless glass, and holding it between the eye and a strong light. It is less fusible than silver, and more so than copper. Mr. Daniel estimates its melting point to be at a heat equal to 2016° of Fahrenheit's scale. It is the most perfect of all conductors of heat; that is to say, if heat be applied to one end of a rod of gold, it will be transmitted from particle to particle, and become sensible at the other extremity of the rod more quickly than through any other substance in nature. Thus while the conducting power of a rod of porcelain is represented by a velocity of 12, of lead by 179, of iron by 374, the velocity of gold is 1090. Gold may be exposed for ages to air and moisture without undergoing any alteration; and a quantity of it has been kept for thirty weeks in a melted state in a glass-house furnace without the loss of a single grain, and without any change in its nature. But if a small portion of it be intensely heated by electricity, or by the oxy-hydrogen blow-pipe, it burns with a greenish blue flame, and is dissipated in the form of a purple powder.  

Gold is found, almost universally, in the native or metallic state; but it is seldom quite pure, being generally alloyed, in greater or less degree, with other metals, and usually with silver, copper, or iron. The Russian chemist, Klaproth, found a native gold from the Altai Mountains to contain as much as 36 per cent. of silver; and Professor G. Rose, of Berlin, by more recent analysis, has found a specimen from the same district to contain 38 per cent. of silver, and another from Houses to nearly 39 per cent. He found the gold of the Ural Mountains to contain from 2 to 15 per cent. in general; but one variety so free from foreign admixture as to contain nearly 99 per cent. of pure gold. Boussingault has found the native gold of Colombia to contain from 2 to 36 per cent. of silver. It is found in veins in the primary and older sedimentary rocks, and also in the unstratified rocks that are associated with these, such as granite, porphyry, and hornblende rock; and sometimes, also, in the more ancient of the secondary strata. The veinstone in which the gold occurs is most generally quartz. In Transylvania small quantities of an ore have been found, in which gold is in combination with a considerable proportion of the rare metal Tellurium; and there is a kind of iron-pyrites—that is, a sulphur of iron,—not of very unfrequent occurrence, which contains minute scales of pure gold interposed between the lamé of the pyrites. When gold occurs in veins in solid rocks, it is sometimes regularly crystallized. In the splendid collection of minerals belonging to a Russian noble, Prince Demidoff, there are many beautiful crystals of gold from the Ural Mountains. By far the greatest proportion of this metal, in all countries which produce it, is obtained from alluvial soils, or deposits, where the gold is found in scales, grains, and lumps, rounded by attrition: so that the metal has evidently been derived from pre-existing rocks, in which it was disseminated either in minute scales or veins, and which have been broken up; the fragments having been washed away by the action of water in the same manner as the pebbles of tin-stone in the stream-works of Cornwall, and other places. For the sake of convenience, we shall call this "stream-gold." It is found in the sand and gravel of the beds of many rivers and smaller streams in most countries of the world; but the chief quantity is met with in extensive alluvial deposits, formed by other aqueous causes than the water of existing rivers. The lumps of gold, in such situations, are of various sizes; and masses have been found in the Ural Mountains of eighteen and twenty and a half pounds weight,—in Columbia, of twenty-five pounds; and one is said to have been found near La Paz, in Peru, of nearly forty-five pounds weight, the value of which, if estimated at 3l. 10s. per ounce, would be 1890l. A considerable portion of stream-gold appears to have been derived from auriferous pyrites; for almost all the sands from which this metal is gathered are of a deep blackish-brown colour, and are highly ferruginous. It is a remarkable fact, not a very explicable circumstance, that in countries which contain deposits of alluvium rich in gold, and the materials of which must have been derived from rocks at no very great distance, it has rarely happened that the attempts to find the metal in the neighbouring rocks have been successful. It may be asked, how gold comes to be so often found in alluvial soils, and that other metals should not be met with in the same way? Platinum is so found, and so is silver, but only very rarely. The reason is, that both these metals are found in the same rocks, in the same exposure to air and moisture; and, therefore, although they might have been originally in fragments, like the other materials of the rocks that were broken up, they would gradually disappear by decomposition; whereas
The gold, from its indestructible nature, remains unchanged, except in form. In the same way stream-tin has been preserved, because the oxide of tin is not affected by air and moisture.

To describe the methods employed to separate gold from the other minerals with which it is combined would lead us into somewhat tedious details. The great value of gold makes searching after minute quantities profitable, which would never be practised with other metals. The usual mode of separation is by a process called amalgamation, which is founded on the property which mercury (or quicksilver) has of combining very readily with gold and copper, the metals with which the gold is there mixed in the ores, have of attracting oxygen from the air when exposed to a strong heat, and which the gold does not. The ores are well roasted, to drive off the sulphur they usually contain, and are fused in several successive operations. The metallic mixture, freed from stony impurities thus obtained, is put into a vessel made of bone-ash called a cupel; it is made of that material because it forms a porous texture, and is, at the same time, very refractory in the fire. A strong blast of intensely-heated air is now made to pass over the metal in a state of fusion, and the lead and copper becoming oxidated, are absorbed by the cupel, or skimmed off, and the gold is left behind. The lead is the great agent, for its oxide is easily fusible into a glassy substance, which sinks into the cupel, carrying the other impurities along with it; so that if the ore does not naturally contain much lead, a portion added. We have described the processes only very generally: there are many delicate manipulations in the mode of conducting them, upon which success in the result greatly depends.

In our next section we shall proceed to describe the principal sources from which gold is derived. The Historical Inquiry into the Production and Consumption of the Precious Metals, by William Jacob, Esq., may be consulted with advantage by those who are curious of minute information; and we have ourselves relied upon it for many of the facts contained in the following sections.

THE CHAMPIONSHIP OF ENGLAND.

There are some estates, held by grant from the Crown, which confer a title or dignity on their possessor; such is Arundel Castle in Sussex, in right of which the Duke of Norfolk claims the Earldom of Arundel, and such the title of Scrivelsby in Lincolnshire, from it constitutes the Dymokes Champions of England. Scrivelsby, or Scrivelsby Court, as the Champion's residence is generally called, lies about three miles to the south of Horncastle, and is a very elegant mansion, which has lately been modernized. The grounds about it are well wooded, and laid out with taste, so that, altogether, Scrivelsby forms, what is not very common in that part of the county of Lincoln, a highly-picturesque residence.

Of the origin of the office of Champion no very satisfactory information can be given; but we know that William the Conqueror introduced it into England, and that the person who was first honoured with the title was Robert de Marmyon, Lord of Fontenoy, who bore the Duke's banner at the battle of Hastings, and had preserved the life of his sovereign in the field. William rewarded this faithful follower by the grant of several manors in newly-subjugated country, among the rest that of Tamworth, in the county of Stafford, and that of Scrivelsby in the county of Lincoln, attaching to the possession of the latter the honourable office of being Champion to every future King of England.

The duty required of the Champion was, that on the day of the Coronation he should, in complete armour, and mounted on a good war-horse, come into the presence of the King and all his Court, and make proclamation, that if any one dared to gain the right and title of the King to the Crown of England, or that he ought not to enjoy it, that man was a liar and a traitor; and that he (the Champion) was ready to prove it upon him by single combat, on what day soever he should appoint. He was then to throw down his glove, or gauntlet, and, according to the custom of the time, whoever took it up was considered to accept the challenge.

Besides the permanent holding of the manor, the Champion, at every Coronation, was entitled to a gold cup and cover, the horse on which he rode, which was stated to be the second best in the King's stables, with its saddle and furniture, a complete suit of armour, and twenty yards of crimson satin: these perquisites of office form a valuable and interesting heirloom in the armoury at Scrivelsby Court.

The first that bore the office in this country was, as we have seen, Robert de Marmyon; and it seems, with the manor of Scrivelsby, to have remained in that family till the twentieth year of Edward I., when Philip, the last male heir of the Marmyons died, and left two daughters: the eldest took for her dowry the manor of Tamworth, and the youngest that of Scrivelsby; and she being married to Sir Thomas Ludlow, he, in right of being the owner of the manor, became Champion, and his grand-daughter and heiress, marrying Sir John Dymoke, conveyed Scrivelsby and the Championship into that family in the twenty-third year of King Edward III.

This remaining practice of a barbarous and warlike age has now ceased to be dignified or grave, in consequence of the great changes which the usages and feelings of society have undergone. The stability of the Crown would certainly not be impaired if this now absurd though once expressive ceremony were abolished, and another tenure substituted more consonant to common sense and the spirit of the age.

CHESTERFIELD CHURCH AND ITS CROOKED SPIRE.

Whoever approaches Chesterfield, either from the north or the south, must be struck with the singular appearance of the spire of its church, which, instead of being perpendicular, is evidently much bent towards the west. It is singular that almost every writer who has had occasion to mention Chesterfield of late, has recorded this appearance an optical deception, arising from the twisted form of the leaden planes which cover its surface. Even Mr. Rickman, in his work on Gothic Architecture, says,—" The apparent leaning of the
spire arises partly from the curious spiral mode of putting on the lead, and partly from a real inclination of the wood-work of the spire." But had he walked out of the town to the eastward, or to the westward, he would have seen this crooked spire assume a perfectly perpendicular appearance, for in one case the bulging, and in the other the hollow part of the steeple would be towards him, and consequently the crookedness would be lost; or, had he ventured to mount the tower, and walk round the base of the spire, he would have seen on the south, or rather at the southeast angle, the ball at the summit almost vertical to his head, while on the opposite side the same ball would be hidden from the sight by the swelling of the middle of the spire. These observations would at once have proved the fact, that this curious steeple is not apparently but really crooked. To place its real crookedness beyond a doubt, the situation of the ball was subjected to a careful measurement some years since, when it was found to deviate from the perpendicular six feet towards the south, and four feet four inches towards the west, giving its greatest angle of inclination somewhere near to the south-west angle.

Chesterfield Church is a beautiful and spacious edifice. Its ground-plan is that of a single cross; and at the intersection of the two arms arises a well-proportioned and elegant square tower, surmounted by a description, has occasioned little shells to be adopted for small cocoa-nut as money. (Translated from Storch's Political Economy.)

The interior of the church consists of a nave, two aisles, a transept, and chancel. Its length from east to west is 168 feet 9 inches, breadth of the body 59 feet 6 inches, and length of the transept from north to south 109 feet 6 inches. It has been newly paved, and is in every respect a very comfortable and commodious place of worship.

The Esthonians, who were once comprised in the Russian language, has not yet lost its primitive acceptation with the Laplanders amongst whom it designates skin or furs. Among the different kinds of furs which formerly circulated in Russia was one which bore the name of nogata. The Esthonians, who were once comprised in the Russian Empire, use the word nahai for skins. The change of the vowel in to o, and the a aspirated into o, is so familiar in the Russian language that the word appears to be exactly the same in both. M. Krug, a member of the Academy of Sciences at St. Petersburgh, published, in 1805, a work containing curious researches on the circulating medium anciently in use in Russia. The most valuable furs were those of the squirrel, marten, beaver, sable, and ermine; for, formed an important article of exportation, and they were in demand in all countries. They are reckoned in Russia from 16, and, at a later period, the Mongols, raised in furs the taxes that they imposed on the Scalavonians and Russians when they were obliged to purchase a peace. Pecuniary fines were fixed in proportion to this nature in such a manner as not to exceed by which the price of their merchandise was determined. The value of furs was at that period much greater than they bear at present. In the time of Marco Polo,—e. g. in the thirteenth century,—a pelisse of sable cost in China for two thousand dollars, even when the occasion was determined by which the value of the goods which the Russians exchanged with each other; and among the Greeks of the Lower Empire, silk stuffs often performed the same function. In India, high price of metals, even of the commoner kinds, occasioned little shells to be adopted for small change. These shells are the current money of Mogul, Bengal, and Bountan; also of the interior of Africa and of the Guineacoast. At the time when America was discovered, the Mexicans made use of the kernels of the coca-nut as money. (Translated from Storch's Political Economy.)
Among the subordinate circumstances of the scene we should not omit to notice the touch at the squibs which are so often circulated by the adverse parties at a contested election. We would hope that these, at least, have become more decent than they were in Hogarth's days: but even of this we do not feel quite certain. The character of that old ballad-woman is circulating is expressed by the figure which it exhibits of a man hanging from a gallows. A party of men in the booth are reading a copy of this paper with much apparent glee.

And what is the moral of all this? Hogarth himself tells us; and, for the sake of telling it with what he considered more of point and effect, he has introduced an allegory—a licence which has the countenance of great masters, but to which our artist never in any other instance resorted. In doing so here, he doubtless fell into a mistake of judgment; but, as he has dealt with it, he has made it point most expensively the moral he intended to convey. The coach of Britannia is broken down, while the servants play at cards on the coach-box; and amidst the excitement and the din of party contests, no one perceives her danger or hears her cries.

WILLIAM BILLINGS.

In the churchyard of Longnor, a small market-town in the county of Stafford, there is a head-stone bearing the following inscription:

"Billed by Death, I quarter'd here remain,
And when the trumpet sounds, I'll rise and march again."

We quote this note for the sake of any point it contains, for we have a decided objection to epitaphs of this description—but because we have to mention the person to whom it refers. The stone was erected, in the year 1794, by the subscriptions of some neighbouring gentlemen, to perpetuate the memory of a poor man who died in that year at Fairfield Head, in the parish of Alstonefield at the advanced age of 114 years.

This man, whose name was William Billings, was literally born under a hedge (not more than 100 yards from the cottage in which he died), in the year 1679. In his youth he was a farmer's servant; but preferring a life of enterprise to the quiet of domestic life, and being, perhaps, roused by the warlike spirit of the time, he quitting his situation in 1702, and, going to Derby, enlisted in a regiment stationed in that town. This regiment afterwards formed part of the expedition which was sent, under the command of Sir George Rooke, against Gibraltar, which at that time belonged to the King of Spain. After Gibraltar was taken, Billings' regiment was sent into Flanders, and formed part of the army of Prince Eugene and the Duke of Marlborough. At the battle of Ramillies, in 1706, Billings had the honour of saving the life of the "great captain." The duke was shot from his horse in leaping a ditch, and was nearly surrounded by a detached party of Marshal Villeroi's army, determined to take him either dead or alive; when Billings, observing the perilous situation of his commander, immediately brought to his relief a few of his comrades, who threw themselves between their general and the enemy, and succeeded in bringing him off in safety. Billings had the peculiar and presence of mind saved the duke, he had himself the misfortune to receive, during the skirmish, a musket-ball in the thick part of his thigh, which the surgeons were unable to extract. About thirty years after this affair, however, it worked itself downward, and eventually came out underneath his hair. With that sort of attachment with which men regard things to which they have been long accustomed, even though these things have been the instruments of pain, Billings carefully preserved, to
...the day of his death, this "French cherry," as he peculiarly called the ball.

Billings was at the siege of Ostend in 1706; and, so far as the circum-scribed sphere of a private soldier allowed, was distinguished himself by his gallantry and courage. But the correspondent who furnishes the facts of this narrative does not consider that there was any higher motive to exertion than the plunder and animal indulgences which a victory usually ensured to the conquerors. This made the life of a soldier a most happy one to him at that time. No doubt, he was not singular in these feelings. After having had his due share in the several actions of that memorable war, Billings returned to England to make his fortune, and was called to all his limbs. In 1718 he served against the rebels; and, in 1745, he was with the Duke of Cumberland at Preston Pans and Culloden.

After having spent in the army three-quarters of a century, and that principally in foreign lands, it might have been expected that some provision would have been made for him: but it was not so. He had never received any promotion; and, on his discharge, no provision was allowed to him; it was merely a stipend on the subject; but certainly this would leave room for the suspicion that his conduct had not always been satisfactory to his superiors. The old man was, however, during his remaining days, preserved from entire destitution by the charity of his neighbours. The great age at which he died indicates the excellence of his constitution. From his birth to his death, he never experienced a day's illness; and his final passage from life was perfectly tranquil.

MUSCULAR STRENGTH OF MAN AS AFFECTED BY DIET.

A series of experiments has lately been made in France with a view of determining the effect of gelatine as an article of diet; in the course of which, as we learn from a paper read at the Academy of the Arts and Sciences, Paris, the following results were obtained. It must be observed that gelatine is the jelly extracted from animal substances by boiling them in water; and M. Edwards, by whom the experiments alluded to were made, considers it as pure gelatine; but it was ascertained that, though highly nutritious under certain circumstances, it resembled bread and was being utilized by the body in a similar manner. Bread and gelatine together form a nutritious aliment, but they are insufficient to sustain the vigour of the body in a proper manner. When, however, gelatine is flavoured by the sapid and odorous parts of meat, it then possesses highly nutritive qualities, and not only fully sustains the animal powers, but occasions their greater development. In the course of his experiments, M. Edwards availed himself of the dynamometer, a little instrument probably consisting of a steel-spring coiled into a spiral, which, if pressed upon with all the force a person possesses, becomes compressed: the degree to which this is effected being pointed out by an index. It was ascertained in this manner that, during the first half of the day, the muscular strength is continually increasing, while during the other half, it is continually diminishing; and that this development of the bodily powers was the natural process of the animal system. Another series of experiments was tried with a view of estimating the muscular force immediately before breakfast, and immediately after the meal. That on the morning of eight days trial upon the same individual was as follows:—75° degrees before breakfast, and 85° degrees immediately after it. The meal consisted of a cup of chocolate and a small loaf. On the same individual taking, during successive mornings, a similar quantity of water instead of chocolate, it was found that a diminution of two degrees was occasioned by the alteration. On sugar being added to the water, the effect was the same, though not quite so decided. The chocolate, prepared with sugar, for the customary breakfast meal was now substituted, which created an additional degree of strength, amounting to 3½° degrees. The chocolate and bread were therefore the sole nutritious properties of the meal.

Common broth was next adopted as a diet; and first the effects of warmth were ascertained distinct from that of the broth itself. Eight ounces of water were drunk at a temperature of 164° Fahrenheit, the ordinary temperature at which broth is taken. The dynamometer showed that the muscular power had been diminished 2½° degrees by the heat, an addition to that produced by the water simply. The effect of good broth, even at this temperature, was found to increase the force of the body six or eight degrees. The general conclusions established by these experiments are, that the muscular force of strong men is increased after a moderate and substantial meal; that, for instance, persons who are weak from illness, old age, or youth, or by their sex, lose strength directly after a meal. This elevation or depression of the powers immediately after taking food must be distinguished from the subsequent effect of the digestion,—an operation which causes a development of the muscular forces of the stomach, and, consequently, counterbalances the previous effect. The dynamometer indicates the difference between these opposed forces: this difference is less among weak than among strong persons. In an experiment on the inmates of one of the Paris hospitals, it was ascertained that soup composed of gelatine, instead of diminishing the strength of weak persons as the whole meal does, gave an increase to the men of two degrees, and to the women of three; and, by using a double quantity of gelatine (4 oz.), a further increase of strength was afforded.

MR. JOHN LOMBE, AND THE SILK-THROWING MACHINERY AT DERBY.

The Lombes were originally manufacturers at Norwich: but removed to London, and became silkthrowers and merchants there. There were three brothers, Thomas, Henry, and John; the first was one of the sheriffs of London, at the accession of George II. in 1727, on which occasion, according to custom, the chief magistrate was created a baronet, and Mr. Lombe was knighted. The second brother, who was of a melancholy temperament, put an end to his existence before those plans were developed which connected the name of Lombe with one of the most important manufactures of the country.

The Messrs. Lombe were of the name of Leghorn under the firm of Glover and Unwin, who were their agents for purchasing the raw silk which the Italian peasantry sold at their markets and fairs to the merchants and factors. There were many other English houses at Leghorn, Turin, Ancona, and other parts of Italy, chiefly for exporting silk to England, in part return for which numerous cargoes of salt-fish were, and still are, received from our ports for the consumption of the Italians during their Lent and other fasts. It was at that time customary for the English merchants engaged in the Italian trade to send their apprentices and sons to the Italian ports, to complete their mercantile education by acquainting themselves on the spot with the details of their peculiar line of business. It was professedly in compliance with this custom, but with a deeper ulterior view, that the youngest of the brothers, Mr. John Lombe, who at that time was little more than twenty years of age, proceeded to Leghorn in the year 1715.

The Italians had at that time become so much superior to the English in the art of throwing silk, in consequence of a new invention, that it was impossible for the latter to bring the article into the market on equal terms. This state of the trade induced the Lombes to consider by what means they might secure the same advantage which their improved machinery gave to the Italians: and the real view of the younger brother in proceeding to Leghorn was, to acquaint himself with the operation and feel of the machinery, and to bring an acquaintance with the machinery as might enable him to introduce it into this country. The difficulties in the way of this undertaking were very great, and would have appeared insurmountable to any but a person of extraordinary courage and perseverance,
Sir Thomas Lombe's Silkmill, Derby.

We find these difficulties thus stated in the paper which Sir Thomas Lombe printed for distribution among the members, when he applied to Parliament for the renewal of his patent. One, at least, of these printed papers has been preserved, and has been lent us for the present occasion. It is there said that,—

"The Italians having, by the most judicious and proper rules and regulations, advanced and supported the credit of the manufacture, have also, by the most severe laws, preserved the mystery among themselves for a great number of years to their inestimable advantage. As, for instance, the punishment prescribed by one of their laws, for those who discover, or attempt to discover, anything relating to this art, is death, with the forfeiture of all their goods, and to be afterwards painted on the outside of the prison walls, hanging to the gallows by one foot, with an inscription denoting the name and crime of the person; there to be continued for a perpetual mark of infamy."

The young Lombe, however, was not to be deterred by the danger and difficulty of the enterprise. On his arrival, and before he became known in the country, he went, accompanied by a friend, to see the Italian silk-works. This was permitted under very rigid limitations: no person was admitted except when the machinery was in action, and even then he was hurried through the rooms with the most jealouse precaution. The celerity of the machinery rendered it impossible for Mr. Lombe to comprehend all the dependencies and first springs of so extensive and complicated a work. He went with different persons in various habits, as a gentleman, a priest, or a lady; and he was very generous with his money; but he could never find an opportunity of seeing the machinery put in motion, or of giving to it that careful attention which his object required. Despairing of obtaining adequate information from such cursory inspection as he was thus enabled to give, he bethought himself of associating with the clergy, and, being a man of letters, he succeeded in ingratiating himself with the priest who confessed the family to which the works belonged. He seems to have opened his plans, partly at least to this person, and it is certain that he found means to obtain his co-operation. According to the scheme which they planned between them, Mr. Lombe disguised himself as a poor youth in want of employment. The priest then introduced him to the directors of the works, and gave him a good character for honesty and diligence, and described him as inured to greater hardships than might be expected from his appearance. He was accordingly engaged as a fillatoe-boy, to superintend a spinning-engine so called. His mean appearance procured him accommodation in the place which his design made the most acceptable to him,—the mill. While others slept, he was awake and diligently employed in his arduous and dangerous undertaking. He had possessed himself of a dark lantern, tinder-box, wax-candles, and a case of mathematical instruments. In the day-time these were secreted in the hole under the stairs where he used to sleep; and no person ever indicated the least curiosity to ascertain the extent of the possessions of so mean a lad. He thus went on making drawings of every part of this grand and useful machinery; the priest often inquired after his poor boy at the works, and, through his agency, Lombe conveyed his drawings to Glover and Unwins; with them models were made from the drawings, and dispatched to England piece in bales of silk. These originals are still, we believe, preserved in the Derby mills.

After Lombe had completed his design he still remained at the mill, waiting until an English ship should be on the point of sailing for England. When this happened, he left the works and hastened on board. But meanwhile his absence had occasioned suspicions, and an Italian brig was dispatched in pursuit; but the English vessel happily proved the better sailor of the two, and escaped. It is said that the priest was put to the torture; but the correspondent of the 'Gentleman's Magazine,' to which we are indebted for most of the facts we have stated, says that, after Mr. Lombe's
return to England, an Italian priest was much in his company; and he is of opinion that this was either the priest in question, or, at least, another confederate in the same affair. Mr. Lombe also brought over with him two natives accustomed to the manufacture for the sake of introducing which he had incurred so much hazard.

After his return, Mr. John Lombe appears to have actively exerted himself in forwarding the works undertaken by him and his brother, Sir Thomas, at Derby; but he did not live to witness their completion. He died on the premises, on the 16th of November, 1722, in the twenty-ninth year of his age. An account of his death is, that the Italians, exasperated at the injury done to their trade, sent over to England an ardent woman, who associated with the parties in the character of a friend; and, having gained over one of the natives who originally accompanied Mr. Lombe, administered a poison to him of which he ultimately died.

We recur to Sir Thomas Lombe’s statement, already quoted, for the most authentic particulars respecting the progress of the work. The document itself is entitled: ‘A brief state of the Case relating to the Machine erected at Derby, for making Italian Organzine Silk, which was discovered and brought into England with the utmost difficulty and hazard, and at the sole expense of Sir Thomas Lombe.’ It commences with stating the capabilities of the machine. ‘This machine performs the work of making Italian organzine silk, which is a manufacture made out of fine raw silk, by reducing it to a hard-twisted, fine, and even thread. This silk makes the warp, and is absolutely necessary to mix with and cover the Turkey and other coarser silks thrown here, which are used for shute,—so that without a constant supply of this fine Italian organzine silk, very little of the said Turkey and other silks could be used, nor could the silk-weaving trade be carried on in England. This Italian organzine (or thrown) silk has in all times past been bought with our money, ready made (or worked) in Italy, for want of the art of making it here. Whereas now, by working it ourselves out of fine Italian raw silk, the nation saves nearly one-third part; and, by what we make out of fine China raw silk, above one-half of the price we pay for it ready worked in Italy.’ The paper goes on to state that, ‘The machine at Derby has 97,746 wheels, movements, and individual parts (which work day and night), all which receive their motion from one large water-wheel, and are governed by one regulator; and it is estimated that it will cost five pounds a day to put it in motion.’ After stating the difficulties which had been surmounted in introducing this improvement, the paper thus concludes: ‘Upon the introduction of which [this improvement], his late most gracious Majesty granted a patent to the said Sir Thomas Lombe, for the sole making and use of the said engines in England, for the term of fourteen years. Upon which he set about the work, and raised a large pile of building upon the river Derwent; the work was actively exerted; but before the whole could be completed several years of the said term were expired. Then the King of Piedmont, in whose country he kept in motion for ten hours daily, on account of the web, buy the greater part of our supply of organzine silk, amazing fineness of the filaments of which it consists.

The Parliament, considering the matter of much public importance, thought it best to give him a grant of 14,000l. on condition that the invention should be thrown open to the trade, and that a model of the machine should be deposited in the Tower of London for public inspection. It is commonly stated that Parliament refused to extend the patent, and granted the privilege of a small quantity of raw silk to satisfy their refusal; but we have seen that Sir Thomas himself suggested some “other recompense” than an extended patent, as an alternative. In the course of time similar mills began to be erected in different parts of the country; but, in consequence of the difficulties that were experienced in procuring Italian raw silk of the proper size for organzine (the exportation of which was prohibited by the Italians), and also because the mills happened subsequently to find employment for other purposes, the quantity worked into organzine in this country bore, for many years, no proportion to the imports from Italy. The manufacture has, however, been since revived and improved, in consequence of which it is now carried on to a very considerable extent, not only in Derby but in other parts of the country.

The mill erected by Sir Thomas Lombe stands upon an island, or rather swamp, in the Derwent, about 500 feet long and 52 wide. The building stands upon huge piles of oak, double plank, and covered with stone-work, on which are turned thirteen stone arches that sustain the walls. Its length is 110 feet, its breadth 39, and its height 55 feet. It contains five stories. In the three upper are the Italian winding engines, which are placed in a regular manner across the apartments, and furnished with many thousand swifts and spindles, and engines for working them. In the two lower floors are the spinning and twist-mills, which are all of a circular form, and are turned by upright shafts passing through their centres, and communicating with shafts from the water-wheel. The spinning-mills are eight in number, and give motion to upwards of 25,000 reel-bobbins, and nearly 3000 star-wheels belonging to the reels. Each of the four twist-mills contains four rounds of spindles, about 399 of which are connected with each mill, as well as numerous reels, bobbins, star-wheels, &c. The whole of this elaborate machine, though distributed through so many apartments, is put in motion by a single water-wheel twenty-three feet in diameter, situated on the west side of the building. All the operations, from winding the raw silk to organizing, or preparing it for the weavers, are performed here. The raw silk is chiefly brought in skeins or hanks from China and Piedmont. The skein is, in the first instance, placed on a hexagonal wheel or swift, and the filaments which form it twist around twenty threads, form a small cylindrical block of wood or bobbins. It is then worked by five or six days to wind a single skein, though the machine be kept in motion for ten hours daily, on account of the amazing fineness of the filaments of which it consists. The silk, when thus wound off upon the bobbins, is afterwards twisted by other parts of the machinery, and is then sent to the doublers, who are chiefly women stationed in a detached building. Here four, seven, or ten threads are reunited according to its intended size; the fine kind going to the silk weavers, and the others to different manufacturers. Other mills, erected more recently at Derby on a similar principle, greatly surpass this in their machinery and efficiency; but the old mill must continue to be regarded with peculiar interest as the first establishment of the kind erected in this country.
TIME.

The object of this paper is to enable our readers to look into an almanac with a definite notion of what they are to expect to find in such works. Almanacs are now penny brethren, and deserve at least a penny-worth of consideration.

The ancients believed in an immense crystal sphere, which turned all the stars round the earth. If there were such a sphere, but stationary, and if the hours of the day were properly marked upon it, a single star might serve the purpose of a clock to all the inhabited world. The heavens are in truth a clock, but not upon so simple a principle; there are no hours and minutes marked. Now if we suppose the hours and minutes rubbed off the face of a watch, while the hands perform their revolution as usual, we shall have something similar. We shall see phenomena, that is, the hands will come together and separate; but we need an almanac for such a watch to tell us how the time is to be inferred from the position of the hands.

The difficulty of such an undertaking is precisely that of one branch of astronomy, and to it we shall first proceed.

We begin our reckoning from some time when the minute and hour-hand are, as we should say of two planets, in conjunction, as at A in fig. 1. We agree to divide the intervals, which elapse before conjunction again takes place at the same spot, into twelve parts called hours, each hour into sixty parts called minutes, &c. And the law of the motion is supposed to be that the minute-hand moves round twelve times while the hour-hand moves round once, or moves, angularly, twelve times as fast as the hour-hand. The question now is, when will the next conjunction, that at B, take place? The answer is will be the twelfth part of thirteen lunar revolutions.

The epoch of this paper is to enable our reader to see phenomena, that is, will not come to havestars in the same direction as at that in which the earth moves round its axis. It is evident that the spectator will not come again to the star until the earth has made a whole revolution; that is, will not come to have the star in the

Let the spectator be on the earth at E, let the sun move round in the paper from S to T, &c., (which is the appearance presented,) and let the moon move round in the direction M N. In the meanwhile the spectator is carried round with the earth, and the sun and moon are both alternately seen and hidden, which has nothing to do with the conjunctions of the sun and moon we are now considering, except that they will appear at one time of the day or another as the case may be, and that this day, made by the earth's motion, is a convenient measuring unit for the month of the moon's revolution, or the year of the sun's.

Also the moon must not be supposed to be in the paper, but above or below it, which as if the hour-hand of the watch moved on one face, and the minute-hand on another, as in the following diagram.

The conjunctions are still said to take place when one hand is directly over the other. Suppose the earth to be in the centre, the hour-hand to point to the sun, and the minute-hand to the moon, new moons take place when the minute-hand is over or under the hour-hand; and eclipses of the sun when the hour-hand and minute-hand are together at A or B, or the moon hides the sun from the earth; while eclipses of the moon take place when one hand points to A and the other to B, or the earth hides the moon from the sun. Now supposing, which is nearly the case, that the moon makes thirteen revolutions from M to M again, while the sun makes one from S to S, which amounts to supposing the hour-plate to go to thirteen hours instead of twelve, and the hour-hand to move one-thirteenth as fast as the minute-hand, it will appear that the whole year (which is thirteen complete lunar revolutions) will contain twelve complete intervals between new moon and new moon, and therefore the lunar month (a period from new moon to new moon) will be the twelfth part of thirteen lunar revolutions, or the month will exceed the solar revolution by about the twelfth part of the latter.

The moon is not used as a measure of time among any of the European nations. The measures of time amongst us are, the stars, the sun, and an imaginary sun, which completes a whole year in the same time as the real sun, moving at an average rate, whereas the real sun varies its motion. Time derived from the stars is sidereal time (sidus, a constellation); time derived from the sun, solar time (sol, the sun). Time from the real sun is called apparent solar time; from the imaginary sun, average or mean solar time. And the time which a common clock is made to give is always mean solar time; while that of the clocks used in observatories is generally sidereal time. Apparent solar time is what the sailor gets at sea from the sun itself, or the landsman from a sun-dial. We now proceed to explain these terms. For our present purpose it matters not whether the earth be a globe turning on its axis, or a cylinder turning on its axis, or even a circle turning round on its centre. All the necessary ideas are conveyed in that of turning uniformly, to which we shall therefore confine ourselves.

Let the circle, representing the earth, turn uniformly round its centre E, and let us suppose the spectator to be at a; L is a star which remains fixed, and S is the sun, to all appearance moving round the earth in the same direction as that in which the earth moves round its axis. It is evident that the spectator will not come again to the star until the earth has made a whole revolution; that is, will not come to have the star in the
same position relatively to himself. For the star is fixed, and neither more nor less than one revolution of the earth will suffice for this purpose. Hence the absolute time of the earth's revolution is the star-day, or sidereal day; it is called twenty-four hours of sidereal time, each hour being divided into sixty sidereal minutes, each minute into sixty sidereal seconds. But sidereal minutes and sidereal seconds are not exactly those of the clock.

Now let us consider the real sun. When the spectator has recovered his position with respect to the star, he will not have recovered that with respect to the sun, any more than the minute-hand at one o'clock will have recovered the position with respect to the hour-hand which it had at twelve, and for a similar reason. The hour-hand has moved on, the sun has moved on; the fixed, and neither more nor less than one revolution of the earth will suffice for this purpose. Hence the apparent solar day is somewhat longer than the sidereal day: and if we suppose the apparent solar day to be divided into twenty-four apparent solar hours, &c., the apparent solar hour will always be somewhat longer than the sidereal hour, &c.

But we cannot settle how much longer an apparent solar day is than a sidereal day, without asking of what day we mean to speak. For the sun moves sometimes quicker, sometimes slower; that is, the earth is sometimes a longer, sometimes a shorter time, in making up for the advance of the sun.

To put this under the eye, we have constructed the following diagram:

The proportional rates at which the sun moves in right ascension (presently to be explained) on different days, are represented by the upright lines. Thus, on the 1st of January he is moving more rapidly than on the 1st of February, in the proportion of the line A B to C D; and so on. But the apparent motion in right ascension needs explanation.

If, in the last diagram but one, we stick a pin into the paper at L and S, L and S might move up and down that pin without altering their respective days; the spectator would call them both on his meridian when he is at a, but would imagine them to come on the meridian at different parts of it. To alter the day, S must make some motion round the paper. Now suppose the pin to be carried round the paper, always upright, and S to move up and down the pin while the latter moves round. Also conceive the pin to be extended underneath the paper, as in the following diagram:

Let the spectator be carried round an axis at E, while S moves on the pin, and the pin itself is carried round S P P, &c., so that S describes the curve S S S, &c. Let S be carried nearly uniformly along S S S, which is the case of the sun's apparent motion, for it is not the small irregularity of the sun's motion which is the most effective cause of the difference between one apparent day and another. That day, as we have described it, dates from the time when the spectator is directly between his own axis and the pin on which S is, which represents the sun on the meridian; and while, if the pin remained steady, the day would be a sidereal day, it becomes a longer day in consequence of the motion of the pin, as before described. Now if the sun moves uniformly along S S S, &c., the bottom of the pin cannot move uniformly along S P P, because S is at some times moving more obliquely than at others. Thus, at the two equinoxes, that is, at the two points where S S, &c., cuts P P, a great part of the motion of S is caused by the rise or fall upon the pin, and the rest by the motion of the pin. But at the two solstices, or highest and lowest points of S S, the motion up or down the pin is inconceivable, and nearly the whole change of place of S is caused by the latter. The motion of the pin (the sun's motion in right ascension) is least about the equinoxes and greatest about the solstices, as will appear on looking at the last diagram but one.

The irregular motion of the sun sometimes aids, and sometimes counteracts, as far as it goes, the effect of the obliquity of the ecliptic S S S, &c., making the above not exactly, but only nearly true.

The apparent solar day is therefore different for different days. It is the interval between two successive appearances of the sun on the meridian, and, divided into twenty-four hours, is shown as long as the sun shines, on a sun-dial. Now, clocks are constructed to go uniformly, and therefore cannot show the difference between one apparent day and another. But if a clock be made to go through twenty-four hours in an average day, and is set to noon with the dial on any particular day, it will be at noon with the dial again on the same day next year, and in the interval will have been sometimes before and sometimes behind the dial. The clock will keep time with an imaginary sun, which moves, not in the ecliptic S S S, but in the equator S P P; and which also moves uniformly with the average motion in right ascension of the real sun. This imaginary sun, always gaining the same every day on the stars, will give a mean solar day, always of the same length, and a little longer than the sidereal day. We may now consider the rotation of the earth round its axis as analogous to that of the minute-hand, the rotation of the imaginary sun to that of the hour-hand, and the fixed stars to the hours and minutes marked on the plate, as follows:

**Phenomena of the Watch.**

The minute-hand moves from XII to XII again in one hour. All hours are of the same length.

**Phenomena of the Imaginary Sun, &c.**

A point on the earth revolves from under the imaginary sun to under the imaginary sun again in one sidereal day. All sidereal days are of the same length.

A point on the earth revolves from hour-hand to hour-hand, in a period without a name.
PHENOMENA OF THE WATCH.

All these periods are of the same length, and longer than an hour.

The complete rotation of the hour-hand takes place in twelve hours exactly, containing eleven periods as above. One hour is cut up in making twelve hours into these periods. Hence a period extends an hour by the eleventh part of an hour, or $\frac{11}{12}$ minutes.

Hence the reason why the stars come on the meridian by about four minutes earlier every day, the reckoning being by the sun. We now return to the mean and real sun. It appears that the time denoted by these two varies on two accounts; first, because the real sun moves obliquely to the equator, so that the point directly under it does not move uniformly along the equator, even though the real sun should move uniformly in the ecliptic; secondly, because the real sun does not move uniformly even in the ecliptic. These two effects sometimes counterbalance each other as far as they go, sometimes exactly counterbalance, and sometimes aid each other. Their united effect is to make the clock and dial tell a different story every day in the year, four only excepted. The difference between the times of twelve at noon as shown by the two, is called the equation of time, and may be represented as follows:

On the horizontal line days are measured, perpendicular to which is a scale representing minutes. The curve is so drawn that the perpendicular distance from the point indicating a day to the curve, shall always represent the number of minutes by which the dial is faster or slower than the clock. Thus, on the 1st of January the dial is about three minutes too slow, or the noon of apparent time is about three minutes after the noon of mean time. On the 1st of May the dial is about three minutes too fast, or the noon of apparent time is three minutes before that of mean time.

In most almanacs, a few years ago, all the phenomena were given in apparent time, which though useful enough at sea, where the real sun must be the guide, was not so convenient for landmen, who are much better acquainted with the representative of the imaginary sun known by the name of a clock or watch. Thus, those who consult the 'British Almanac,' or any other of those published by the Society for the Diffusion of Useful Knowledge, and those who use 'Moore's Almanac,' are reckoning in two different sorts of time, the first giving clock-time, the second dial-time. Thus, according to the 'British Almanac,' on the 1st of November the sun rises at fifty-four minutes after six; according to Moore, it rises at eleven minutes after seven; or, the time of 'Moore's Almanac' is seventeen minutes fast. But both almanacs agree in stating that on the 1st of November the dial is sixteen minutes fifteen seconds fast. The neglect of odd seconds in the computation accounts for the rest of the difference.

We can imagine various cases arising in which this discrepancy between the almanacs may cause confusion. For instance, a master who uses the 'British Almanac' makes an agreement with his workmen to be at their posts by sunrise. The 1st of November is (which may happen) a misty morning, and the workmen look to their almanacs for the time of sunrise. Knowing and caring nothing about the equation of time, those who use 'Moore's Almanac' think they are very punctual if they are at their work by five minutes after seven, since the almanac says eleven minutes after seven. 'tis the master counts upon their being there at fifty minutes after six at least. Those who use the 'British Almanac,' or any other which uses mean time, are always right by the clock: and in the courts of law in England it is the clock which is always appealed to in questions of time. Those who use 'Moore's Almanac,' or any other which has apparent time, must proceed as follows. Look at the equation of time (p. 31), and opposite to the day in question are minutes and seconds, either with fa. (fast) or slo. (slow) above them. Add to the almanac time for fa, take away from the almanac time for slo. (Take, the nearest day, as every odd day is given, and the nearest minute, not minding the seconds.) Thus, to find the time of sun-rise on the 12th of December—'Moore's Almanac' says, eight hours and five minutes, or five minutes after eight. In the equation of time we find for the 11th, six minutes forty-three seconds; for the 13th, five minutes fourteen seconds, both slo. Take six minutes for the 12th. Then the sun rises at six minutes before five minutes after eight, that is at fifty-nine minutes after seven, which is the time marked in the 'British Almanac.'

The time of sun-rise is not a very precise astronomical phenomenon. It means the time of sun-rise where the horizon is quite level, as at sea; but independently of variations in the refraction, a spectator situated in a valley will see the sun rise later, and one on an eminence sooner, than one where the horizon is on the level of his eye. This is evident in the following diagram:

The lines, in which the spectators at A, B, and C, will first see the sun, are drawn; and it is evident that the time will vary with the ground they are upon.

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NOTWITHSTANDING the variety and abundance of the productions which nature offers for our use in this country, and which we have with so much enterprize and skill made subservient to our comfort and wealth, they would have been of comparatively little utility to us at the present time, if we had been deprived of that one by which alone we obtain from others their most valuable properties. Without coal, in what manner could we now carry on our vast operations in every department of industry? In what way could we employ hundreds and thousands of our large population in fashioning those implements which so effectively aid us in extending our domain over the natural world? It is true that this mineral was not extensively used at a period when our manufactories were not altogether unimportant, although of very trifling extent when compared with the enlarged scale on which they are at present conducted; but, in those times, the woods which were spread over the country had not yielded to the encroachments of an increasing population; and as long as they existed, the fuel which they furnished was obtained at a cheaper rate than coal, which could only be extracted by the union of considerable capital and skill. In the mention which early writers make of our iron-works, fears are generally expressed respecting the decay into which it was imagined they must gradually fall by the disappearance of the native forests. These old smelting-works necessarily existed on a confined scale. It is not a hundred years since the iron ore in the Staffordshire mining district was carried, by a train of pack-horses from the pits, to be smelted. The employment of coal in the process of smelting was then unknown; and its successful application was a great relief to those whose fears had led them to regard the native iron-trade as doomed to extinction. While the forests flourished, it would have been altogether unprofitable to resort to an expensive mode of procuring fuel from the bowels of the earth, even if there had existed a sufficient amount of mechanical skill to have done so in any extensive manner. The moment when, by agricultural improvements and the successive clearing of the land, wood became scarce, the question was soon decided as to the advantage of making the necessary exertion to obtain coal.

It is not clear at what precise period this necessity sprung up. It is argued that the Romans continued unacquainted, if not with the existence of coal, at least with its useful properties, during the four centuries in which they held this country in their possession; and this opinion is maintained on the ground that no word is found for coal in the Latin language, although carbo, for charcoal, is not unfrequently met with. The use of coal was, however, well known to our Saxon ancestors, although its consumption was limited by the
causes to which we have alluded; and it is not improbable that at the same period several of the northern nations were equally familiar with its properties. Several terms in use among miners in England, Germany, and other countries of the north, have a striking resemblance to each other. The French word for coal is houille, which is very similar to the Saxon word hulta, among miners in the north of England. The Dutch name is charbon de terre, or charcoal of the earth. The name by which coal is designated in Germany is steinkohlen, or stone-coal; by the Dutch it is called steenkoolen; by the Danes stenkuld; and by the Swedes stenkold. The Italians and Spaniards, having no familiar term for coal, employ a modification of its scientific name, carbo fossilis.

The progress which England made in the first 200 years after the Conquest prepared the way for the introduction of coal as an article of commerce. In the year 1239 Henry III. granted a charter for digging coal. Forty years afterwards Newcastle was celebrated for its coal-trade. In 1306 its use was prohibited in London, on account of the supposed evil which it had in rendering the air impure and unhealthy. But this prejudice was either soon dissipated, or the cheapness and excellence of the material, as an article of fuel, became so apparent that the prohibition was rescinded, and every coal产地 was allowed to export. In 1235 coal was exported to France. In 1379 a duty of 6d. per ton was charged on ships coming to London from Newcastle with coals. At this period, also, a duty was levied on such ships by the Corporation of New Castle, on their clearing out at that port. In 1384 Richard II., out of regard and reverence to the tutelary saint of Durham, exempted the coal-owners of the Wear from the above corporation duty. Pope Pius II. visited this island previous to his elevation to the papal chair, during the former part of the fifteenth century; and he remarked that the poor of Scotland received for alms pieces of stone which they burned instead of wood. The earliest mention of coal-mines being worked in Scotland occurs in a charter granted in 1291 to the monks of Dunfermline, conferring upon them the privilege of digging for coal in the neighbourhood of their monastery. In the sixteenth century "sea-coal" was extensively applied for. As the industry improved (as there were inland collieries worked at the time), that the state of the roads and means of communication were so imperfect, that the quantity which they furnished was trifling, and that the market depended almost entirely on the supply of sea-borne coals.

Two hundred and sixty years ago, Camden, who travelled in various parts of England, previous to the publication of his 'Britannia,' said in that work, when speaking of the now active district of North Staffordshire,—"The north part of Staffordshire hath coals digged out of the earth, and mines of iron. But whether more for their commodity or hinderance I leave others to determine who doe or shall better understand it." It will be curious to contrast the commercial importance of our mines at the present day with their state in the sixteenth century; and when we arrive at this part of the subject, the opinion of Camden may be referred to with some interest.

England is by far the richest country in the world as it respects her coal-mines. They have been the source of greater wealth to her than ever the gold mines of Peru were to Spain, because they are a means whereby man obtains a direct increase of power over materials which minister to his comfort. If he knows not how to use these materials, he remains in a state of comparative barbarism; or if he possesses that imperfect skill which only enables him to effect this in an inefficient and expensive manner, he cannot, under certain circumstances, rise above a state of comparative poverty.

The different coal districts of England and Wales are arranged in the following manner by Messrs. Coyle and Phillips:

3. Western Coal district, divided into, 1. North Western or North Wales; 2. Isle of Anglesea; 2. Flintshire.

Considerable beds of coal exist in Scotland; and it has been found in seventeen counties in Ireland. The largest coal field on the continent is in Belgium; there are smaller ones in several parts of Germany. Coal measures are also found in France, Spain, and Peru; and more or less found in a line which sweeps round the globe from the north-east to the south-west. It is impossible to regard this extensive provision of so valuable a substance, which in some places has been in a course of consumption for some centuries, and in others yet offers almost inexhaustible stores, without a strong desire to know something of the history of its formation. For this knowledge we must refer to the 'Penny Magazine,' Nos. 100, 102, 105, 108, 109, 110, and 111, for its coal-trade. In 1306 its use was prohibited in England on account of the supposed effect which it had on rendering the air impure and unwholesome. But has been found in seventeen counties in Ireland. The largest coal field on the continent is in Belgium; there are smaller ones in several parts of Germany. Coal measures are also found in France, Spain, and Peru; and more or less found in a line which sweeps round the globe from the north-east to the south-west. It is impossible to regard this extensive provision of so valuable a substance, which in some places has been in a course of consumption for some centuries, and in others yet offers almost inexhaustible stores, without a strong desire to know something of the history of its formation. For this knowledge we must refer to the 'Penny Magazine,' Nos. 100, 102, 105, 108, 109, 110, and 111.
may fill him with somewhat gloomy feelings. When the first impressions of the traveller have subsided, and he looks more narrowly at surrounding objects, he cannot fail to be strongly impressed with the vastness and extent of the commercial enterprise of the district. On every side rise extensive buildings, and in the centre of each, one more lofty than the rest contains that mighty pile, or collection of buildings, which seems more than one-fourth of this sphere of human activity. These buildings are the works connected with the collieries. In the neighbourhood of the northern coal-fields the landscape is studded with a number of mansions, situated in the midst of extensive grounds, in which the coal-owners and capitalists whose property is connected with the collieries reside. In the present paper we shall confine our description to the northern collieries: those of the central coal district will be more properly connected with some future account of our iron-works.

Many years ago, before the science of geology had assumed so positive a character, much capital was, almost literally speaking, sunk in the attempt to discover coal. It has since been found that many of the indications which were then looked upon as a proof of its existence beneath the surface were often geologically erroneous, and necessarily led to disappointment. As the colliery village springs up on safer foundations, the greater part of the collieries are leased for a term of years. As property of this description cannot be insured from the risks either of fire or water, to which they are liable, and as large properties are required to ensure all the operations connected with the works being at once perfect and economical, the combination of a number of men of capital is doubtless an advantageous arrangement.

In the northern coal district are not less peculiar than the other characteristic objects which strike the eye. Occasionally bands of “pitmen,” as black as sweeps, each man carrying a safety-lamp suspended at his belt, are seen traversing the dingy lanes on their return from an eight-hours’ shift of labour. The physiognomy of the miners is not of course of a very intellectual cast; but from the nature of their occupation, and from living, as they do, in a great measure apart from other classes of the community, their peculiarities are strongly marked. These have been transmitted from one generation to another, owing to the unions which they form being almost exclusively confined to families whose pursuit is similar to their own, and consist of high cheek bones, great width of the middle part of the face, and an angular form of its lowest portion. In these respects they are quite a distinct race from the neighbouring peasantry. The colliers who work in mines where the seam of coal is of sufficient thickness to permit the free use of muscular action, are erect and of good figure; while in others where the seam is of smaller dimensions, the miners have the spine permanently curved, and the legs frequently bowed. Their complexion, when it can be seen in its own hue, is generally sallow and unhealthy. Owing to the unusual light by which they pursue their occupations, the eyelids often become swollen, and the eyes assume a diminutive appearance. The strong light of day occasions them to experience a somewhat painful sensation. The dress of the colliers is necessarily characteristic. Their working clothes consist of a tunic or short frock, and trousers of coarse flannel. Their holiday clothes are generally of velvet, decorated with a profusion of shining metal buttons.

In the neighbourhood of an extensive coal-work in the north, there is usually a village exclusively inhabited by the pitmen and other persons connected with the colliery. These places have a singularly picturesque appearance. The houses consist each of one room, with a wash-house behind, and a chamber over the whole, access being obtained to the latter by means of a ladder. About two hundred such abodes, ranged at irregular intervals alongside the road, constitute one of these hamlets. Heaps of ashes and other refuse are suffered to accumulate before the front and back-doors; and upon these, during fine weather, a number of robust and half-clad children, of an age too young to be employed at the works, are too often suffered to lie away the day. In front of every fifth or sixth house stands a bake-house for common use, which contains a large brick-built oven. Early in the morning the wife and daughters of a pitman may be seen assembled there with sandy old gossips, to bake a week’s bread for the family; and to a person who has no previous idea of the sharpness and extent of a pitman’s appetite, the size of the loaves may perhaps be a matter of some astonishment. Before the front window of each tenement stands a pile of small coal, which is replenished every week by a gratuitous cart-load from the pit. The fires are consequently large; and to the rapid ventilation thereby produced the general good health of the household is to be attributed, in spite of their too frequent disregard of habits of cleanliness.

If a new colliery is opened in a part of the country where such a work had not previously existed, the colliery village springs up in necessary connexion with it, and a previously dreary and uninhabited district becomes full of life and activity. South Hetton may be mentioned as an example of this rapid growth of a community. Five years ago it was a bare spot of ground, from which the nearest habitation was two miles distant. Now it is covered with buildings, and contains a population of 2000 persons, who are exclusively connected with the coal-works. As an enumeration of their various occupations, and the number of persons connected with each, affords no bad idea of the distribution of labour which this branch of industry calls forth, we have procured an accurate census of the male working population of South Hetton, which we subjoin——

**OFFICERS.**

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>1</td>
</tr>
<tr>
<td>Viewer</td>
<td>1</td>
</tr>
<tr>
<td>First Engineer</td>
<td>1</td>
</tr>
<tr>
<td>Second Engineer</td>
<td>1</td>
</tr>
<tr>
<td>Surgeon</td>
<td>1</td>
</tr>
<tr>
<td>Clerks</td>
<td>4</td>
</tr>
</tbody>
</table>

**WORKMEN ABOVE PIT.**

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joiners and Sawyers (These men keep the works in repair)</td>
<td>13</td>
</tr>
<tr>
<td>Engine-Wrights (Repair and make the machinery)</td>
<td>7</td>
</tr>
<tr>
<td>Engine-Men (Keep the machinery in action)</td>
<td>8</td>
</tr>
<tr>
<td>Firemen (Attend the boilers)</td>
<td>9</td>
</tr>
<tr>
<td>Smiths (Prepare the iron-work in the rough)</td>
<td>12</td>
</tr>
<tr>
<td>Masons</td>
<td>8</td>
</tr>
<tr>
<td>Labourers to do</td>
<td>6</td>
</tr>
<tr>
<td>Cartmen</td>
<td>11</td>
</tr>
<tr>
<td>Hornmen</td>
<td>9</td>
</tr>
<tr>
<td>Saddler</td>
<td>1</td>
</tr>
<tr>
<td>Waggon-way-Wrights (Lay down and mend the rails on the road, &amp;c.)</td>
<td>6</td>
</tr>
<tr>
<td>Waggon-Rulers (Conductors of the waggon, of which there is one to each train.)</td>
<td>11</td>
</tr>
<tr>
<td>Staniers (Attend at the staith to empty the waggon of their coals into the ship.)</td>
<td>4</td>
</tr>
<tr>
<td>Bank-men, who deliver the coals</td>
<td>8</td>
</tr>
<tr>
<td>Waggon-Fillers and Screeners</td>
<td>12</td>
</tr>
<tr>
<td>Wailers (Boys who pick out the stones and otherwise clean the coal)</td>
<td>4</td>
</tr>
<tr>
<td>Carriers</td>
<td>9</td>
</tr>
<tr>
<td>Bankers</td>
<td>4</td>
</tr>
<tr>
<td>Attendants on Railway, including Engineers and Furnace-men</td>
<td>8</td>
</tr>
<tr>
<td>Trimmers (Men who fill up the holds of vessels with the coal discharged into them from the staiths.)</td>
<td>8</td>
</tr>
<tr>
<td>Boys for sundry purposes</td>
<td>39</td>
</tr>
</tbody>
</table>

**Carry over 210**
and not unfrequently a written or painted notice announces that the good housewife prepares her waters, or exercises her industry in some other way for the advantage of her family. In the interior of the cottage may be seen a good and decent four-post bedstead, an eight-day clock, a venerable oak-table, and perhaps a few books. In melancholy contrast with such gratifying indications, a little further on stands a cottage destitute of the commonest household conveniences, and marked by a dirty, comfortless, and neglected appearance. In the middle of the floor, in rainy weather, it is not uncommon to see perhaps a dozen children playing with what they call a “cuddy,” or, in other words, an ass, introduced in this unsuitable place, with a careless disregard to comfort and propriety. The only inhabitants of these villages, besides the workpeople and colliery agents, are, the butcher, the general

In passing through the northern colliery-villages, it is curious to remark how strikingly the character of each family is indicated by the appearance of their respective dwellings. The residence of a steady and industrious workman is distinguished by a neatly white-washed door-stead; the windows are furnished with curtains, and contain a few choice plants in bright red pots;
chandler, and the publican. Of butchers and chandlers there is seldom more than one each, but of publicans there are generally six or seven. To the practice of indulging at the public-houses is to be attributed the degradation of some of the pitmen, and the misery of their families.

As the influence of the great coal owners and lessees can be exercised in so direct a manner on the large population whose industry is sustained by means of their capital, it is to be regretted that it is not more generally employed in calling forth an improved state of moral feeling among them, and exciting some relish for pleasures less debasing than those in which they are now too much habituated to indulge. The collier's cottage rights, under due regulations, be provided with a garden; and a love for the simple pleasures which it would afford might perhaps be more easily fostered than any other.

The terms by which the colliers are connected with their employers, are usually an engagement for twelve months at a fixed sum, generally 14s. or 15s. a-week. This they receive whether employed or not; and it does not unfrequently happen that they are in the receipt of it for many weeks, when it is not possible to carry on the works, owing to the drowning of the pit, or the occurrence of some other unexpected impediment. Besides this, they are paid by the piece. The employers provide a house, and supply the family with coal gratuitously, or in some cases the small sum of 3d. per week is paid for these advantages. The bond, containing the terms of the agreement, stipulates all the conditions which the parties mutually enter. A bounty or increase of wages is commonly given to the workmen to induce them to break the coal as little as possible. When work is abundant, and there is not too great a number of hands, the best workmen have been known to obtain, at a particular description of work, from 10s. to 12s. a-day. Their earnings are of course much lower on an average, and may be taken at from 15s. to 20s. per week, from which, it should be recollected, there is no outgoing for rent or fuel. At times, when work has been less abundant, and the supply of hands unusually great, wages have sometimes been as low as 8s. or 10s. a-week. Some decrease has taken place in the average amount of wages during the last twenty years; but the reduction is not so great as that which has taken place in the cost of all the first necessaries of life. The men generally work from eight to ten hours a day, and they are in the mine at a very early hour in the morning. In extensive works there are different sets or shifts of men, so that the operations are carried on unceasingly. Boys are found useful at a very early age,—so early as seven,—and are employed in opening trap-doors, driving horses, propelling trucks, &c.

It is gratifying to remark that, in spite of the obstacles which may operate against the formation of provident habits among the colliers, the deposits in the Savings' Banks of the two northern counties, in which the coal-trade is the most active and predominant branch of industry, are such as not only prove the existence of considerable prosperity, but indicate a wider prevalence of economy and foresight than we could have anticipated.

Having thus endeavoured to present a picture of the general condition and economy of a colliery village, we shall now attempt to explain the operations connected with the working of a colliery. The coal-works of Colonel Breddy, at South Hetton, near Durham, are perhaps better calculated than any other to display all the operations of a colliery in the highest degree of perfection, owing to their very recent establishment. The machinery is all new, and of the most improved and scientific construction, and the whole of the arrangements are on an extensive scale. The various operations may be divided into five series:

1. Winning the Coal.—The first thing to be done in establishing a colliery is to survey the ground which it is proposed to open, which is done by an individual called a viewer, who ought to possess not only scientific attainments, but extensive practical knowledge, as his task is one of great importance and responsibility. Not less than 50,000l. have been sometimes expended to no purpose in endeavouring to procure coal; and the useless consumption of so much capital has been frequently occasioned by the erroneous judgment of the viewer. Cases of this description are, however, now of rare occurrence. The expense of sinking a pit varies from 10,000l. to 150,000l.

The average expense incurred in the operation, including the steam-engine and its apparatus, is about 30,000l. The site being determined upon, the sinking of the shaft is commenced, and a steam-engine is erected on the spot to work a set of pumps for drawing off the water which the "sinkers" encounter in their descent, and also to raise to the surface the excavated earth and other materials. While the sinking is proceeding, every part of the process is carefully noted in a journal kept for the purpose. The volume of water which is met with is accurately measured in vessels containing fifty or sixty gallons, and the time which each takes in filling observed. Means are then used to stop the apertures by which the pit is

Shaft.
inundated, and this is done by what is called cribbing or tubbing. The shaft is casued with strong boarding or brick-work, which is progressively done as the work advances. In the Bettine 246 yards 11 feet 2 inches is 1080 feet deep, the "low main-coal," which is the best and thickest in the field, lying at this depth. The labour of sinking such a shaft is immense, and the danger of suffocation imminent, from the irrotation of water, the disengagement of pernicious gases, or the falling in of materials. The inflammable air or gases, found in the strata, would, if allowed to accumulate, affect the safety of all engaged in the works. The proper ventilation of the mine is therefore a point of immense importance, and rarefaction is usually produced by means of a fire constantly kept up for the purpose, which creates a powerful draught from below. The deepest pit in the northern coal-field, and probably in England, descends to a depth of 360 yards. The average depth is somewhat under 150 yards. In some cases the workmen carry on their labours beneath the bed of the sea. Commercial considerations prevent coal-pits being carried to a lower depth, as the impediments which are then met with cannot be overcome by any ordinary device, or within the limits of capital. The shallowest of the northern pits is forty-six yards deep, but it only furnishes an inferior description of coal. The strata successively passed through by the sinkers affords matter of curious speculation to the geologist. We have been favoured by Mr. Buddle, one of the most experienced coal-viewers in England, with a very accurate statement of the series of strata met with in sinking the Epplenton Jane Pit, from which the following abstract has been prepared:—

After passing through four different strata, consisting of the alluvial cover, sand and gravel, limestone, and yellow sand, water was reached which produced 360 gallons an hour. In the next eight yards, seven other strata occurred, and the influx of water now increased to about 4200 gallons an hour. At sixteen yards ten inches below the surface, the first coal-measure was met with. The whole of the water was stopped by cribbing. The progress of the work, from the commencement to its termination, was as follows:—12 strata to the first coal-measure; 10 strata to the second; 6 strata to the third; 5 strata to the fourth; 6 strata to the fifth; 7 strata to the sixth; 7 strata to the seventh; 4 strata to the eighth; 5 strata to the ninth, or "three-quarter coal-seam," with about 20 inches of coarse top coal and coarse coal at bottom; 6 strata to the tenth coal-measure; 2 strata to the eleventh; 3 strata to the twelfth; 10 strata to the thirteenth, 'coal high main,' at a depth of 296 yards; a stratum of "blue metal, very mild," was found below this, when the "low main of coal" was reached, containing 5 feet 6 inches of good coal, 3 inches black, 20 inches of coarse top coal, and coarse coal at bottom; and the industry of the pit to stand.

While the shaft is sinking, the necessary buildings are in course of erection, and the machinery and apparatus for "winning the coal" are got into a state of readiness. A platform is laid down round the mouth of the pit, and twelve feet above the level of the ground, called a "bank," or "bank-tun," upon which the coal is landed. A more powerful and complete winding apparatus is affixed to two or more steam-engines for raising the coal; larger pumps are added to the engine for drawing off the water; superfluous boilers are erected for the generation of more copious supplies of steam; ventilating fires and draught-doors are prepared for exhausting the foul air of the pit, and supplying it with a current of fresh air; railroads for the conveyance of the coal to the nearest harbour are laid down; houses are built for the accommodation of the work-people; and when all these subordinate arrangements are finished, and all the ingenious combinations to accomplish the great object in view are brought into a state of efficient order under the superintendence of the principal agent and engineers, a day is fixed for bringing the first coal to bank.

The whole "country side" is worked on the occasion of the opening of the pit, the winning of the coal, and the starting of the first train of waggons, is celebrated with the most lively joy.

2. Pumping and Winding.—The pumping of water from coal-mines was at one period performed by men or horses. This mode was of course only practised in an early era of mining operations, and was necessarily so inefficient, that both the depth of the pit, and the extent to which it could be worked, were in consequence very limited. The hydraulic engine, or water-wheel, with cranks and vibrating beams, appears to have been introduced in colliery works in the year 1680, and into Scotland about the year 1712. About 100 years ago this mode was superseded by Newcomen's steam-engine; but even that was not of much value in pits which were as deep as 120 yards. The pumping is now effected in pits of much greater depth by the powerful and splendid engines of the present day. At South Hetton, at the back of the shaft, a noble engine-house is erected of massive stone, which contains an engine of 300-horse power. This engine is the most powerful one in the district, and its magnificent action may be seen to great advantage from three galleries which surround the interior of the engine-house. The sole business of this engine is to pump up the constantly accumulating waters of the pit, which it discharges into an adjacent reservoir from which the boilers are supplied. The constant and steady exertion of its power is as necessary as the beating of the heart to the continuation of animal life. Any impediment to its operations would be attended with disastrous consequences, and on it goes, day and night, from one year's end to another, until accident, or the wear and tear of some of its parts, bring both itself and the industry of the pit to a stand.

Adjoining the above engine, in buildings erected for the purpose, are three winding engines of ninety-horse power each, for drawing up or bringing to bank the tubs, buckets, or corves containing coal, and for enabling the workmen to descend the shaft. This is accomplished by two sets of ropes, each weighing thirty-eight cwt., which are coiled or uncoiled from two large drum wheels, as the ascending or descending motion is required. The day is chosen as the most convenient time for bringing up coal, and the night for sending down provender for the horses and the various stores.

The engine which keeps the pumps in action is furnished with four enormous boilers, and the smaller ones with two each, of proportionate dimensions. Two supernumerary boilers are kept, in order to be ready, should those in use sustain any injury. The fact that the power of 570 horses is constantly exerted in effecting the two simple operations of pumping, and drawing up the coal, affords a striking illustration of the magnitude of the operations connected with first-rate colliery works.

3. Mining.—We must beg the reader to imagine himself in a gloomy excavation or subterranean passage about eight feet high and fourteen feet wide. This is one of the "ways" of a coal-pit, the bottom of which
Preparing to blast.

Gathering the Coal.

is called by the miners the 'thill, and the top the roof. Here and there along the walls of this passage a safety-lamp is suspended; and when the intense darkness of the place is occasionally illuminated by the slight ignition of the fire-damp, the whole scene presents an extraordinary appearance. The generation of inflammable air is frequently so great from the solid coal that the miners dare not proceed onward above a few feet from the current of fresh air. The light afforded by the safety-lamps seems to possess an unusual illuminating power; but though the visitor can see perfectly well, he still feels encompassed by pitchy and midnight darkness. In these galleries the miners or hewers, as they are called, carry on their work in pairs, each taking about twelve feet of the side wall to excavate, and leaving between each such space an interval of the same width on which the roof may securely rest. The first process is to form what is denominated a 'bord,' which is done by digging out the coal from the bottom with a pick, as is represented in the cut, to a depth of three or four feet. The 'bord' being completed has next to be formed into a 'judd': this is effected by picking away the sides, as had previously been done with the thill; and when finished, it forms a projecting mass of coal measuring on its surface about eleven feet by six.

Into this judd a deep sloping hole is then bored, which is filled with gunpowder and fired by a train, when the judd is shattered into large fragments and scattered over the floor. In this way much labour is saved, and a larger and more profitable sized coal is secured for the market.

The coal seams of Yorkshire average from one and a half to nine feet in thickness, while in the more northern coal-fields they run from two and a half to seven feet. Near Dudley, in Staffordshire, is a seam of coal known by the name of the ten-yard coal, from its extraordinary thickness. This remarkable bed is about seven miles long and four broad. Seams of coal have been worked as thin as eighteen inches, and instances have occurred of seams being wrought only twelve inches in thickness. Young men and boys are employed under such circumstances. The differences of thickness sometimes admit the erect posture, and sometimes oblige the men to sit, recline, or bend the body to an extreme degree. They often work almost naked, either for the convenience of motion, or from the effect of the atmosphere, which is always at a high temperature in coal-pits.

On the coal being detached in the manner above described, a corve, tub, or basket, is then brought to the spot on a four-wheeled train, by a man and boy, technically called a "dragsman and foal," and when filled with the scattered fragments, it is dragged to the bottom of the shaft, hooked to the end of the rope, and drawn to the top in about three minutes. When the corves are made of iron they are called tubs, and the labours of the dragsman and his assistant are then performed by horses. When the corve arrives at the mouth of the pit it is received by the banksman, by whom it is landed. It is his duty to see that it is properly filled, and that the coal-owner gets his proper measure from the pitmen. He also keeps an account of the quantity drawn up, for which service he is paid three farthings per London chaldron.

Plot, in his 'History of Staffordshire,' written about 150 years ago, says that about Dudley, Wednesbury, and Sedgley, or within a circuit of ten miles, "there are usually twelve or fifteen collieries in work, and as many out of work. Some of these afford 2000 tons of coal yearly; others 2000, 4000, or 5000 tons." This was in the very centre of the richest part of the Staffordshire coal-field, which now ranks the fourth in the kingdom for the extent of its supplies; and at that time coal was not consumed for domestic purposes only, but likewise in many manufactures. The amount raised annually was probably about 60,000 tons. About one-half the collieries were out of work, owing most likely to the impediments which occurred in them being of a nature which the mechanical powers of the machinery then employed could not overcome. In the same district alluded to by Plot, there is now used, not reckoning that employed in the general manufactures which are so extensively carried on in that quarter, and excluding the quantity consumed for domestic purposes, 1,725,000 tons of coal annually, in rendering iron fit for the processes which it has to pass through in its conversion into articles of utility. For this one purpose alone the consumption is now thirty times greater than it was in the year 1680, when applied to a multiplicity of uses. In eighteen hours the South Hetton pit sometimes sends to bank as great a quantity of coal as would fill thirty of the Thames barges, or above 600 tons, while in Plot's day, the whole of the collieries situated in a most productive district did not in the same time supply one-third of this quantity.

We need not wonder at the striking contrast here
displayed; when it is considered that so much of the work of a colliery was then carried on by human labour. We have seen that, previous to the introduction of Newcomen's steam-engine, there existed no means of drawing out the water from pits above forty or fifty yards deep; but that on its introduction this was accomplished in those which were twice that depth, and thus a greater quantity of coal was brought within reach, and rendered serviceable whenever it might be required; and that now pits above 300 yards deep are brought into a proper state for working by means of further improvements in the application of the power of steam. If the calling of a collier is now considered repulsive by many, it was much more so a century or two ago, when the most slavish labour of the mines was performed by men, and even women, instead of by steam-engines. The lowest part of some of the earliest mines was reached by inclined planes, along which women carried the coal from the depths of the pit to the surface in baskets which they bore on their backs. The women employed in this degrading occupation were termed bearers, and each carried a weight of from one to two cwts.; sometimes they carried three cwts. Even after the period when the coals were drawn up a perpendicular shaft by machinery, women were employed in carrying the coal from distant parts of the pit to the bottom of the shaft; and in some collieries 60,000 tons have annually been carried in this way. It is only within the last half-century that women have been relieved from such unsuitable employment.

4. Screening.—When the corve is received by the banksman, it is conveyed, either by a train or a new suspensory apparatus, to one of a series of trap-doors in the bank-floor, through which the coal is teemed, and in its descent rolls down a long sloping sieve or screen to a stage below. The large and small coal is thus separated, and the latter is collected for inferior purposes. All the large coal for the London market is so carefully sifted that, on leaving the pit, it is perfectly free from dust and small particles. In its subsequent progress to the consumer the breakage which occurs is of course inevitable.

All coal which passes over a sieve whose meshes are five-eighths of an inch asunder without falling through, is called “Wallsend;” and the same coal teemed over a three-eighth screen is vended as “second coal,” and sold to the shipowner at about 4s. per Newcastle chaldron less than the best Wallsend. A third sort, called “nuts,” is obtained from that which had fallen through the screen in procuring the Wallsend and seconds; and a fourth termed the “dead small,” from that which falls through in the preparation of the nuts.

The screened coal is collected on a wooden stage, and shovelled into the waggons which are brought underneath, and which are each made to contain exactly fifty-three hundred weight. While this is doing, several men and boys pick out any stones, slate, or other refuse with which the coal may happen to be intermixed. The best coal for domestic consumption is the worst for a blacksmith or a founder. It sometimes happens that the produce of a pit containing inferior coal is selling in the market for a higher price than the best coal, in consequence of an increase in the demand of that required for manufacturing purposes.

In a subsequent Number we shall follow the further progress of the coal on its passage to the consumer, and enter into some particulars showing the commercial importance of the coal-trade.

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Norwich Cathedral, though not to be classed amongst the most beautiful or remarkable of our ancient ecclesiastical structures, yet has much to interest the curious and the lover of antiquity. It is still a noble pile; and although accident and violence have contributed nearly as much to its decay as the influence of time, and the crumbling and friable nature of the stone of which it was originally constructed has given it an appearance of extreme dilapidation, it possesses in its decay that air of solemn grandeur which is so peculiarly characteristic of our old cathedral edifices. "As an object of architectural antiquity," says Mr. Britton, "the cathedral church of Norwich is peculiarly interesting; for it comprises, in its different members, many curious specimens of the Norman style of design, and some forms and features of unique character. Compared with many other cathedrals, it is, however, small in size and meagre in embellishment. Its transepts are narrow; the aisles of the nave are small and low; the east end and north side, externally, in a dilapidated and ragged condition; and the vaulting of the building presents a ruinous appearance: the north side of the nave is obscured and darkened by a mass of trees in the bishop's garden; some houses are attached to and obscure the building at the south-west end; and at the east side of the south transept are other incongruous and unsightly appendages." Since Mr. Britton's work was published, in 1817, some improvements and renovations have been effected: but the evil (that of the friable nature of the stone) is a primary one. "Had our ancient architects," continues Mr. Britton, "studied chemistry, and the natural history of rocks, with as much care and zeal as they did church-architecture, they would have been more choice in the selection of stone, and we should not have so frequently caused to deplore the destructive effects of weather on their scientific and curious works."

It has been supposed that the original building was of wood, and that therefore the present structure is the second erection on the site of the cathedral. The original edifice was nearly destroyed about 200 years after its foundation: but the extreme antiquity of portions of the present building discredits the supposition of an entire destruction; and it is concluded that the original church was at least partly constructed of stone, and that a portion of it enters into the composition of the present cathedral.

In giving a brief account of this cathedral, we shall first extract a general description from Mr. Britton's valuable work "Cathedral Antiquities." "The whole church now consists of a nave, with two lateral aisles; a north and south transept, without aisles or columns; a choir, occupying part of the nave and area under the tower; an unoccupied space east of the choir; and a chancel, with side aisles, continued round the semicircular east end:—a chapel of two compartiments, and of very singular form, at the south-east angle of the church; and a corresponding chapel at the north-east end; a square chapel, branching from the south side of the choir; a small chapel, with semicircular east end, on the east side of the north transept; a tower and spire, rising from the intersection of the transept with the choir and nave; and a cloister, nearly perfect, on the south side of the church.

"In the semicircular or altar end of the church, as viewed from the choir, there is an union of solidity and elegance which cannot fail to delight the spectator; and his eyes are caught by a vast arcade below the tower with pleasure. The whole of the vaulting of the nave is finely executed; and the bosses, at the intersection of the ribs, contain a vast variety of curious sculpture. The nave presents an interesting series of semicircular arches, with corresponding piers, columns, and ornaments; and, although narrow and long in its proportions, it is impressive and grand. In the cloister, the antiquary and general observer will find much to excite curiosity and admiration. The lavatories, doorways, windows, and buttresses, with their clustered columns, are all entitled to critical examination, and will amply repay a diligent study by the gratification they must afford. The Erpingham Gatehouse, however, is the most elegant and most curious architectural object connected with the church: unique in form, origin, decoration, and condition, it commands the admiration of all classes of visitors. At the south-west corner of the close is another ancient gatehouse entitled to notice; and in the bishop's garden is a third old gateway, and an insulated fragment of the ancient palace."

The height of the spire is 315 feet;—only one spire in Britain, that of Salisbury, having a greater elevation. The two western towers, usually attached to our cathedrals, are wanting in this of Norwich. The extreme length of the building is 414 feet. The extent of the transept, or cross-aisles, from north to south, is 180 feet.

The foundation of Norwich Cathedral is attributed to Herbert de Lozinga, in 1096, in the tenth year of William II. The story runs that, having acquired the see of Thetford by purchase, he was cited to appear before the pope, to answer for this and other simoniacal practices. He was deprived of his bishopric, and commanded, by way of penance, to build certain churches and monasteries; and to this circumstance, it seems, Norwich is indebted, not merely for the origin of its cathedral, but for its advancement to the rank of a city, and for many of the numerous religious structures for which it has been celebrated from an early period. There must have been some arrangement or mutual understanding in this affair: for though Lozinga was deprived of the bishopric of Thetford, he had yet the power or liberty of transferring the see to Norwich, of which he was solemnly consecrated the first bishop by the Archbishop of York. The cathedral continued, as was the case with most of our ecclesiastical structures, to be added to by successive prelates, and at length became a structure of considerable magnitude.

In the year 1272, however, a furious insurrection of the people of Norwich occurred, in which the cathedral was so totally defaced as to have given rise to the conjecture, previously adverted to, that the original structure was of wood. The insurrection arose out of a long-pending quarrel between the monks and the people. In this tumult, many females took part, one of them having, with her own hand, set fire to the cathedral. The monks do not appear to have been altogether passive spectators of the scene; the prior headed them in the conflict with the people,—many lives were lost on both sides,—and the church, tower, and adjacent buildings were nearly destroyed. The monarch (Henry III.), on hearing of the insurrection, assembled the hierarchy at Eye, in Suffolk, and the citizens of Norwich were subjected to extreme severities. An interdict was laid on the town:—sentence of excommunication was passed upon all concerned in the riots;—thirty-six individuals were condemned to be hanged;—many of the brethren were burnt at the stake. The citizens were forced to pay a fine of 600 marks, and fines of 300 marks towards the re-erecting of the cathedral, besides 100 pounds in money for a pix, or cup of gold, weighing ten pounds. The arrogance of the monks, which appears to have been the exciting cause of the insurrection, escaped without censure, with the single exception of a short imprisonment endured by the prior.

The cathedral was restored in 1278; the king, queen, and many of the nobles contributing to its reerection, in addition to the sum exacted from the
Citizens. During the wars between Charles I. and the Parliament, the misjudging violence of the Puritans subjected the cathedral to considerable injury. The sculpture, carving, organ, and other parts, were either destroyed or defaced, and almost every brass in the church taken away. Soon after the Restoration, the loss of these things was partially supplied. In June, 1691, a fire broke out at the west end of the roof; when a great deal of the timber-work was consumed, the lead melted, and the whole fabric in imminent danger. The flames were, however, successfully checked.

Since the commencement of the present century the interior has been repeatedly repaired, and, as Mr. Britton satirically remarks, "beautified," and various improvements and renovations have of late years been applied. Although there are a few not uninteresting circumstances relative to the monuments and individuals connected with the cathedral, our limits will not permit us to describe them.

ARTESSIAN WELLS.

Artesian Wells are formed by perforating the earth with a set of instruments called "boring rods," until a subterranean body of water be reached whose sources are higher than the spot where this operation takes place. The effort which was requisite to reach its own level in this instance causes it to ascend above the surface; and thus an abundant supply of this necessary element may be obtained in districts which otherwise might be without so great a blessing. The Romans often went to an incredible expense in obtaining a proper supply of water; and the remains which still exist of their aqueducts are amongst the noblest monuments of their genius and enterprise. Works of this description, however, could not be constructed without an immense expenditure of labour and capital; and it is clear that an application of the principles of hydraulics and geological science would have been a much more simple and economical mode of proceeding. The Turks have availed themselves of the simple fact of the tendency of water to find its level in executing works as efficacious as the Roman aqueducts, but a thousand times less expensive. Their Souterezi are water-courses of brick-work, carried from a reservoir or some eminence down one hill, along the surface of a valley, and up the opposite hill.

It is easy to understand the cause which occasions the water of Artesian wells to ascend to the surface; and the following explanation may serve to show the circumstances under which this principle is usually brought into action. If the rain which falls, or the snow which is melted, on opposite ranges of mountains, filtrates through porous strata, or finds its way through apertures or fissures of stone, situated between strata quite or almost impervious to water; and it runs below the surface of the valley, it makes for itself a channel, the form of which we will suppose to be that of an elongated curve. If any part of the valley be bored until this pipe or water-course be reached by the boring-rod, the water will spring up, under the impulsion of the law of hydraulics to which we have alluded, and a natural fountain will by this means be created. This result will not be affected by the extent of the valley, which may be small or great; for, according to the distance of seven or eight miles, its volume is increased to upwards of 2000 gallons. The temperature, however, is scarcely changed by this great additional quantity; thus proving that it passes with great rapidity by channels situated very deeply below the surface.

The fountain of Vaucluse, likewise in the south of France, if it received all the rain which fell during the whole year, on an extent of thirty square leagues, it would obtain a quantity of water which it pours forth. When it rises from its subterranean bed, it in reality forms a river; and the volume of its waters when at its lowest is estimated at 450 square yards per minute, which at times is swelled to 1494 square yards. Its mean volume is 962 square yards. This fountain, it is clear, must obtain its waters from some more abundant source than the percolation of rain-water through the pores and fissures of the earth. Its reservoirs, also, must be capable of containing a great mass of fluid, and the channels by which it flows must be large enough to contain a subterranean river.

These reservoirs and these channels are created by fractures in great areas of stratified rock, occasioned by the action of a mighty power, which, at some period, has broken them in various directions. In some cases, these cavities actually withdraw from the surface considerable rivers. The Guadiana loses itself in a flat country, in the midst of a vast prairie; and when a Spaniard hears an Englishman or a Frenchman speaking of the bridges of their respective countries, he will tell them that there is one in Estremadura on which 100,000 cattle can graze. The Meuse and several other rivers in France also disappear in the same manner; some being sucked in by apertures in their bed, situated at various distances along the course of the stream. In the Austrian dominions, the river Poick pursues its course in the cavern of Adelsberg, where its waters lose themselves and re-appear several times. This cavern has been penetrated for the space of two leagues from its entrance, at which point a lake presents itself which has not yet been crossed. Humboldt mentions a cavern in South America, about 25 yards high, and 27 or 28 broad, which the traveller can penetrate for 800 yards, into whose recesses are rolled the waters of a stream above 10 yards wide. The grotto of Windborg, in Sweden, is smaller; but the same principle is exhibited in many other parts of the earth’s internal communications, being connected with the cavern of Cresfield, from which it is some leagues distant.

The Artesian fountain at Tours recently presented some phenomena proving the existence of an extensive and complete line of subterranean communication. In January, 1831, the vertical tube by which the waters of this fountain ascended was shortened a little more than four yards, on which its volume was immediately aug-
mented a third; but this sudden increase rendered the water less clear than usual. During many hours there were brought to the surface, from a depth of above 110 yards, various substances, among which were recognised twigs of hawthorn, several inches in length, blackened by their long stay in the water,—stalks and roots of marshy plants,—and seeds of various kinds, in a state which showed that they had been in the water since the harvest, and, consequently, that about four months had been spent in performing their hidden voyage. Shells, and other deposits which a small river, or stream of fresh water, leaves when it overflows its banks, were also brought up during the increased action of the fountain, proving the freedom with which they circulated at the depths below.

An instance is mentioned by M. Arago of one of these subterranean rivers being reached by some workmen who were boring for water close to the Barrière de Fontainebleau, at Paris. As usual, the progress of summer; but this effect of the inequality of the seasons occasion the instrument to oscillate in a particular direction. We have before stated that the course which water took in order to find its own level might be of any length; a fact which is clearly proved by the circumstance of the crew of an English ship becalmed in the Indian seas discovering fresh water rising from the depths of the ocean to the surface. The nearest point of land was 100 miles distant, and from hence it had come by a channel situated below the bed of the sea.

These various facts will account for the phenomena connected with Artesian wells: but the periodical disappearance of the waters of the lake of Zirknitz, in Carniola, illustrates one of these in a manner so clear and distinct that we cannot omit noticing it. This lake is about five miles long and two and a half broad. Towards the middle of the summer, if the season be dry, its level rapidly sinks, and, in a few weeks, it becomes dry. The apertures by which the waters have retired may be clearly and distinctly perceived; some being perpendicular, and others in a lateral direction towards the caverns of the neighbouring mountains. Immediately after the waters have completely disappeared, the whole extent of the surface which they covered is put into cultivation; and, at the end of a couple of months, the peasants reap an abundant harvest of rye, millet, and grass. Towards the close of autumn, the waters return by the same natural channels by which they had disappeared. It frequently happens that a heavy shower of rain on the mountains of Zirknitz will occasion the lake to overflow its banks.

The temperature of Artesian springs is invariably higher in proportion as their depth increases. The deepest of which we have seen any statement is near Dieppe, and is about 340 yards below the surface. A well formed near Perpignan produces about 425 gallons per minute; and one at Tours ascends more than two yards above the surface, and gives 324 gallons per minute.

In France, the waters of Artesian springs are sometimes made the moving power in corn-mills. At Frondés, near Aire, the waters of ten Artesian springs put in motion the wheels of a large mill, and act besides upon the bellows and forge-hammer of a nail-manufactory. At Tours, a well of nearly 150 yards in depth pours 225 gallons per minute into the troughs of a wheel seven yards in diameter, which is the moving power of an extensive silk-manufactory. Besides their general utility in irrigations, and for purposes of domestic comfort and salubrity, the water of Artesian springs has been specially applied with advantage for other useful objects. The workshops of M. Bruckmarm, in Würtemburg, are warmed by means of water conveyed from an Artesian spring; the temperature of whose source is considerably higher than that of the atmosphere. M. Arago also states that there are greenhouses whose temperature is kept up by means of the circulation of a constant volume of Artesian water. At Erfurt, they are used in the formation of artificial beds of cress, which produce 12,000 lb. a-year. In the north of France, the reservoir from which the flux is steeped which is destined to be employed in the manufacture of lace and the finer descriptions of linen are supplied by Artesian springs, whose waters, being remarkably clear and of an equable temperature, dissolve the vegetable matter with the least injury to the most valuable properties of the plant. In fish-preserves it is often found that the fish are killed both by the severity of the winter and the excessive heats of summer; but this effect of the inequality of the seasons has been prevented at the fish-ponds of Montmorency, near Paris, by furnishing them abundantly with Artesian waters.

Mode of Trading at Shendy.—The wholesale trade at Shendy is principally conducted through the agency of brokers. A caravan no sooner arrives than every merchant's house is crowded with brokers; but the avidity and impatience of the brokers are counterbalanced by the care they take to bring their transactions to a speedy conclusion. Even after the bargain is made, each party endeavours to cheat the other before the goods are delivered and the money paid. In addition to this, every attempt to enter into an engagement of this kind becomes known all over Shendy, and the jealousy of the traders often prevents its taking place. No merchant has its fixed price: there is no such thing as a price-current; every one sells according to the prospect he has of cheating the buyer and bribing the broker. The purchase-money, or, in case of barter, its equivalent in merchandise, is almost always immediately paid down. The longest credit I have witnessed is a couple of days; and it is evident, on the termination of every commercial transaction, that the buyer and seller reciprocally entertain suspicions of each other's honesty. To oblige a debtor to settle his accounts, recourse is generally had to the slaves of the Mek, who act as police-officers; but a man who is unprotected and without friends is sure to lose the greater part of his goods if he allows them to go out of his reach without immediate payment. —Burckhardt's Travels in Nubia, p. 298.

Imitative powers of the Chinese.—The people discover no want of genius to conceive, nor of dexterity to execute: and their imitative powers have always been acknowledged to be very great. Of the truth of this remark we had several instances at Yuen-min-yuen. The complicated glass lustres, consisting of several hundred pieces, were taken down, piece by piece, in the course of half an hour, by two Chinese, who had never seen anything of the kind before, and set them up again by them with equal facility; yet Mr. Parker thought it necessary for our mechanics to attend at his warehouse several times, to see them taken down and again put up together, in order to be able to manage the business on their arrival in China. A Chineses undertook to make a slip of glass from a large curved piece, intended to cover the great dome of the planetarium, after our artificers had broken three similar pieces in attempting to cut them with the help of a diamond. It is well known that a Chinese in Canton, on being shown an European watch, undertook and succeeded in making one like it, though he had never seen anything of the kind before; but it was necessary to furnish him with a mainspring, which he could not make: and they now fabricate, in Canton, as well as in London, and at one-third of the expense, all those ingenious pieces of mechanism which at one time were sent to Europe in such vast quantities from the repositories ofCOPE and MERRIN. —Burckhardt's Travels in China.
The name is supposed to be derived from "hag," a witch, and "fall," a descent; the compound signifying "the witch's valley." And indeed there is no situation which old superstitions might have more likely marked out as a fitting abode for unworthy beings than this deep, gloomy, and sequestered vale. Others, however, think that the name is probably a corruption of Ac-fell, Acorn-hill, which it might be fitly named from its rich plantations of oak. It is worthy of remark that the beauties of this romantic spot lie within so circumscribed a district, that to a traveller on the road, or a peasant in the adjoining fields, their existence would probably be quite unsuspected; nor is there any thing in the tame character of the surrounding country which could lead the lover of the picturesque to look for that exquisite combination of natural effects, tempered and improved by art, which Hackfall offers.

The entrance into the grounds is pleasant, but not very striking. A little rivulet, rising at some distance, runs into a deep woody glen, and forms three or four...
small pools, on issuing from which it makes as many cascades, judiciously varied in their forms. It then flows with precipitancy to the river Ure, at the bottom of the dell, rushing over rocks and heaps of stone which obstruct its passage, and making a number of waterfalls more or less full and rapid. At a short distance from the second gate two springs issue from the rock and fall gently down its side. A little further down, the water conveys to a small basin, from which the water springs and forms a double cascade, which, after rushing over rocks and beds of stone, joins the rivulet below. Still farther on there is another spring, somewhat less than the former: and, after passing a hill crowned by an artificial ruin, a winding walk, under a shade of lofty trees growing on a steep bank, conducts the spectator to Fisher's Hall,—a small octagon room built of petrified substances formed by several springs issuing from the ground, and surrounded by hanging wood. At this spot two cascades are divided by a grove of fine trees. That on the left impetuously forces its way over a slyt rock, overhung with the spreading branches of the adjoining wood: the other falls down an irregular bed of rocks, but not in such strong breaks as the former. Without minutely detailing the successive cascades, and other objects and points of view which intervene, it may suffice to mention that an arrangement of the most interesting walks, through landscapes that cannot be excelled in variety and picturesque effect, lead to several romantic situations in pleasing succession, and at length to the summit of a rock called Mowbray Point, a commanding eminence, from which the most grand and extensive prospects are obtained. Mr. Gilpin says, that he scarcely remembers to have anywhere seen an extensive view so full of beauties and so free from faults. In the immediate vicinity, a variegated valley, the river confined between its rocky banks, and bordered by impeding hills and woody summits, with a number of villages and farms, compose a beautiful assemblage. The distant objects also form a portrait which may be ranked among the finest in England. In the front are the whole range of the Hambleton Hills and the town of Thirsk, with an extensive and fertile country intervening: towards the right are Gilling and Craike Castle, the Cathedral of York, at the distance of thirty miles, and the Wolds in the East Riding, forming the boundaries of the view; while beyond the left, the mountain called Bank of Britain Topping is distinctly seen at the distance of forty-five miles, and the prospect terminates among the rugged heights of the eastern moors.

The spring represented in our wood-cut is impregnated with alum, which abounds in the strata of the adjacent district, and is worked to a considerable extent in the neighbourhood of Whitby, Guisborough, &c. Alum works were established at Whitby about the year 1600, and, with those since established near Glasgow, still continue to be ruinous; but the stratum is now no longer worked with so much profit as it once was. At Whitby it is prepared from slat-alum, the stratum of which is about twenty-eight miles in length. The cliffs are in general precipitous, and are from 100 to 750 feet in height. The slate is of a bluish grey colour, and varies considerably in hardness. At the top of the cliff it is so soft as to be crumbled between the fingers, whilst at the bottom it is as hard as roofing slate. This slate has never been accurately analyzed; but it is generally used near certain potash-slates, which are therefore added. The method used at Whitby in obtaining the alum, is to mix the broken alum-slate with fuel and set it on fire. When the slate has been sufficiently calcined, it is dissolved in water. To the solution potash-salts are added, and the crystals of alum are formed in it. It takes 130 tons of calcined slate to produce one ton of alum. In other places the processes are different in detail, but they are mostly the same in principle.

These alum-mines were discovered by Sir Thomas Chaloner, through or near whose estate, near Guisborough, part of the stratum extended. This gentleman, when in Italy spent some time at Puteoli, where he had occasion to observe the process of making alum at Solfatara, and to know the profits it produced. He noticed that the people collected near that place a kind of white mud or dust, that covered the surface in the summer time, and threw it into large vessels full of water. These vessels being set in the earth over certain natural vents in the mountain, the water was evaporated by the warm effluvia, and the alum left behind. Sir Thomas (then Mr.) Chaloner was an accurate observer, and his subsequent discovery in England indicates with how much attention he had noticed the character of the soil, and its effects upon the vegetables produced in the neighbourhood, although he could not at that time have had any particular interest in the subject. This is shown in the details which Camden has furnished on the subject in the 'Britannia.' Speaking of Guisborough, he says:—

"The place is really very fine, and may, for pleasantness, a curious variety, and the natural advantages of it, compare with Puteoli in Italy; and then, for a healthful and agreeable situation, it certainly far surpasses it. The coldness of the air which the sea occasions is qualified and broken by the hills between. The soil is fruitful, and produces grass and fine flowers in great plenty. This was first discovered a few years since by the admirable sagacity of that learned naturalist Sir Thomas Chaloner, knight, by observing that the leaves of trees were of a more weakly sort of green here than in other places; that the oaks shot forth their leaves very broad, but not deep, and that these had much strength, but little sap in them; that the soil was a white clay speckled with several colours, namely, white, yellowish, and blue; that it never froze, and that upon a pretty clear night it shined and sparkled like glass upon the road-side."

The time when this discovery was made seems to have been about 1600, or perhaps a little earlier. Much labour was bestowed, and great expense incurred, before the alum could be obtained; which was sold at a high rent, the farm of the mines produced a large profit to Sir Paul Pindar, who was to profit to Sir Paul, who kept up the price of the article. At Whitby it is prepared from alum-slate, the stratum of which is about twenty-eight miles in length. The cliffs are in general precipitous, and are from 100 to 750 feet in height. The slate is of a bluish grey colour, and varies considerably in hardness. At the top of the cliff it is so soft as to be crumbled between the fingers, whilst at the bottom it is as hard as roofing slate. This slate has never been accurately analyzed; but it is generally used near certain potash-slates, which are therefore added. The method used at Whitby in obtaining the alum, is to mix the broken alum-slate with fuel and set it on fire. When the slate has been sufficiently calcined, it is dissolved in water. To the solution potash-salts are added, and the crystals of alum are formed in it. It takes 130 tons of calcined slate to produce one ton of alum. In other places the processes are different in detail, but they are mostly the same in principle.
The geographical distribution of birds would scarcely seem to a cursory observer to be regulated by any definite laws. It would rather appear that the localities of the several tribes were quite capriciously assigned, and that the labour of the inquirer could effect no more than the accumulation of disjointed facts, from which no principles could be deduced. This, however, would be a very incorrect view of the case. The subject is, indeed, intricate; and much remains to be investigated, as it is only of late years that the attention of naturalists has been directed to it.

Some families, genera, or even species, are distributed throughout every part of the globe; while others are confined to isolated spots. Some extend within given latitudinal lines throughout the circle of the earth; while others are compensated for a limited latitudinal range by an ample spread between given lines of longitude. Thus, some of the parrots (the willow-pigman, for instance), the snowy owl, the jay-raven, and many more, are spread through the northern latitudes of Asia, Europe, and America; and the parrot tribe ranges round the globe within given latitudes on either side of the equator,—India, Africa, America, and New Holland, each producing their peculiar species. On the contrary, many tribes are exclusively restricted to an appointed country; and others, that are in general spread over the earth, are denied admission to some peculiar region. Thus, the woodpeckers abound in the Old World and in the New, from north to south, but they are excluded from the continent of Australia. It may, however, be received as a rule (though the inadequacy of our information prevents us from clearly following it out in all cases), that those tribes of birds, whose localities are circumscribed within given limits, will in other countries, where all concomitant circumstances are the same, be represented by tribes filling, as it were, their place, performing their work, and displaying in the main the same habits and manners. We may instance a few of these harmonies. The peacock, of which there are two species, is limited to India and its adjacent islands; but in America its place is supplied by the turkey, of which there are two species also, and in Africa by the guinea-fowl. The ostrich roams the deserts of Africa; the emu the wilds of Australia; the cassowary the luxuriant islands of the Indian Archipelago; and the rhea the hilly regions of South America. The pheasants of Asia are represented by the curassows and guans in America,—where the ortyx takes the place of the quail, and the lunamoo that of the bustard. The honey-eaters of the South Sea islands, the brilliant sun-birds of India and Africa, and the still more splendid humming-birds of America, respectively occupy in their own territories each other's place. If these ideas be correct, then it must follow that no group of birds can be studied with advantage in an isolated point of view;—to know them we must know their affinities.

With these preliminary observations, which apply more or less universally, we introduce the beautiful group to which we have last alluded, namely, humming-birds. A family of birds, whose interest is peculiarly great, in every point of view, most interesting to the naturalist. They are natives of the New World; and rich as that continent is in the most splendid feathered beings, the brilliancy and grace of these small birds are such as to excite the highest admiration in the spectator, who at once acknowledges their pre-eminence. Our knowledge of their habits and economy is, however, very limited, and we have had to direct our attention to other objects more easily investigated.

Recent discoveries have proved that their range of habituation is more extended than was once imagined; for though they chiefly abound in the intertropical latitudes of America, many visit the temperate and colder portions of that continent. The ruby-throated humming-bird (Trochilus Colubris), passes north as far as the interior of Canada, migrating like the swallow. Nor is this the only species which extends into a colder climate. Captain King, while on a survey of the southern coasts, met with numerous species flying about in a snow-storm near the Straits of Magellan, and discovered two species (Trochilus Fernandoensis, and T. Stokesii) in the island of Juan Fernandez. Still, however, the central regions of the continent, and the islands adjacent, are their chief resort. There they people the woods and the gardens glancing in the sun like meteors as they flit by with extraordinary velocity, or hover round their blossoms and quivering wings, exploring the nectary of the unscented blossom. These birds may be almost said to live upon the wing. There is no bird that equals them in power of flight, and they are quick as lightning in their motions. Their wings are of extraordinary length, and this, with their shape and the character of the feathers composing them, contributes to their efficiency. The feet and legs, on the contrary, are small and feeble; they are, in fact, merely second-rate importance in the economy of the humming-bird. The ground and the trees are not its element. It sometimes, indeed, settles on a twig, while it preens its plumage of glittering scale-like feathers, or arranges its dazzling plumage, and that the rudder by which a bird directs its course, or turns to the left or right, is as distinct as it can be.

With respect to the wings, the tail is the most important organ of aerial progression. It is not only the rudder by which a bird directs its course, or turns and wheels, but it adds to the superficies of the body

**Humming-Birds.**
without increasing its weight. In this group the tail is ample, but varies extremely in shape; in some species it is square, in others forked, in some pointed, but in all it is composed of feathers closely resembling those of the wing in texture. Thus is the humming-bird constituted for flight; nor is this extremity rapidly andneaely, having undergone of long continuance. The flitting progress of the humming-bird from flower to flower resembles that of a bee—but is infinitely more quick.

When, however, the bird is journeying, it sweeps through the air in long undulations, rising and sinking alternately.

It has been supposed by many that the nectar of flowers constitutes the sole food of this charming race, but such is not the fact. Nectar is no doubt a part of their diet, but by no means the whole; they feed on the small insects which lurk in the nectary, or wander over the petals,—nay, they even take insects on the wing, as was observed by Wilson, who also found their fragments in the stomach of such as he examined; and Audubon states, in confirmation, that insects, especially those of the coleopterous order, are the principal food of the humming-bird. The bill, fitted for penetrating into the recesses of flowers, is long and slender, but varies in shape. According to Brisson and others, the tongue consists of two muscular tubes. This organ, which in the humming-bird is mainly instrumental in procuring food, is capable of being protruded to a considerable distance, as we see in the wreny, woodpecker, &c. Audubon says, that the double-tubed tongue of the humming-bird is covered with a glutinous saliva, so that the insect adheres to it when touched; hence the bird has only to dart its tongue at its prey, and retract it into its mouth.

Diminutive as they are, these beautiful creatures are bold and intrepid, and defend their nests against intruders with the greatest spirit. Their powers of flight give them every advantage in these aerial combats over birds much larger than themselves, at whose eyes they tilt with their sharp-pointed beak, uttering, at the same time, a shrill piercing shriek. Two males seldom meet without a battle: and while the female is sitting her mate attacks indiscriminately every bird that approaches, exhibiting the utmost fury. The nest of the humming-bird varies in different species. We have seen some built on the branch of a tree, others attached to the extreme twigs, so as to wave in the breeze. The materials with which they are constructed are, for the most part, the cotton or down of various plants, beautifully interwoven; some species add an outside layer of moss or lichen. It appears that the number of the eggs laid by the female is usually two, and their colour pure white.

That these beautiful and elegant birds should not be kept in captivity will not surprise those who know the difficulty of preserving them, even in their own regions, for any length of time, in imprisonment. Several attempts have, however, been made; and, on one occasion, two nestlings of a species termed the Mango humming-bird were actually brought alive to England, and lived for a short time in the possession of Lady Hammond; they were very docile, and fed on honey, but we do not know whether insects were offered them or not. Audubon states that he has seen many humming-birds in partial confinement; and that, when fed with honey or syrup exclusively, they soon died in a state of emaciation, but that, when duly supplied with fresh flowers (abounding with insects), and surrounded with gauze-netting, through which insects could enter, they lived in health and were active. Indeed, he mentions an instance in which several were thus kept for the space of twelve months, when they were restored to liberty, the person who attended to them having a long voyage to perform. To these instances of domestication we may add the following from the 'Habits of Birds,' in the 'Library of Entertaining Knowledge,' where it is quoted from Labat's 'Nouveau Voyage aux Iles de l'Amerique.'

I showed,' says this author, 'a nest of humming-birds to Father Montdidier, which was placed on a shed near the house. He carried it off with the young when they were about fifteen or twenty days old, and put them in a cage at his room-window, where the parent cock and hen continued to feed them, and grew so tame that they scarcely ever left the room; and though not shut up in the cage or subjected to any restraint, they used to eat and sleep with their brood. I have often seen all the four sitting on Father Montdidier's finger, singing as if they had been perched upon a branch. He fed them with very fine and almost limpid paste, made with biscuit, Spanish wine, and sugar. They dipped their tongue in it, and when their appetite was satisfied, they fluttered and chanted. I never saw anything more lovely than these four pretty little birds, which flew about the house and attended to the call of their foster father. He preserved them in this way five or six months, and we hoped soon to see them breed, when Father Montdidier, having forgotten one night to tie the cage in which they were rooted, by a cord that hung from the ceiling, to keep them from the rats, had the vexation in the morning to find that they had disappeared: they had been devoured."

The family of humming-birds (Trochilidae) is divided into numerous genera, having their distinct characters; our observations are, of course, general, and apply to the group at large. We may add that upwards of 100 species are known to naturalists.
MAPLE is the common name of the *Acer* genus of plants, of which there are thirty-four species. Nine of these belong to North America, twelve to Europe, six of great beauty to Japan, and the rest to different parts of Asia. The timber of the maple is not adapted for works of durability and strength; but, from the beauty of its texture, it is peculiarly fitted for ornamental purposes; and the variety called "curled maple" is, on this account, held in great esteem. It is capable of being highly polished, and is sometimes employed with good effect in inlaying; but is most commonly used for the stocks of fowling-pieces, for work-boxes, and other articles in which it is desired to combine utility with ornament. Its lightness occasions it to be also frequently used in the manufacture of musical instruments. The sap of the maple contains a certain quantity of saccharine matter; but two of this genus (*Acer saccharinum* and *Acer nigrum*) yield so abundant a supply as to have obtained for them the general designation of the sugar-maple. The former of these trees is found in North America, between the 42nd and 48th degrees of latitude,—that is, in the northern parts of Pennsylvania, the western portion of New York, in Upper Canada, Nova Scotia, and the northern parts of New England. The *Acer nigrum*, or black maple, flourishes in rather a warmer climate, and is most abundant on the banks of the Ohio and the great rivers of the western states of America. These trees furnish excellent fuel, and the ashes are manufactured into potash. The maple is not surpassed by many trees in the variety of purposes in which it may be usefully employed.

The *Encyclopaedia Americana* states, that maple-sugar could be manufactured in sufficient quantities to supply the consumption of the United States; but, of course, without any intention of insisting upon the advantage of affording national encouragement to this domestic manufacture. In the newly-settled parts of
the United States, and in Canada, where the inhabitants are often placed at great distances from each other, and the opportunity of effecting exchanges is very imperfectly enjoyed, domestic manufactures of various kinds are wisely undertaken, to engage m which would obviously be mere waste of time in a different and more advanced state of society. Accordingly, we find that, even in those districts of America where the sugar-maple abounds, it is only in remote parts of the country that its manufacture forms a regular branch of rural economy, and where a reserve is made by settlers of from 200 to 900 maple-trees for a "sugary.

The sap is said to equal the common brown sugar of the West Indies, and, when refined, to yield to none in purity and sweetness. The produce of a single tree appears to vary considerably, by some it is said to amount to five or six pounds, and by others it is estimated as high as thirty-three pounds per tree; but this amount can probably be obtained only under a concurrence of peculiarly favourable circumstances in the southern states of America; for in Canada the average produce of the season from one tree is stated by Evans, in his 'Emigrants' Directory and Guide to the Canadas,' to be not more than two pounds. The sugar is worth from fourpence to sevenpence halfpenny per pound. Two men can attend to 300 or 400 trees. A family may even make 1000 lbs. of sugar in the course of a season, which commences towards the end of March, and lasts a month; and fortunately happens at a period when agricultural labours have not resumed their activity.

The following account of the process of sugarmaking is taken from Evans's 'Emigrants' Directory,' quoted above:—"A large gouge, or hollow chisel, should be provided, and a piece of dry pine or cedar got, and cut into lengths of about nine inches each. These pieces should be split into bolts, about an inch thick, the breadth of the gouge; and these bolts again split up with the gouge about a quarter of an inch thick, by which they will become hollow spouts, like the instrument with which they are cut, for the sap to run in: they should then be pared with a sharp knife at the end, to the shape of the edge or point of the gouge, so that when it is driven half an inch or so into the tree, the spout also may be driven into the incision, and fit tightly. Troughs, to receive the sap as it falls from the spout, are made of pine, fir, or ash, and being split into two, each half piece is hollowed out with an axe, so as to contain about two gallons. Each tree of ordinary size will require one, and very large trees two troughs. Buckets, which cost about tenpence each, save much more of the sap than the troughs. A tree will run about a bucket-full per day, on days succeeding frosty nights with a moderately warm sun to thaw the sap.

After all these have been prepared, one or two of the troughs being placed under each tree, the person holding the spouts, gouge, and an axe, makes with the corner of the axe a small sloping notch about an inch and a half long, and deep enough to penetrate into the wood of the tree about half an inch; the under side of the incision being cut sloping down into the tree, so that the sap may run to its lowest point: if fit to tap, the sap is seen immediately to ooze from the cut. About an inch under that, the gouge is driven in for the spout as before directed, through which the sap is conveyed down the spout till it strikes the bucket or trough at the foot of the tree, the cut being almost two feet from the ground: one man can thus tap about 200 trees or more in a day. One tapping generally answers for the season, and the trees, if not greatly hacked, will do for a sugary many years."

The salt-mines of Salzburg.

The following account of a visit made by three French gentlemen to the salt-mines near Salzburg, in the Austrian dominions, is abridged from a work entitled 'Voyage d'un Français aux Salines de Bavière et de Salzbourg,' in 1796; and a gentleman, who has recently visited it, assures us the description agrees exactly with its present state.

The salt-mines are at a little distance from the small town of Haltein, and at the foot of the Durenberg mountain. We seated ourselves in sledges, and were conveyed to the opening which leads into the interior of the mine. Before descending into the mine we equipped ourselves in the costume of the miners, which consisted of flannel waistcoat and trousers, and a large white cap for the shoulders. These preparations are rendered necessary by the extreme humidity of the mine, which would effectually have destroyed the common articles of clothing. We were also supplied with strong shoes, a leather apron, and a hood. We then seated ourselves on a sort of wooden bench, called a 'waist,' which raised us about three feet above the wheels. Three of the miners attached the traces of this machine around their waists, and dragged us slowly through a long gallery, on each side of which was an aqueduct constructed of wood. One of these conveyed a supply of fresh water into the mine, and the other carried it off when it had become sufficiently impregnated with salt. In a quarter of an hour we reached the first shaft. It is not dug in a perpendicular direction, but is inclined at an angle of 8 or 10°, and in the course of the waxing and waning seasons we were to descend to a depth of about eighty yards. The descent is effected in the following manner—Two round and short beams are placed side by side on the lower part of the shaft, about a foot asunder. They somewhat resemble the machine used by brewers for lowering beer into cellars. They are fixed, and extend..."
from the entrance to the bottom of the shaft. Upon these beams the person descending seats himself, placing his legs over each side, and thus slides to the bottom. A great rope is stretched on the right, about the height of the arm, in order to enable those who are descending to regulate the rapidity of their descent. If the miners preceded each of us in the descent. My arm was placed between my legs, at the same time cautioning me neither to move my arms nor feet. The men then asked us if we were alarmed? to which, of course, we courageously replied in the negative. Then, abandoning ourselves to the impulse of our own weight, and each of us holding in one hand a burning torch, we glided forward as rapidly, that we were at the bottom of the "rolle," or beam, in half a minute. We then proceeded along another gallery, similar to the one at the entrance of the mine; and descended still deeper into the mountain by two other rollers, on which, profiting by my previous experience, I kept my seat without assistance. This mode of descending was both easy and pleasant, and I even regretted that the fourth role was the last.

The mountain, within whose bosom we now were, is composed of a sort of rock-salt, which is in a constant course of growth or formation. The first excavation to have to be made is to drain the water, and the dimensions are irregular, accord-

ing as the mass composing the roof or walls is more or less charged with salt. Many chambers are excavated one over the other, thus forming different stories, the mass which separates one chamber from another serving the same purpose as boards and lath and plaster in houses, though of course much thicker. The miners informed us, while we were examining one chamber, that above us was a chamber at that time filled with water. It may appear singular that a large body of water thus situated should not find its way into the apartment beneath, but we found the ceiling scarcely humid. The reason of this is, that before the water is introduced, the floor is covered with clay, which is beaten down so as to render the surface impervious to the water. A kind of blue clay is used for this purpose, which is worked up into a proper consistence with wooden mallets; and when it no longer contains any rough particles it is spread over the floor. If it should leak, a little saw-dust is thrown into the water, and by this means the position of the outlet is ascertained, which is first of all enlarged, and then securely plugged with the clay cement. If the water escapes by one of the galleries, the gallery is abandoned to a certain distance, and endeavours are made with the cement to repress the passage of the water. If this fails, however, it becomes necessary to open another gallery, and this is the most difficult task which the miners are called upon to perform. In executing this work they are obliged to divest themselves of every article of dress; as, without this precaution, their clothing would absorb a strong saline composition, which would render it hard and brittle, and cause it to tear the skin. I could not think without compassion of these unfortunate men being thus employed for nine hours a day for so small a recompense as twelve kreutzers (4d. or 4d.) The men are relieved every three or four hours when thus occupied; and from the hardships they undergo they are not long-lived.

When the water in the chamber is sufficiently impregnated, it is drawn off. When it is entirely withdrawn, the ceiling is found to have increased about two feet in height; but at the same time the roof is raised only a foot and a half. It is necessary that the necessary degree of thickness is maintained between one chamber and another. Two chambers situated one above another are by this process in a gradual course of ascension, so that the lower one occupies the same elevation in about eight or nine years, which was previously held by the one above it. The saline matter, of which the ceiling is composed, is dissolved, and the other parts are deposited on the floors. The materials thus deposited, although destitute of any saline particles, in the course of time acquire the qualities of rock-salt,—a process which promises to render the mountain at Hallein a perpetual source of riches.

Care is always taken that two neighbouring chambers are not placed on the same level, as the lateral pressure of the water might open a communication between them. When a chamber has been made use of, it is necessary to raise the gallery leading to it, the deposits which have taken place having made the floor about two feet higher than before. On this account a chamber is only used once in three years.

A remarkable instance of the growth of a saline rock may be seen at Hallein. In forty years it has encroached about three feet on each side of the gallery, a wooden trough, which runs through the centre, offering a resistance to it in that part which it has been unable to overcome. Each of the galleries, and the aperture through which it is seen to have occupied its position in each chamber. The gallery named Wolf Dietrich is so called after one of the prelates who filed the archbishopal see of Salzburg, a man of great firmness of
character and strength of purpose, as will be seen by
the following account of the Wolf Diedrich gallery,
which was dug in a part of the mountain which had
not previously been penetrated. This gallery was
absolutely necessary as an outlet to the water after it
had become impregnated with salt, but the only side of
the mountain on which it could be executed consisted
of the hardest description of marble or granite, and,
according to the plan of Wolf Diedrich, it was ne-
cessary to penetrate through 1578 yards of this material.
Objections were made on the ground of the expense
of such an undertaking and its probable imprac-
ticability; but he persisted, in spite of these unfavour-
able opinions. The ordinary implements being found of
a temper too soft for the purpose, he caused them to be
made of steel, but still they only struck from the rock
particles as small as dust. Wolf Diedrich hoped with all
the strength of perseverance. “If we only succeed in
obtaining dust,” said he, “we shall in time penetrate
into the heart of the mountain.” The work was carried
on in opposite directions, one party commencing on the
outside of the mountain, and the other in its interior,
and was continued in this manner during fifty years.
The mountain engineers who directed the labours of
the workmen, guided their course with such precision,
that the two passages opened into each other at the
place appointed for their junction. There was, how-
ever, some error in the levelling, arising from their
having neglected the rules on which they had at first
proceeded, and being guided, on the near termination
of the work, by the sound of their tools. The sound
decided them, and the error which they made is still
visible. This gallery is about a yard broad, and nearly
five feet high. It is divided into sixteen stations,
where recesses are made, into which, when two wurstd
meet, one of them can be withdrawn to allow room for
the other to pass. The inclination of the gallery is
about an inch in two yards.

We were afterwards conducted into a chamber, the
walls, floor, and ceiling of which consisted entirely of
salt. Fifteen of us entered this apartment, the appear-
ance of which, when illuminated by our torches, was
very extraordinary. This is a sort of council chamber
of the miners, where the superintendents are received
when they pay their annual visit.

The following is the extent of the mine:—length
2012 yards; depth 514 yards. The expenses of main-
taining it in a proper state for working are not great,
owing chiefly to the wood which is made use of becoming
so thoroughly impregnated with salt as not to require
renewal. The pernicious gases which are found in
coal and other pits are occasionally generated in these
works, but not to such an extent as to produce
disastrous consequences. The water at times occasions
considerable damage.

We spent three hours in the heart of the mountain;
the air is neither hot nor cold, but of a mild and
equable temperature. We proceeded out of the mine
by the marble gallery of Wolf Diedrich, seated on a
wurst drawn by the miners.

TYNEMOUTH PRIORY.

This old ruin is situated in Northumberland, and
stands on a peninsula, formed of stupendous rocks,
on the north side of the mouth of the river Tyne, and
to the east of the town of Tynemouth. It is of very
remote antiquity—earlier than the eighth century; but
no authentic record appears to exist respecting its
original foundation.
to the Virgin Mary and St. Oswin." Thus, therefore, though during stormy and inclement weather the situation must have been very unpleasant, yet in those unsettled and credulous times it afforded the advantage of presenting to the eye of the sailor in distress an object towards which he could direct his prayers and bend his course, and also an outpost from which a hostile armament might be descried, and an alarm communicated. Neither its utility nor sanctity, however, could preserve it; for in the infancy of the establishment it suffered greatly by the incursions of the Danes, by whom, as the old chronicles state, it was thrice plundered, the church at one time being burned to the ground. Tosti, Earl of Northumberland, in the reign of Edward the Confessor, is said to have rebuilt and endowed the Priory for Black Canons, dedicating it to the honour of the Virgin Mary and St. Oswin, the remains of that Saint having been found among the ruins.
That the situation, at the mouth of a river, and on an elevated site, early recommended the place as suitable for a fortress, and religious purposes, is evident from the fact that Robert de Mowbray, about the year 1090, fled lieth, and defended himself within its walls against William Rufus, (against whom he had conspired;) but, after a time, finding that he could hold out no longer, he sought "sanctuary" at the altar of the church, from which, however, he was taken by force, carried to Windsor, and, after suffering a tedious imprisonment, was put to death. The monastery at one time enjoyed considerable wealth. It possessed twenty-seven manors in Northumberland, with their royalties, besides other valuable lands and tenements. At the dissolution, in 1539, there was a priory, with fifteen prebendaries and three novices. The annual revenues of the priory were then estimated (separate from the Abbey of St. Alban's, on which it depended) at 397l. 10s. 5d. by Dugdale, and at 511l. 4s. 1d. by Speed. The priory, on the surrender of the monastery, received a pension of 80l. per annum. The site and most of the lands were granted in the 5th of Edward VI. to John Dudley, Earl of Northumberland; but by his attainder in the next year it reverted to the Crown, in which it remained till the 10th of Elizabeth. During the reign of Elizabeth the place was occupied as a fortress, as in a statement given by Peck, in his 'Desiderata Curiosa,' of that queen's expenses, civil and military, Tynemouth Castle is set down as having a master gunner at the "feeper cut," in a style much superior to that of the general taste with which the art of mining in like manner, strengthened by...stronger works, and others of the dauncette, as the figure is termed in heraldry, or zigzag, a decoration common to old Saxon architecture. Beneath the central entrance to the eastern wall is a doorway of excellent workmanship, conducting to a small but elegant apartment, which is supposed to have contained the shrine and tomb of St. Oswin. On each side of the door is a human head, cut in a style much superior to that of the general taste of the age in which they are supposed to have been executed.

The manor of Tynemouth belongs to the Duke of Northumberland. But the site of the monastery is said to belong to the Crown; and it was held under a lease by Colonel Henry Villars, formerly Governor of Tynemouth. Villars obtained permission to erect a lighthouse, and to receive Is. for every English, and 6d. for every foreign ship anchoring in the harbour of Shields. It is stated by Grose,—and the statement is repeated in the 'Border Antiquities,' that Villars pulled down many of the old buildings to obtain materials for erecting the lighthouse, an adjoining barrack, his own house, &c., and that he stripped off the lead which, till then, had covered the church. In the engraving at the head of this article, the relative positions of all these buildings are shown. That on the right being the barrack, the others cannot be mistaken.

MINERAL KINGDOM.—Section XXXVI.

Gold.—(continued).

Gold Mines.—The chief supply of gold, for the last two centuries and a-half, has been from South America and Mexico. When Columbus landed on the Island of Hispaniola, in the year 1491, he found the natives wearing ornaments of gold; and they offered gold-dust in exchange. The natives of the coast of Carthage, and of the Isthmus of Darien, had also many ornaments of this metal, some of them of great mass. But from the first discovery of the New World to the year 1519, when Cortez landed in Mexico, the quantity of gold and silver brought to Europe, according to the estimate of Humboldt, did not exceed 52,000l. The wealth in the precious metals which Cortez and his followers found in the possession of the chiefs, as they advanced into the interior, shows that the Mexicans must have made some progress in the art of mining before their conquest. The Spaniards were struck with astonishment at the quantity of gold and silver which they found in common use, both for ornaments and for utensils. Pizarro landed in Peru in the year 1527; and he also found gold used for ornaments, and for vessels of various kinds, in considerable quantity. Mines had been wrought for the Incas, and the ore was smelted in
small portable furnaces of baked clay, in a manner the most rude; the heat being urged by exposing the furnace, in an elevated situation, to the blasts of heaven, shifting its position according to the direction of the wind, or increasing the heat by men blowing through long tubes, with a small orifice at the end next the fire.

**Gold Mines of Mexico.**—Mexico comprehends all that part of North America which extends from a line drawn between the Bay of Honduras on the east to the Gulf of Tehuantepec, in the Pacific, forming the southern boundary, to the 38th degree of north latitude, and having the state of Louisiana on the north-east. The veins of gold are contained in the primary stratified rocks (gneiss and mica-slate) in the province of Oaxaca, towards the south; and the porphyries, which are of frequent occurrence, are in general rich in veins of gold and silver. The guawaeke-strata are also rich in the precious metals, as in the province of Zacatecas; and some mines, as at Real Catorce, are wrought in a secondary limestone, considered by Humboldt to belong to the same age as the magnesian limestone of England (L, diagram in No. 51); and, what is very remarkable, even in a much more modern secondary deposit, of the age of our ololite series (I), in the famous mines of Tasseo, in the province of Mexico. The principal silver-vein in the rich gold-mine of Villalparido, near Guanaxato, is traversed by a great number of small earthy veins, so rich in gold, although the metal is not visible, that, in order to prevent fraud, the miners are made to bathe in a large tub, when they come out of the mine. Almost all the silver of Mexico contains gold; and generally in sufficient quantity to make it profitable to extract it. Stream-gold is also found in many of the alluvial deposits of Mexico, as in the province of Sonora, on the west coast, bordering on the Gulf of California, where masses of five and six pounds weight have been met with. But all the gold of Mexico is not equal to a twentieth part of the silver it produces. Upon an average of the latter years of the last century, the annual produce of Mexico in gold was estimated to be about 517,775 troy ounces, or about 200,000l. in value. There is no reason to suppose that the produce has increased since that time, but rather the contrary, on account of the political revolutions to which the whole country has been subjected for the last twenty-five years, and which must have caused great interruptions to 100 l. of the annual produce. The produce of the gold-mines of Mexico is equal to about 950,000l.; from 1795 to 1794 it was about 415,000l.; and, in 1810, the mines of Minas Geraes, which afford three-fourths of the whole produce of Brazil, yielded only about 203,000l. In the subsequent ten years, there must have been an enormous decline, if the statement of Major Von Schäffer, who visited the country in 1829, be correct; for he says, in his work on Brazil, that the produce of the preceding year was only 24 arrobas of gold, which is equal to about 44,000l. If this account is to be relied on, then we have in Brazil, as in other countries, a proof of the extraordinary vicissitudes to which mining adventures are subject; for, in a letter of one Rafael de Amor, published in Leonard's 'New Annual of Geology,' dated July, 1833, it appears that the gold-mines of Gongo Soco had, a short time before, produced 30 arrobas of gold in three months; and that the same mine had yielded above 100 arrobas in the preceding year: 100 arrobas are equal to 47,233 ounces, so that the value was about 158,932l.

**Gold Mines of Europe.**—The Ural mountains, which separate European from Asiatic Russia, yield the largest amount of gold that is now produced in any part of the Old World. The mines there have been gradually increasing since their discovery in 1819; and, in the year 1839, according to a statement by Humboldt in his 'Cyclopedia, article Andes,' the annual produce of gold was valued, at the beginning of the nineteenth century, at 283,429 troy ounces; which, valued in its refined state, at 4l. per ounce, is equal to 1,133,716l. The produce of Chili has, however, greatly fallen off;—from about 15,000 ounces, in 1810, to 2220, in 1830. When Brazil was first discovered, it was in such common use that the inhabitants had fish-hooks of that metal, but had no iron, although their country abounds in it. The district in which gold is now obtained in greatest quantity is in the mountainous part of the province of Minas Geraes; but it is also got in the provinces of Goyaz, Matto Grosso, and Sao Paulo. It occurs in veins in primary clay-slate, limestone, and granite; and the iron-ore with which those districts abound is also frequently auriferous: but the most fertile source of supply is the stream-gold in the deep alluvial soils which cover the primary rocks. The gravel and sand are washed, and the heavier gold is separated by a process similar to, but less skilful than that followed in the tin stream-works of Cornwall. Mr. Jacob estimates the produce of the gold-mines of Brazil to have been equal to 80,000,000l. sterling in 110 years, ending in 1810; but it has been gradually declining, he says, since the middle of the last century. Thus, the average annual produce from 1793 to 1796 was about 950,000l.; from 1755 to 1794 it was about 415,000l.; and, in 1810, the mines of Minas Geraes, which afford three-fourths of the whole produce of Brazil, yielded only about 203,000l. In the subsequent ten years, there must have been an enormous decline, if the statement of Major Von Schäffer, who visited the country in 1829, be correct; for he says, in his work on Brazil, that the produce of the preceding year was only 24 arrobas of gold, which is equal to about 44,000l. If this account is to be relied on, then we have in Brazil, as in other countries, a proof of the extraordinary vicissitudes to which mining adventures are subject; for, in a letter of one Rafael de Amor, published in Leonard's 'New Annual of Geology,' dated July, 1833, it appears that the gold-mines of Gongo Soco had, a short time before, produced 30 arrobas of gold in three months; and that the same mine had yielded above 100 arrobas in the preceding year: 100 arrobas are equal to 47,233 ounces, so that the value was about 158,932l.

**Gold Mines of South America.**—Beginning with the western side of the continent, the most considerable gold-mines of Chili are in the district of Petorca, north-east of Valparaiso; and, farther to the north, in the districts of Coquimbo and Copiaba. In Peru, the province, the provinces the most rich in gold are those of Pataz and Huallas, between the seventh and ninth degrees of latitude, and situated in the ridge of the Andes. The Indians obtained vast quantities of gold, not only from the province of Curimayo, north-east of the city of Casamarcas, at an elevation of more than 11,000 feet above the sea; and in the Cerro de San José, at a height of 13,000 feet, considerable quantities of gold have been found in veins of an ore of silver. Very extensive and productive stream-works are situated on the banks of the river Tipuani, not far from the town of Zorata, eastward of the great lake of Titicaca, and which appear to have been the sources of the early inhabitants of the country, and by the ancient Peruvians, the main source of supply in the alluvial soil. There are veins of gold in mica-slate in the province of Antioquia, in Colombia, but there are no mines worked there, on account of the inaccessible nature of the country. All the gold of New Granada is obtained from the alluvial soils, and the richest stream-works are in the provinces of Antioquia and Choco, in the valley of the river Cauca, and on the coasts of the Pacific in the district of Barbaosas; but the auriferous alluvium extends over the whole country from the western Cor-
of engineers and other properly-qualified persons, to traverse the Urals in various directions. It is expected that, in seven years, a very complete geological map of the whole range will be completed.

Although the Russian mines are properly in Asia, we have considered them as belonging to Europe in this respect, for a considerable part of their produce is refined in Petersburg. Gold has been long found in various parts of Europe, but the produce has declined considerably, when the average of the last twenty years is compared with that of the preceding hundred years. The only mines that are now of any importance are in Hungary, which a few years ago yielded, according to Brockhaus, 29,900 marks a year, or about 53,600 florins in value. The most celebrated mine is that of Nagyag in Transylvania, where the gold is in combination with tellurium; and there is a mine at Chemnitz where it is alloyed with silver, lead, and iron. Dr. Edward Brown, an English physician, who visited the Hungarian mines about the year 1760, says, that the mines of Chemnitz had been worked nearly 950 years, and were then the richest in gold in all the kingdom. But the chief source of supply is still in the alluvial soils; and collecting gold in the beds of rivers and streams of lakes, they are of inexpressible value. The occupations of the gypsies, the Zigeuner, who are so numerous in Hungary. Native gold is found in veins in the Salzburg Alps, and in the Rhine of Edelfors, in the province of Smoland in Sweden, but in small quantity. It is probable, however, that it was found at an early period in that country, for swords, daggers, and knives have been dug out of tumuli in some parts of Sweden, having blades of gold with a cutting edge of iron. Stream gold is found in a great many parts of Europe, especially in the beds of rivers, as in the Danube, Rhine, and several others connected with mountainous countries. That part of the course of the Rhine which passes through the territory of the Duke of Baden yielded to the government, in the year 1827-8, about 9431 florins, according to official documents which have been published; but it is seldom found anywhere in Europe in sufficient quantity to repay the labour of searching for it; and the gypsies and others who follow the occupation of searching for it, find they want it, in the most commodious way-placers, as the ignorant and the hope of meeting with a prize, even where the blanks are numerous beyond all proportion, have charms too exciting for the search to be altogether abandoned.

EXCHANGES.

In a tribe of savages, a discovery is made by one of them of a colouring substance, with which he stains his body. This adornment excites the envy of his neighbour, and he desires to ornament himself in like manner. But the inventor alone is in possession of the colour; what, then, will the others do to obtain it? There are but three means by which this may be accomplished—violence, persuasion, and exchange. Violence is not always the most practicable means. Strength or address may be wanting; and even when violence is successful, reprisals may be anticipated. However brutal and unintelligent men may be in the habits of their various employments, they may be taught to guard their possessions. Persuasion is a more effectual means; and even animals make use of it. When violence is out of the question, they endeavour to gain favour by their address. This is the case of the dog, which sits by the side of its master at dinner-time, endears itself, by a tender and patient attention, and to obtain a morsel. In a prosperous state of society, persuasion is a very insufficiency means. The wants of man become multiplied to such an extent, that he is in a constant hurry to supply his own necessities. It is only the beggar who wonders how to dependant on another; but even he depends only on a portion of his fellows. There remains, then, exchange as the means the most prompt, the most certain, and the most practicable, to procure that which an individual is in want of, and which he knows how not to procure by his own labour. The more prosperous society becomes, the more numerous become his wants, and he is less able to satisfy them by his own labour. It is then that he stands in need of the assistance of others, and it is vain to expect it from their benevolence; it is much more effectual to address himself to their personal interests. This is what he does who proposes to make an exchange. The meaning of his proposition is this:—Give me that which I want, and I will give you that of which you yourself stand in need. It is not from the benevolence of the butcher, the wine-merchant, or the baker, that we expect to obtain our dinner, but from the care with which he has supplied his own wants. We do not address ourselves to their humanity. It is not of our wants which we speak, but of their advantage. Exchange begins from the moment when men possess a variety of exchangeable things. This last circumstance is absolutely necessary as a condition which exchanges can alone be made for if every body possessed the same, there would be no exchange. But even without some particular article, or, in fine, if the articles which each possessed were not of an exchangeable nature, exchanges would then be impossible. Thus the condition above mentioned comprehends three others, which it is important to explain. 1. Exchanges suppose the existence of property. An article which does not belong to any one cannot become an article of exchange. In the social state, everything which can be appropriated belongs to some one of the members of the society. 2. Exchange is limited to things capable of being transmitted. Only material things and human labour possess this capability. The first commodities were fish and the produce of the three kingdoms of nature; the second the works of human hands imposed from these productions. 3. But to create exchange it is not sufficient that things should be exchangeable only:—it is requisite that they should exist in great variety. If the labour of each individual sufficed to satisfy all his wants, and if every bit of land produced all things, exchange would not be possible;—each individual would already possess that which another offered him. But happily it is not thus. Nature having connected the prosperity and civilization of human beings with exchange, each can no longer be content to render them necessary and inevitable. The different productions which exist among men occasions their labour to be directed to varied objects; and the peculiar properties with which the earth is endowed produce likewise a diversity in its fruits. No man, no country, therefore, exists independent of the trades that are essential to men. 1. Gold and other metals, the produce of the earth, abundantly supplied in various parts of Europe, especially in the beds of rivers, as in the Rhine, and several others connected with mountainous countries. That part of the course of the Rhine which passes through the territory of the Duke of Baden yielded to the government, in the year 1827-8, about 9431 florins, according to official documents which have been published; but it is seldom found anywhere in Europe in sufficient quantity to repay the labour of searching for it; and the gypsies and others who follow the occupation of searching for it, find they want it, in the most commodious way-placers, as the ignorant and the hope of meeting with a prize, even where the blanks are numerous beyond all proportion, have charms too exciting for the search to be altogether abandoned.
HOGARTH AND HIS WORKS.—No. XIII.

THE ELECTION.—Plate IV.
The fourth and last picture of the 'Election' we may consider to have been in some measure forced upon Hogarth by his subject, which required this as the completion of the story which he had undertaken to relate. This possibly accounts for the circumstance that the present is perhaps the least interesting picture of the series. The artist has, however, made the most of his subject, and brought into very efficient combination the various circumstances which characterize (we dare not yet use the past tense) the variously-modified excitements of a popular triumph. The poll having closed, the members, according to a custom much better "honoured in the breach than the observance," are placed in fine chairs, and paraded through the town on the shoulders of men. This custom, so unutterably ridiculous in itself, involves some peril to the triumphant candidate, particularly when, as in the present instance, he happens to be corpulent in person. Perhaps the time has not yet come for popular feeling to be satisfied without this ceremony: but, if there must be a parade, we hope the practice, which now begins to prevail in large towns, of displaying the member in an open chariot, will ere long be universally substituted for the literal "chairing."

The scene represents the chairing of both the members. Only one of them is actually present, but the near approach of the other is indicated, in Hogarth's way, by his shadow on the wall of the court-house. The uproarious character of the procession is perhaps partly accounted for by the apparent fact that members of opposite principles have been elected. The confusion in the foreground is, however, to be distinguished from that in the back-ground. The latter seems merely a partyuproar, whilst the former is the result of accident. The uproar appears in its progress to have alarmed a sow and her litter, which therefore set off at the top of their speed, effecting a very serious derangement of the procession in their progress. They have just overturned one old woman, and are about to terminate their career in the stream over which the first part of the procession is at the moment passing, or rather where it is detained by the obstinacy of an ass, which resists the efforts of its rider to turn it out of the road, and stands stock still. A dancing bear, with a monkey chair'd on his shoulders, avails himself of this desirable opportunity of exploring the contents of the garbage buckets carried by the ass. The bear-leader, a sailor with a wooden leg, was preparing to withdraw his men from the street, when one of them, interrupted in his business by the appearance of a sow and her litter, which had pursued the pigs from the farm whence they started, and who is apparently angry with the sailor on account of the obstruction which his bear has occasioned on the bridge, in consequence of which the pigs run into the water. The thrasher's flail, however, inflicts injury where not intended; the swing of the implement throws it so back as to strike one of the bearers of the chair on the temple, in consequence of which the member is on the point of being overthrown, unless we suppose the man who endeavours to uphold the chair to have succeeded in his object. This accident affects the nerves of the young lady who is looking over the church-wall at the procession, and she is represented fainting amidst the solicitude of her attendants. It was possibly intended by Hogarth to magnify the absurdity and alarm of the member's momentary position by bringing into the scene the lady whose feelings were the most tenderly connected with his triumph and safety. This group of females is contrasted not only with the general scene, but with the chimney-sweeps close by, who appear highly to enjoy the uproar, and who unintentionally moralize mischief by fixing a pair of spectacles over the eye-holes of the death's head. The series began with feasting in all the fulness of detail; the feasting and drunkenness with which the affair is to end, is only implied in the present picture. One barrel of beer has already been consumed by the rabble, one of whom prostrates himself to suck up the dregs, while the men beyond him are producing a fresh supply. In the large and handsome house on the same side of the picture—which belongs to a lawyer, as appears from the clerk at his desk in the upper story—preparations are making for more refined excess. A chimney-sweep, many covers carried into the house for the entertainment of the gentry, who seem to have assembled there to celebrate the triumph of their favourite candidate. Among the persons assembled at the window, the one distinguished by his ribbon is the Duke of Newcastle, a celebrated nobleman of Hogarth's day, who was accustomed to interest himself personally in elections to an extent which would not now be considered seemly.

We may perhaps direct attention to the punning motto on the church-dial. "We must!"—"the sentence is supposed to be completed by the name of the dial,—"die all." A story is told of a gentleman who, not perceiving the point, such as it is, of the motto "We must," in its peculiar application to a dial, transferred it to a clock fixed on the front of his house. The fray in the back-ground seems to have been attended with some bloodshed; for the soldier who has retired from it, and is putting on his shirt at the right-hand corner of the picture, has his shirt broken but one, and a broken sword lies near him. Among the figures in the back-ground, nearly undistinguishable from distance, the woman beating—probably driving home—her husband, the butcher with his marrow-bone and cleaver, and the motto "Pro patria" in his cap, and the wounded man near him, are the most remarkable. The two latter characters we noticed for the sake of introducing Hogarth's own ironical remarks in reference to them, with which we may not unsuitably conclude this article:

"These two patriots, who, let what party will prevail, can be no gainers, yet spend their time, which is their fortune, for what they suppose right, and for a glass of gin lose their blood, and sometimes their lives, in support of the cause, are, as far as I can see, entitled to an equal portion of fame with many of the enblazoned heroes of ancient Rome. But such is the effect of prejudice, that though the picture of an ancient wrestler is admired as a grand character, we necessarily infer an idea of vulgarity to the portrait of a modern boxer. An old blacksmith in his tattered garb is a coarse and low being:—strip him naked, tie his leather apron round his loins,—chisel out his figure in freestone or marble, precisely as it appears,—he becomes elevated, and may pass for a philosopher or a deity. As these remarks were intended to be satirical, we must make some allowance for their not being perfectly just.

FIRES IN RUSSIA.

As houses in Russia are in general built entirely with timber, fires are very frequent, and necessarily involve the danger of more extensive desolation than is likely to take place where the buildings are of less combustible materials. The fire by which the town of Tula was desolated last year affords an instance to which nothing similar, as to the extent of destruction, has occurred in this country since the great fire of London. It may therefore be interesting to state some of the reasons which prevail, in cases of fire, in the towns and villages of a country thus peculiarly circumstanced.

In places where there are no fire-engines, or where the supply of water is not abundant, or cannot be made available at the moment, the most usual and effective process is to pull down some of the houses which inter-
vene between the fire and the direction in which the flames are impelled by the wind. In point of fact, this seems a far more effectual process than the employment of engines. In passing through Russia the writer generally observed that fires were most destructive in towns possessing engines and a good supply of water, on which dependance had been placed for the extinction of the flames: whereas in villages destitute of these apparent advantages the progress of the flames was, in most instances, intercepted by a prompt resort to the above process. In the other cases it is only resorted to after the engines have been tried, and have failed to bring the flames under; and by that time it is sometimes too late to employ with effect the process by which the progress of the fire might easily have been checked in the first instance. The writer, among other cases, observed that at the town of Vishnei Volotchok, which possessed engines, a long line of the best houses in the place, fronting a fine navigable river, had been recently burnt down. Afterwards, while waiting a day or two at the village of Catherinengard for the assembling of the Caucasus caravan, a fire broke out at night with great fury in the house of a shop-keeper. As there were no fire-engines, and as the fire was at a considerable distance from the river, which there flowed through a deep channel and was of difficult access, the strangers were fully prepared to expect that the half of the village which lay between the fire and the river would be completely destroyed, as the breeze blew in that direction. But the people and soldiers set to work with great energy in pulling down the house next to that which was on fire, and in the morning it was found that the injury had been limited to the house in which the fire commenced and that which had been taken down. Such water as could be procured was thrown upon the flames in the one house, while another party was employed in taking down the next.

It should be mentioned that, at least in some parts of Russia, the inhabitants entertain the superstitious opinion that nothing is so effectual as milk in extinguishing fires which have been kindled by lightning. Hence fires which thus originate are far more destructive than any others: for in consequence of the small quantity of milk which it is possible to procure, whole villages have been destroyed which might probably have been saved by a plentiful supply of water, and still more probably by the process to which we have just adverted. This superstitious fancy also prevails in some parts of Germany.

There is perhaps in no place a more remarkable regulation for the prevention or extinction of fires than that which is in force at Tsherkask, the capital of the Don Cosacks. On a board which is hung out in public view at each door are painted figures of the instruments which each house keeper is bound to have in readiness and to attend with when a calamity of this description occurs. Thus, for instance, at one door is painted the representation of a hatchet; at another that of a water barrel; and at a third that of buckets, crow-bars, ladders, or other requisites. On the first alarm of fire the housekeepers are expected to attend at the spot with their respective apparatus as denoted by the figures at their doors. Thus an adequate supply of water which might probably have been saved by a plentiful supply of water, and still more probably by the process to which we have just adverted. This superstitious fancy also prevails in some parts of Germany.

In Moscow there is a regular establishment for extinguishing fires; and in appearance, if not in efficiency, it is probably not exceeded by any single establishment in Europe. The building which forms its head-quarters is a large edifice of three stories, surmounted by an elevated watch-tower; it has two wings, and the internal square is surrounded with excellent and extensive stables, smiths' shops, houses for the fire-engines, waggons, and fire-apparatus, and with dwellings for the firemen and the police. Everything is there kept in the best order: the houses are good; the engines are excellent, and always in readiness to be started at a moment's warning in cases of fire; the horses also are mostly fine animals. In summer the whole regiment of firemen, horses, and fire-apparatus is turned out to exercise and to water the roads. When grand entertainments are given by the court or by the nobility, the fire-engines and apparatus, the firemen, and the police, are all stationed around the building.

This establishment looks better than it acts. In St. Petersburg the system pursued more nearly assimilates to our own, and is really much more effectual than that of Moscow. The whole establishment is under the control of the police, and the fire-engines, which are precisely similar to our own, are kept in constant readiness at the several police stations. The number of these engines is very considerable, and the firemen form a regiment regularly trained and marshalled. A uniform process is followed in every case of fire. As soon as the watchman upon any of the towers discovers a fire, and by certain stipulated signals has indicated the district in which it is raging, the fire-engines start from every station in the city, and proceed to the spot in a given number of minutes, which is regulated for every station in proportion to the distance which it happens to be from the fire. Each of the police stations sends two fire-engines; a third carriage conveys the firemen, four others are laden with large tanks of water, and another follows laden with fire-ladders and escapes. The principal functionaries of the city and of the police are bound to give their personal attendance on the least alarm of fire.

It is only within these few years that a Fire Insurance Company has been established at St. Petersburg. Dr. Granville informs us that, until the foundation of this company, houses in the Russian capital were commonly insured in the Phoenix Fire-office in London, which furnished the model on which the new establishment has been formed, with some difference as to the mode of effecting insurances. He adds:—"The establishment being without competition for the present, must ultimately be productive of very large profits to the subscribers. The emperor has ordained that the statutes of the company shall be published throughout Russia; and has secured to it exclusive privileges, granted for the space of twenty years, and exempted it from all taxes except a fine of twenty-five kopecks (paper), 2k., upon every thousand roubles insured. The policies of insurance are also declared to be legal representatives of real and substantial property insured; and, as such, they are to be received in courts and at the banks. This company has issued* shares to the amount of ten millions of roubles, each share being for one thousand roubles. None but subscribers virtually and permanently resident in Russia were admitted to shares, and no distinction was made as to rank or condition of society with regard to shareholders. The founders reserved to themselves 1900 shares, and 8100 were sent to the market: of the latter, 3000 were for such persons as took from 101 to 250 shares at one time; 2000 for 251 to 500 shares: 1800 for 501 to 1000 shares; and 2100 to those whose number of shares at any time did not extend beyond 51. Twenty per cent. was paid at once on the subscribed number of shares; and the profits were to be equally divided among all the shareholders."

Such is the first fire-insurance office in the Russian empire. After this statement of the combustible cha-

* This was written in 1828.  
character of Russian houses, it might be supposed that the inhabitant in general would be more than commonly anxious to preclude danger from fire, and would exhibit much caution in the use of that which is required in manufactures and domestic affairs. The writer himself, however, is unable to recollect that any instance of this struck his attention in the course of an extensive journey through Russia. Dr. Clarke, however, relates that, at Dedilof, which had often been reduced to ashes, the inhabitants dreaded the very sight of tobacco-prints. Seeing him kindling his pipe, the Starosta of the place came to him to protest that he would not use it, especially in the open air, as a casual spark might again involve the inhabitants in flames.

Currency.—The common currency at Shandy is the same as that at Berber, viz., Dhoura and Dammonir. Silver and camels are general currency, and white parties of slaves are bartered for Egyptian and Susakian merchandise. Of dollars those are only current that are coined in Spain. None pass current but those with the inscription of Caroles III.; and these numerals, or lines, must be visible upon the dollar to make it pass at its full value. They say that the dollars with of Caroles III. must be of less value because they have only three lines, whereas they are estimated at one-sixth below the real value. Those coined under the Ferdinands lose one-third. Austrian dollars are not current. During my stay at Shandy, I found a blacksmith secretly employing in adding +1 to the place their paternal arms in a lozenge. The popes saw this, and ordered them to cease in use until they would not use it, on pain of the destruction of the road. The first instance of their being introduced into England by Edward III. Blazoning, the attitudes of animals, and the grotesque delineation of monsters, owe their origin to France; and to that country we are probably indebted for the use of armorial bearings, which were in fashion in the reign of James I. An instance of this occurs in the case of Sir Peter de Vele, or of Vitulis, who bore ciphers on his ensign. Of practice of Europe, unmarried women placed their paternal arms in a lozenge. The popes had no arms till Boniface VIII., who began his pontifical reign in 1295. The use of crests, or cognisances, was, for many centuries, confined to royal use. Fulk, Earl of Anjou, grandfather of Henry II., bore the banchronch (Fig. 1) in his penitential pilgrimage to the Holy Land; hence the name of Plantagenet from Planita genista, the Latin name of this shrub, which was also the cognizance of Henry II. and Richard II. About the fifteenth century, cognisances became universal: minstrels wore them suspended by a silver chain; and the servants of each noble were distinguished by having the cognizance of their master fixed on the arm, a relic of which practice is still seen in the badges of the London firemen, and the watermen of the city companies on the Thames. The sleeve-badge for servants was left off in the reign of James I.

The colours of liveries may in some sort be regarded as distinctive badges. The royal liveries of the later Plantagenets were white and red; those of the House of Lancaster were white and blue, while the colours of the House of York were murrey (dark red) and blue. The liveries of the House of Tudor were white and green; those of the House of Stuart and those of George I., yellow and red. In all the subsequent reigns, they have been scarlet and blue. The liveries of the different younger members of the royal family of George III. were crimson until the accession of William IV., when they were changed to scarlet. Families often had, and still have, their liveries the same colour as their bearings. Animals are considered the most noble bearing, and next to these, and as noble, are inscriptions, which are lower in the scale of heraldic dignity, on account of their being posterior to either of the former in the order of their creation. It is a rule in heraldry that animals, birds, &c., are to be considered according to their best and most noble qualities; thus a lion or a fox do not represent savageness or theft; but majesty and nobleness are typified by the former, and wit and cunning by the latter.

The following is a statement of the changes that have been made in the arms and supporters of our
different monarchs, by which it will be seen that some
change took place in a great proportion of the reigns. A
knowledge of this is useful in ascertaining the dates of ancient
buildings, &c., on which the royal arms are frequently to be
seen.

Edward the Confessor (1041): his arms were a cross fleury
between five martlets, or doves. (Fig. 2.) Some antiquarians have
doubted whether these arms were ever used by this monarch, and
have supposed them to be a modern invention.

William the Conqueror (1066), William Rufus (1087), and
and Henry I. (1106), bore two lions; and their shield, in heraldic lan-
guage, would be thus described: —gules (red), two lions, passant
gardant, or. (Fig. 2.)

Stephen (1134). A Sagittarius, which he is said to have
adopted because he entered Eng-

land when the sun was in that
sign. (Fig. 4.)

Henry II. (1154). Three lions, which are the present English
arms. (Fig. 5.)

Richard I. (1189) bore the same arms; and he assumed the
motto "Dieu et mon droit" after an
important victory at Gisors.

His cognisance was the broom-

plant (Fig. 1).

John (1199), before he was

king, used two lions, and after-
wards three,—the present arms of

England.

In the reigns of Henry III.
(1214), Edward I. (1272), and Edward II. (1307), no alterations
were made.

Edward III. (1327.) His arms, after the fourteenth
year of his reign, were quartered with those of France;
not as at a later period, but a number of fleur de lys were scattered over the shield, which is called by heralds "semé." (Fig. 6.) It is stated by some writers that this monarch, and not Richard I., first bore the motto "Dieu et mon droit."

Richard II. (1377) bore the same arms as his predecessor, but sometimes he quartered with them the arms of Edward the
Confessor. At other times they
were on a separate shield, of which his arms on West-

minster Hall are an instance. His supporters were
angels; and he was the first English king by whom they were used.

Henry IV. (1399) quartered his shield;—the first
and fourth compartments each having five fleur de lys, and
the second and third the English lions. His sup-
porters, according to some antiquaries, were two angels, but, according to others, a lion and an antelope.

Henry V. (1418). The same arms as his prede-
cessor, except that he reduced the fleur de lys to three, in imitation of Charles VI. of France. His supporters
were antelopes, and his motto "une sans plus."

Henry VI. (1422) used the same arms and sup-
porters. This king was the first that used the arched crown.

Edward IV. (1461). The same arms, surrounded
with the garter, with a black bull and a white lion for
supporters. The white rose, so celebrated in the wars
of York and Lancaster, is found in many painted glass
windows of this reign.

Edward V. (1483). The same arms, with a white
lion and a white hart for supporters, and sometimes a
leopard instead of the latter.

Richard III. (1489). The same arms, with two
boar, or a boar on the left, for supporters. Richard's cognisance was a boar, whence the old saying—

The Rat*, the Cat*, and Lovell the dog,

Govern old England under the Hog.

Henry VII. (1485). The same arms, with a red
dragon and a greyhound for supporters. This monarch,
by his marriage with Elizabeth of York, united the
parties that had borne the red and white roses.

Henry VIII. (1509). This king's arms and sup-
porters were, in the early part of his reign, exactly
the same as those of Henry VII.; but afterwards his sup-
porters were a lion crowned, and a red dragon.

Edward VI. (1547). The same arms, with a lion
and a griffin for supporters.

Mary (1553). The same arms; but, after her
marriage with Philip of Spain, she
impaled (that is, had side
by side with her own arms) the
arms of Spain, which are
quarterly;—first and fourth,
a castle, second and third, a lion
rampant. (Fig. 7.) Her sup-
porters were a greyhound and a
crowned eagle, or an eagle and a
lion rampant, with the motto
"Peritas temporis filia."

Elizabeth (1558). The same arms as Edward VI.
This queen, according to Fosbrooke's Encyclopedia
of Antiquities, added and fourth, a
harp for Ireland; but in
almost every instance her arms, both on buildings and
coins, are without it. Her supporters were a lion and
a red dragon, her motto sometimes "Semper cadem," and her
devices were without number; indeed, so fond was
she of allegorical allusions, that the pattern of her dress,
in some of her pictures, is eyes and ears, and her orna-
ments serpents.

James I. (1603). This king made great alterations
in the arms. The first quarter
of his shield was divided quarterly,
the first and fourth bearing the
arms of France, the second and third, England; the fourth large
quarter was the same as the
first; the second large quarter
contained the arms of Scotland; and the third the harp for
Ire-

land. (Fig. 8.) His supporters
were a lion and unicorn, and his
motto "Beati pacifici."

Charles I. (1625). Exactly the same as the preceding.

(1649). The Commonwealth
did not adopt the royal arms, but
used instead two long shields;

on the dexter, or right, shield was
a St. George's Cross, and on the
sinister, or left, a harp. (Fig. 9.)
The motto on the coin was "God
with us."

* Ratcliffe and Catesby, the well-known instruments of Richard's
alleged atrocities.
Torbay is situated in a sheltered cove in the north-east angle of Torbay, at the distance of twenty-three miles from the city of Exeter, thirty-three from Plymouth, and fourteen from the southern borders of Dartmoor. Torbay is the largest bay on the coast of Devonshire. It lies between the rivers Dart and Teign, bounded by Hope's Nose on the north-east, and by the Berry Head on the south, and forms an irregular semicircular outline of about fourteen miles in circumference. The shores of this fine bay are formed by a series of cultivated hills, varying in height from 100 to 500 feet: these hills in general slope gently to the shore, although at times they rise above the coast with a rugged and abrupt appearance. Torquay and Brixham, well known as the landing-place of William and Mary, the latter of the House of Hanover, have been the only towns on the coast of Torbay about midway between them on the western shore is the village of Paignton, the ancient residence of the Bishops of Exeter.

The cove in which Torquay is situated is formed by three limestone hills of about 200 feet in height, between which run two valleys, one towards the romantic hamlet of Babbacombe, the other towards the village of Tor Moham. Torquay is built in streets and terraces along these hills, on the shores of the cove, and in the valleys; many houses, however, are built as villas on the rising grounds, and are surrounded by distinct plantations. This peculiar formation gives Torquay a singularly romantic and picturesque appearance.

It is only within the last half century that this town has attained any consequence as a resort for invalids. Although abounding in objects of great natural attractions, it was known only as a fishing village, and little frequented by the tourist, until the late Sir Lawrence Palk brought it into notice, by the erection of the present pier, by the establishment of an hotel, and by affording encouragement to the building of commodious houses. Opportunities being thus afforded of investigating the character of the climate and the merits of the place as a winter residence, the fame of Torquay was soon established as a suitable resort for invalids labouring under pulmonary diseases. Its sheltered situation from the north and east winds, the mildness and steadiness of its temperature, the extent of its exercise-ground, and its comparative freedom from the sea-fogs which prevail so much along the southern shores of England, render Torquay superior to all the other watering-places on the coast.

The climate of Torquay is a subject of so much importance both to the invalid and the medical philosopher, that we regret that our limits are too brief to allow us to enter upon it here as fully as we could have desired.

The mean temperature of the six winter months, from November to April inclusive, is 52°; and the comparative freedom from the sea-fogs which prevail so much along the southern shores of England, render Torquay superior to all the other watering-places on the coast.

The mean monthly range of temperature, as deduced from the observations made in the above seasons, is 26°; the mean daily range about 4°. The variation between the minimum of the night and the temperature of the following morning at eight o'clock, during the entire season, is 8°; and during the three winter months only 2°.

The highest temperature noticed in the six months at 2 p.m., during the severe season of 1830-31, was 76°; the mean daily range during the season 1830-31, the highest was 64°, the minimum 21°; and during the season 1831-32, the maximum was 67°, and the minimum 30°. The temperature of the springs around Torquay is about 51° during the winter season. The prevailing winds are west and south-west; the latter continues for a considerable time. The wind in the winter season is generally a south-west, and the sea is generally calm, with the exception of the last four weeks in February, when the sea-fogs are most intense.

The climate of Torquay has been much improved by the establishment of a college for girls, by the erection of a hospital, and by the establishment of an hotel, and by the encouragement to the building of commodious houses. Opportunities being thus afforded of investigating the character of the climate and the merits of the place as a winter residence, the fame of Torquay was soon established as a suitable resort for invalids labouring under pulmonary diseases.

The sheltered situation from the north and east winds, the mildness and steadiness of its temperature, the extent of its exercise-ground, and its comparative freedom from the sea-fogs which prevail so much along the southern shores of England, render Torquay superior to all the other watering-places on the coast.
during the greater part of the year: from the north and east the town is well protected by the hills around the cove. The sun's rays, being concentrated as it were by the hills, have considerable power, and contribute largely to the increase of the winter temperature; this effect, however, during the summer months renders the heat of the town exceedingly oppressive.

The situation of Torquay at the opening of an extensive series of limestone hills, and its position between two considerable rivers, are generally considered to render its atmosphere drier than the other towns of South Devon. The land soon paches after rain, and the roads, quite dry, afford beautiful walks for all seasons of the year, the most of a country abounding with landscapes of unrivalled beauty. The class of patients who select Torquay as a winter residence are chiefly those affected with pulmonary diseases; and to these the mild and soothing climate appears to be particularly adapted. It is, however, a subject of just regret that few patients are sent into Devonshire at a period of the disease sufficiently early to insure to them the advantages which the change is capable of affording. Much more discrimination is necessary in deciding on a change of climate than is usually imagined; the time, the place, and circumstances, are no less deserving of attention than the measures to be adopted by the patient during his residence in the place selected. In the early stages of that morbid condition of the system which terminates in consumption, Torquay has been highly beneficial; and it is due to Dr. James Clark, the author of "The Influence of Climate,"—one of the most valuable and philosophical works which we possess,—to state that, since the publication of his admirable views on this subject, the class of consumptive patients sent annually to Torquay have been more judiciously selected than in former times. It is the opinion of Dr. Clark that, in consumption and chronic bronchitis attended with an irritable state of the affected parts, Torquay and Undercliffe are the best situations in England to which the invalid can resort; and, in regard to the extent of exercise-ground, Dr. Clark also considers Torquay superior to every place in our island.

It would occupy too much space to give a list of the plants indigenous to Torquay, although it would afford a good collateral illustration of the mildness of the climate. The same reason also prevents our introducing a catalogue of the conchology and marine productions. Among the tender exotics which are hardy in the gardens of Torquay are the Agave Americana, Cassia Capensis, Citrus Medica (citron and lemon), Laurus Camphora, Turpinia, and Scilla. The myrtle flourishes luxuriantly throughout the entire district; it attains a very large size, and is proverbial for its longevity. The coves in the surrounding villages are frequently grown over with roses, which require no shelter in the severest winter.

The population of Torquay is somewhat below 3000; the total population of the parish, according to the last census, was 3582. During the 18 years preceding 1830, the ratio of the total mortality to the population in 1830 was 1 to 64:95.

The geology of Torbay comprises two formations,—transition limestone and red sandstone. Along the west and south-west coast of the bay, the shores are composed of red sandstone, the strata of which have been much disturbed and hollowed out by the action of the sea. On the eastern side of the bay, this rock is covered by argillaceous shale, containing fragments of en-}

The soil, for many miles around Torbay, consists of a rich, dark-red, clayey loam.
The Shell-slug of which the above is a representation, was recently found in a garden in Gloucestershire. When at its full length, it measured from an inch-and-a-half to two inches. The upper part of its body is of a pale colour, very thickly marked with exceedingly minute black spots, which unite in an irregular manner; and on the back are three dark stripes, which are more distinctly visible in some individuals than in others; and it is altogether much darker when collapsed, the light colour almost entirely disappearing. The under-part of the body is of a bright salmon colour, more vivid in some specimens than in others. The greatest peculiarity in this slug is a small shell, $a$, resembling one of the smaller limpet-shells, which covers the hinder end of the body: what purpose so small a shell answers, as the slug has not the power of retiring into it, we have not as yet a sufficient acquaintance with its economy to be able to determine. The shell, when separated from the slug, is semi-transparent. While its natural position, its colour appears nearly the same as that of the back of the slug; $b$ and $c$ represent the exterior and interior of the shell when separated from the slug. These slugs are found in gardens about eight or ten inches below the surface of the ground; and they feed on earthworms. A worm, an inch in length, which was placed, in a box covered with glass, with three of these slugs, soon fell a prey to one of them; but a worm, three inches in length, wrieth so violently when seized that it succeeded in getting away. Afterwards, it probably became impeded in its movements by the slime of the slugs; for in a few hours they had devoured it, as well as two others of nearly equal length. It was observed that two of the slugs made their repeat at the same time at the two extremities of one of the worms. These slugs appear to have been only lately discovered, and very little is at present known of their habits.

"The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

LONDON: CHARLES KNIGHT, 95, LUDGATE STREET.
The Falcon genus of birds forms a very extensive division of the diurnal birds of prey. Upwards of a hundred and fifty alleged species have been described; but of these many are very little known, and not a few of them are mere varieties resulting from age, sex, or climate. Few of the species assume the adult plumage until three or four years of age; and this circumstance alone has occasioned many mistakes which cannot be corrected until the law which regulates the change of plumage in every instance has been ascertained. They are chiefly distinguished from the vulture tribe by having the neck and head covered with feathers, and by the prominence of the eyebrows, which gives to the eyes a sunken appearance. The female is, in almost every instance, one-third larger than the male.

In the present very unsatisfactory state of the divisions in this genus, we need only state that the eagles form a large section of the genus Falcon, and include not only the largest species which belong to it, but the most powerful and courageous of the birds of prey. They have a very strong beak, which is of considerable length, straight at its base, and bent only towards the point. The legs are strong and covered with feathers, even to the ends of the toes, which are armed with powerful and very crooked claws.

We shall confine the remainder of our statement to the Great Eagle, under which term we shall consider that there are included the following, which by different naturalists have been set down as distinct species:

- the common eagle, the royal eagle, the golden eagle, the ring-tailed eagle, the white-tailed eagle, and the black eagle. Recent naturalists are disposed to consider that all these terms apply to the same bird under different circumstances. The male is about three feet long, and the female three feet and a half, the outstretched wings generally measuring between seven and eight feet; but these dimensions are sometimes exceeded. The female is not only larger but, in a state of freedom, appears to possess more courage and subtlety than the male.

In a clear sky, the great eagle soars to a vast height, but flies lower in cloudy weather. He rarely quits the mountains to descend into the plains; and whenever this does happen, it is generally in the winter season, as will appear from an examination of the dates at which eagles have been shot or captured in the plain country. His immense muscular power enables him to contend with the most violent winds. Ramond relates that, when he had reached the summit of Mount Perdu, the most elevated point of the Pyrenees, he saw no living creature but an eagle, which passed above him flying with inconceivable rapidity in direct opposition to a furious wind from the south-west. The flight of the great eagle is so high that the bird often ceases to be discernible by the human eye; but even at this distance its cry, which has been compared to the barking of a small dog, can still be heard; and such is the amazing...
In the garden at Horsham. It was on the wing when observed, beset by upwards of a hundred rooks, whose noise attracted the notice of the person by whom it was shot while at a considerable distance, and gave him time to procure a loaded gun. It measured seven feet three inches across the outstretched wings; and as it was but slightly wounded in the pinion, it was alive at the time the account was furnished.

On the 29th of November, 1904, an eagle was shot at Stockfield Park, near Wetherby, by the gamekeeper of the Countess of Aberdeen, in the grounds near the house. It received the shot of three discharges before it was secured; and after being disabled it defended itself so powerfully as to elude every device of the gamekeeper for seizing it, till he thought of procuring a loaded gun. It measured seven feet four inches across the outstretched wings; and as it was but slightly wounded in the pinion, it was alive at the time the account was furnished.

On the 29th of November, 1804, an eagle was shot at Stockfield Park, near Wetherby, by the gamekeeper of the Countess of Aberdeen, in the grounds near the house. It received the shot of three discharges before it was secured; and after being disabled it defended itself so powerfully as to elude every device of the gamekeeper for seizing it, till he thought of procuring a loaded gun. It measured seven feet four inches across the outstretched wings; and as it was but slightly wounded in the pinion, it was alive at the time the account was furnished.

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SOME RECOLLECTIONS OF THE EASTER HOLIDAYS IN THE SOUTH OF ITALY.

(From a Correspondent.)

In Catholic countries Easter relieves people from the long fasting of Lent, and is for that and many other reasons, at some of which I shall hint, an especially gay and genial season. The awful solemnities of the Settimana Santa, or holy week, during which the severities of penance are increased, and which immediately precedes Easter Sunday, give the charm of contrast to the festival in a degree unknown in Protestant countries, where (to the great grief of the public) the festivals and seasons are pretty equal, except so far as they are affected by heat or cold, clouds, rain, sunshine, or other changes of weather. I do not intend to describe the holy week's solemnities, which are seen in their greatest and truly imposing perfection at Rome; nor have I for the present any wish of telling how Easter is kept amongst the wealthier classes, and in the different parts of Italy where the mode of the observances varies in a slight measure. My present recollections bear wholly upon the kingdom of Naples, and relate chiefly to the body of the people and to humble individuals who, as scrupulous observers of the fasts of the church, enjoy its feasts and holidays with greater zest than the upper classes, whose Catholicism, generally speaking, is much less strict.

From the hour of noon of the Thursday of the holy week, no wheeled carriages of any kind are allowed to be used in the cities and towns. All conditions of people, up to the court and king, must walk hurriedly on foot. The troops in parade and the sentinels at their posts all carry their arms reversed. The numerous church bells are all silenced, the market places deserted, the shops shut up, and all possible external means adopted that may denote a season of solemn silence, penitence, and humiliation. A Sunday at Naples is the noisiest of all days, but on the Holy Thursday and Good Friday I have seen that populous city as still as a Scotch town on the Sabbath, all the provisions of a city, as well as in the capital, some of the principal churches are converted into loyal and sometimes striking scenes. The light of day is excluded, and in the darkest recess or niche of the church there is the representation of a sepulchre, with the figure of our Saviour lying in it. All round the sepulchre the walls are hung with black cloth, while a few large wax torches throw a concentrated light within the body of the tomb, leaving all the rest of the church in a semi-obscurity, doubtful and vapoury, which is increased by the blue flame of the bells burning. If Protestant notions are opposed to such scenic representations, they ought to take no offence at the exquisite, solemn, and almost Divine music that is frequently performed on these occasions in the churches. The 'Stabat Mater dolorosa' of a Camerata, a Pergolesi, or a Paisiello, cannot be listened to by any man who has a soul within him, without profound and religious emotion; and to the deep impression made by such music on the poorest, least enlightened, and coarsest of the people, I have been witness a hundred times.

These churches are thrown open on the afternoon of Holy Thursday; and, until a late hour of the evening, are visited in succession by people of all ranks, who are blended together without distinction, and who all go humbly on foot—a religious commemoration producing for a time an almost perfect semblance of equality. The court, the nobility, the gentry, and now indeed the mass of the citizens of Naples, dress in deep black on this occasion, and the procession, who flock into the city in all directions, wear their best clothes. The Strada Toledo, or principal street, though quite as much crowded as I lately described it to be on a grand carnival day, presents as different an aspect as can well be imagined. Not a single wheel rolls over its rattle pavements—not a laugh, scarcely a voice is heard. All is hushed, except here and there, where the sounds of sacred music float through the open doors of a church, or when at nightfall the king and court walk back to the palace preceded by a crash of music.

On the following day (Good Friday) the ceremonies are continued with some additions, and on Saturday at noon the church bells are set again in motion. Coaches, gigs, carts, begin again to dash and roll through the streets, the shops are thrown open, the markets become crowded. Naples is the same noisy place as usual, the garments of mourning disappear, and whichever way you look you see what is, all generally—feeding and jollity. The purveyors of all kinds of provisions have their hands full of business, but the butchers’ and bakers’ shops present the most curious scenes. In the former, lambs and young kids, sheep and quartered bullocks, partially covered over with flowers and tinsel, or gilding, such as we find on our gingerbread, are displayed with much effect; whilst in the bakers’ shops heaps of a particular kind of bread, only used at this season, are piled up in full view of the public. The shops where eggs are sold in large quantities are ablaze, for all the egg-shells, instead of being white, are dyed red, by being dipped in a decoction, which, I believe, is generally made of log-wood: and hence arose the amusing mistake of a hurried tourist, who hap-
The bonded peasant is bound to pay undeviating obedience to the lord in all cases, without giving any other due service to him, (which service the law has fixed at three days in the week for a married couple,) and to pay the tribute which his lord imposes upon him. The public authorities are bound to lend their aid to the lord at all times. The bondsman is not, however, compellable to serve law which his master may require him to execute. He cannot be punished without the consent of his master, nor can he be forced to marry against his own inclination. If there be any want of marriageable females on an estate, or the whole peasantry are all unfree or bound, and the peasant of such females, in such case the purchase of females may be effected; and in cases where neither the lord nor his peasants have sufficient pecuniary means wherewith to make this purchase, the buyer may agree with the seller to place an unmarrigeable female at his disposal for every female he may deliver to him. Both the lord and his peasantry are responsible to the government for all public imposts, and the peasantry are personally liable for the poll-tax, for all burdens imposed on the land, and for the furnishing of recruits. The lord is bound to provide for the maintenance of his peasants, and cannot exact greater service from them than three days' labour per week. Grown-up children, so long as they are single, are not legally liable to do service; but this regulation is not in force in many cases. The lord may compel his peasants to dwell under his own roof, or on his own farm, and employ the whole family in working for his support. The peasant cannot enter a complaint against his lord; nay, all his acts become null and void if the lord does not hear him in his own court; but he is under great hauteon and false returns of the numbers of his serfs. Though there may be no express law giving the lord a right of disposing of his peasants' property, the denial of a hearing before a public tribunal and the ancient laws respecting the peasantry are bars to any remedy which the peasant can at present have recourse to. 

The head of every province is bound to prevent or punish the commission of any acts of tyranny, and may place the affairs of the lord in trust. It is not lawful for a tenant to change the place of residence of his land; runaways must be delivered up to the lord, and cannot be executed or punished without the consent of his lord; nor can he be compelled to sell his property to any person, nor can he make a recruit of him, send him to the field, or compel him to obey any orders contrary to law which his lord requires him to execute. The peasant cannot be punished without the consent of his master, nor can he be forced to marry against his own inclination. If there be any want of marriageable females on an estate, or the whole peasantry are all unfree or bound, and the peasant of such females, in such case the purchase of females may be effected; and in cases where neither the lord nor his peasants have sufficient pecuniary means wherewith to make this purchase, the buyer may agree with the seller to place an unmarrigeable female at his disposal for every female he may deliver to him. Both the lord and his peasantry are responsible to the government for all public imposts, and the peasantry are personally liable for the poll-tax, for all burdens imposed on the land, and for the furnishing of recruits. The lord is bound to provide for the maintenance of his peasants, and cannot exact greater service from them than three days' labour per week. Grown-up children, so long as they are single, are not legally liable to do service; but this regulation is not in force in many cases. The lord may compel his peasants to dwell under his own roof, or on his own farm, and employ the whole family in working for his support. The peasant cannot enter a complaint against his lord; nay, all his acts become null and void if the lord does not hear him in his own court; but he is under great hauteon and false returns of the numbers of his serfs. Though there may be no express law giving the lord a right of disposing of his peasants' property, the denial of a hearing before a public tribunal and the ancient laws respecting the peasantry are bars to any remedy which the peasant can at present have recourse to.

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The valley of the Neckar is one of the most fertile and cultivated portions of Germany. The Neckar rises in the Black Forest, and after a course of 150 miles through Baden and Wurtemburg, joins the Rhine at Mannheim. Its beauties increase as it approaches its junction with the Rhine, and nowhere can they be seen to greater advantage than at Heidelberg. This town is in the Grand Duchy of Baden, and is situated at the foot of the Kaiserstuhl, on the left bank of the Neckar, about sixteen or seventeen miles from Mannheim. It possesses but little trade, and indeed its population has been slowly declining during the last fifty years. In 1784 it contained 10,312 inhabitants, but, according to a recent census, their numbers have diminished to 9532. The bridge across the Neckar is a solid but elegant structure of eight arches. Heidelberg contains ten religious edifices. That of St. Peter is the most ancient, and is said to have been the first Christian
church erected in that part of the country. The church
dedicated to the Holy Ghost contains some interesting
monuments, among which are those of John Casimir
of Poland, and Blanche of England, wife of one of the
Electors, and daughter of our Henry IV. The Univer-
sity of Heidelberg was founded in 1386, and its
library was one of the most remarkable for the rich
collection of ancient MSS. which it contained. The
present academic establishment consists of about twenty-
six professors, and from five to six hundred students.

The Castle of Heidelberg is generally the first object
of attraction to the traveller. It is in itself highly
interesting, and it offers an excellent site for obtaining
a view of the whole country. Beneath the spectator
flow the undulating waters of the Neckar, and before
him he beholds a city so rich in glory and majesty.
Greatly altered by the wanton hand of the Electors,
the castle was once the residence of the Counts Palatine
of the Rhine, whose sway extended over both the Upper and
Lower Rhine. This territory now belongs to Prussia, Bavaria,
Baden, and other German powers.

In the seventeenth century the interests of the Palati-
nate were intimately connected with the warmest and
most burning topics of the day. The religious ideas and
passions of men were more strongly awakened than at the period when the Count Palatine
Frederick V. and Elizabeth his consort, daughter of
James I. of England, held their sovereign court at
Heidelberg. On this account, as well as from the
fact that the history of these personages presents
many circumstances of singular interest, it may not
be uninteresting or unprofitable to trace some of the
leading features of their remarkable career. In the
Life of the Queen of Bohemia," by Miss Benger, the
reader may study more fully the events which we can
only briefly sketch.

Elizabeth Stuart, the eldest daughter of James VI. of
Scotland (afterwards James I. of England) and Anne
of Denmark, was born in the palace of Falkland, August
19, 1596. She was grand-daughter of the unfortunate
Mary, Queen of Scots. Frederick V. was born also in
1596. Both were brought up by persons zealously at-
tached to the reformed religion. Frederick succeeded
his father in the Palatinate in 1610. In 1613 overtures were
made at the English court for the marriage of the Count
Palatine to the Princess Elizabeth; and on the 16th of
October he reached England with a princely train as
her acknowledged suitor. They were both at this period
seventeen years of age. The queen was opposed to the
match, and thought that her daughter's hand should only be bestowed on the possessor of a crown.
Elizabeth herself was sufficiently ambitious, but the
taunts which her mother used to stir up her opposition
by asking her how she would like to be termed Goody
Palsgrave were thrown away upon Elizabeth, whose
principles of attachment, to the Protestant religion were
so deeply rooted, that these stigmas only drew from
her an expression of her intention of still more firmly
adhering to them. "I would," said she, "rather espouse a Protestant count than a Catholic emperor."
Frederick was received by the English people with
marked demonstrations of respect and attachment, and
the projected marriage was almost universally popular.
Their nuptials at length took place, and they left Eng-
lond for the Palatinate attended by several of the most
distinguished men of England, and were finally received
at Heidelberg by many who were most distinguished
by rank or talent in Protestant Germany. The English
party appear to have been delighted with the banks of the
Neckar, and, according to Stowe, they pronounced the
country "a terrestrial paradise." At that period the
Palatinate was one of the happiest portions of Germany.
The following description by Miss Benger occurs in
her details of the reception of the newly-married
couple:—"The site of the castle being elevated 300
feet above the town, its venerable walls had long been
visible. It was of such extent that it appeared to
comprise within itself a city. Upon the threshold, Elizabeth held a mansion so imposing; never
had her British friends approached any place so well
calculated to recall the image of old German majesty."
The entrance to her new abode was by a magnificent
triumphal arch, which Frederick himself had designed.
It presented a genealogical view of the Palatine Princes,
and an allegorical representation of the union of the
Thames and the Rhine.

The birth of a son, which took place in the first
year of their marriage, was an event which not only
Protestant Germany, but England and the Presbyte-
rians of Scotland, hailed with pleasure. The Palatinate
had received the reformed religion at an early period,
and the University of Heidelberg had promulgated
a catechism which the Protestants of the continent
regarded as the standard of their faith. Frederick
himself, by position, feelings, and circumstances, was
looked upon as the chief of the 'Evangelic Union.' On
this account he and Elizabeth, and his family,
were regarded in every part of Europe to which
the new religion had found its way, as its foremost
supporters; and when the necessity arose, Frederick
naturally was called upon to be its defender. As yet
their life at Heidelberg passed pleasantly away. Their
styles were similar, and their ardent attachment bound
them still closer to each other. It was at this period
that Frederick caused a garden to be formed at the
castle, the traces of which still attest the devotion
of the Count Palatine to the Princess Elizabeth; and on the 16th of October he reached England with a princely train as
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only course befitting a prince. At last he decided upon accepting the Crown, not without some observation on the difficulties with which he was surrounded.

Frederick and his wife arrived in their Bohemian dominions on the 21st of October, 1619. Frederick was crowned on the 3rd of November; and Elizabeth, with equal magnificence, on the 6th of November. But as the Drum of Elector, Frederick found both Protestant union proved weak and ineffective. The united princes addressed to Frederick a letter exhorting him to relinquish the crown, and called upon him not to connect their common cause with "rebellion." This language, Miss Benger states, they had learned from James I., Frederick's father-in-law. Elizabeth's eyes were now opened to the perils of her position; though she was doubtless reanimated by the recognition of her eldest son as his father's successor, which was made by the three estates of Bohemia. But the friends of the deposed king were on the alert; and the defection of those allies on whom she was taught to calculate afforded but little prospect to Frederick of the decision of armies being in his favour. The Battle of Prague, fought near the city, decided the fate of Frederick. So rapidly did the disasters of the day fall upon him, that he had only time to remove the queen in a carriage to the old part of the town, and, instead of obtaining a suspension of hostilities, was forced to continue his flight. During this short period he determined upon abdicating, as a circumstance dictated by necessity. In the meantime Elizabeth had quitted Prague for ever. On a proposal being made to defend the citadel for a few days, in order that she might retire more leisurely, she exclaimed, "Never shall this devoted city be exposed to more outrageous treatment for my sake. Rather let me perish on the spot than be removed to a curse!" Elizabeth suffered considerable hardships in their flight. In Breslau a fall of snow rendered the roads impassable for carriages, and she was compelled to place herself on horseback behind a British volunteer. From Breslau she wrote to her father, stating that they had arrived at that place, "where God only knows how long we may be permitted to remain;" and, alluding to the King, she remarks, "if he must perish, why I will perish also." Frederick wrote a touching letter to his brother-in-law, George, margrave of Brandenburg, imploring permission for Elizabeth to reside at the Castle of Custin during her approaching confinement. He at first meanly hesitated, but at length assigned them this place, which proved a wretched abode, accompanied with a provision that she should be accountable for none of the expenses of themselves or attendants. On the 22nd of December they arrived at the castle; and on the 25th Elizabeth was delivered of a son, to whom the name of Maurice was given. On the 27th of December, in the preceding year, she had given birth to Prince Rupert in the palace at Prague. These two brothers became celebrated afterwards in the civil wars of Charles I.

In three weeks the royal fugitives left the Castle of Custin on their way to the Hague. They were received in Holland with feelings of warm attachment by the people; and the States allotted them an income for their support. Republican simplicity was not very congenial to Frederick, who had been accustomed to the exercise of absolute sovereignty. But the native good sense and simplicity of Elizabeth's character appear to have rendered the great change which had taken place in their fortunes an unimportant matter when compared with the welfare of her family. In his adversity, Frederick enjoyed the domestic happiness for which he was peculiarly formed, though embittered by learning that his friends in Prague were now oppressed by the restored Ferdinand.

In 1622 the party of Frederick revived, and he himself joined the army, but under many circumstances of a galling kind. He disbanded his army in conformity with the advice of his father-in-law, and also made one concession after another in pursuance of his councils: but fresh obstacles were incessantly thrown in the way of final and satisfactory arrangements. A truce was at last agreed upon, and the expenses of the bitterness which he felt in being thus tossed about by fortune:—"Would to Heaven," he says, "there were but one little corner of this earth where we might dwell together in peace and content!" The Palatinate was gradually subjected to the Emperor's authority. Even Frankenthal, Elizabeth's private dower, was not exempted from the common fate.

For several years after the unsuccessful termination of their affairs both by arms and negotiations, Frederick and Elizabeth lived in retirement at Rheten, near Utrecht. The care of their children, the cultivation of their garden, and other simple pleasures, books, and an extensive correspondence, were the sources of interest and happiness to them. The accession of Gustavus of Sweden to the great contest which was going on once more called forth Frederick from his quiet retreat, and he again proceeded to Germany. On Gustavus all the hopes of the Palatine family now depended. The campaign was conducted on a much more extensive scale than that of the Swedish conqueror; and the termination of Frederick's misfortunes, so far as the loss of his hereditary possessions was concerned, seemed at hand. He suffered, at this juncture, from fever, occasioned by intense anxiety. The battle of Lutzen took place. Gustavus, the champion of his rights, fell on its victorious field, and his prospects suddenly became darker than before. The stroke was too much for him; and, on the 17th November, 1632, he terminated his life seven days after the battle. Spannheim says:—"His thoughts, even his last prayers, were for his Elizabeth." "The unfortunate Queen of Bohemia," as she has been naturally called, continued to live in obscurity, deriving the means of her support from the States of Holland. After the Restoration of her nephew, Charles II., she came to England, and died at Leicester House in 1662.

Of the Reducing Powers of the Stomach.—The different operations of cookery, as roasting, boiling, baking, &c., have all a reducing effect, and may, therefore, be considered as the principal cause of the appetite. All the operations man's nature has taught him to avail himself, and they constitute the chief means by which he is enabled to be omnivorous; for, without such preparation a very large portion of the matters which he now adapts as food would be completely indigestible. At different times and places, the digestive powers have been in various degrees employed, not in rendering wholesome articles of food more digestible—which is the true object of cookery—but in making unwholesome things palatable, foolishly imagining that what is agreeable to the palate must be also healthful to the stomach. A greater error can scarce be conceived; for, though by a beautiful arrangement of Providence, what is wholesome is seldom disagreeable, the converse is by no means applicable to man, since those things which are pleasant to the taste are not infrequently very injurious. Animals, indeed, for the most part are contentedly satisfied with the food which provides moderately well for their warmth and motion, but for themselves, the food for which they are best fitted is not that which their existence requires. Animals, indeed, for the most part are contentedly satisfied with the food which provides moderately well for their warmth and motion, but for themselves, the food for which they are best fitted is not that which their existence requires.
Gold has been found in many of the tin stream works of Cornwall, but none has yet been met with in the mines. Mr. Carne says, however, that many circumstances render it probable that a vein containing gold exists somewhere in the vicinity of the parish of Ladock, N.W. of Grampound, although it has never been discovered. Some years ago, a considerable quantity of stream-gold was found in the county of Wicklow, in Ireland. The discovery was made accidentally in the Ballina valley stream at Croghan Kinshela, about the autumn of 1796. "It was at first kept secret, but being divulged, almost the whole population of the neighbourhood," says Mr. Weaver, "flocked in to gather so rich a harvest, actually neglecting, at the time, the produce of their own fields." Several hundreds of people might be seen daily assembled digging and searching for gold on the banks and bed of the stream. Considerable quantities were thus collected, and the populace remained in undisturbed possession of the place for nearly six weeks, when Government determined to commence active operations. An Act of Parliament was then passed for the management of the undertaking under three directors. Similar but smaller works were soon established, and up to the unhappy period of the rebellion in May, 1798, when the works were destroyed, Government had been fully reimbursed its advances; the produce of the undertaking having defrayed its own expenses and left a surplus." In the year 1801 the operations were resumed, and trenches were cut in various directions in the solid rock, to endeavour to discover the veins from which it was conceived the ore might have been derived, but all without success. The gold found was in lumps and grains in an alluvial deposit, resting upon the primary clay-slate, and there is nothing different in the geological history of which that part of the country is composed, and was an alluvial deposit, resting upon the primary clay-slate, and there is nothing different in the geological history of the gold found in Asia from what is known of it in other countries. Mr. Jacob vastly underrates the supply of gold from Asia, for he says that it does not exceed 800,000 ounces annually, including China and Japan, whereas the island of Borneo alone appears to produce little short of that quantity.

Gold of Africa.—Gold-dust has long formed an article of barter in the trade with the natives of the west coast of this continent, from the river Senegal to Cape Fornosa in the Gulf of Guinea, a part of which is called the Gold Coast. It is not only found in the rivers near the coast, but a considerable quantity is brought from the interior. Our old coin, which has bodily disappeared, but still lives in the fee of the lawyer and physician, in the lists of charitable subscriptions, and on all occasions when five per cent. can be skilfully added to the value of the sovereign, under the guise of its being more handsome and genteel than the vulgar pound, was called a guinea, because when first introduced in the reign of Charles II. it was made from gold brought from this part of the African coast. There are many allusions in the early writers to gold mines in Abyssinia, and it is said to be now obtained in Sofala, a part of the south-east coast opposite to the island of Madagascar. Some authors have conjectured that the land of Ophir, from which Solomon obtained his gold, was situated somewhere on this coast.

Gold of Asia.—Asia has long afforded a great supply of gold from various parts of its vast continent, and the islands adjoining to its coasts. A very large amount is annually exported from Japan. Dr. Jack, in his "Account of the Geology of the Island of Sumatra," says, that the province of Mendheling has long been celebrated for its gold, which is of the finest quality, that it is said to possess upwards of 700 mines, and that its annual export of gold probably does not fall short of 1000 tales. But as 1000 tales are only a little more than 100 troy pounds, according to Kelly's Cambist, the working of the 700 mines must be a very unprofitable occupation. Gold forms the principal article of export of the island of Borneo, and according to Milburn's Oriental Comment, the quantity exported annually is 200 peculs, which is equivalent to somewhat more than 800,000 ounces, or about 1,200,000 dollars. But it would be tedious to enumerate places, and there is nothing different in the geological history of the gold found in Asia from what is known of it in other countries. Mr. Jacob vastly underestimates the supply of gold from Asia, for he says that it does not exceed 800,000 ounces annually, including China and Japan, whereas the island of Borneo alone appears to produce little short of that quantity.

United States.—Gold has been recently found to a large amount in the mountainous part of the southern states of North America, especially in North Carolina. The gold country, according to Professor Olmsted, lies on the southern side of the state, and is spread over a space of not less than 1000 square miles. The prevailing rock is clay-slate, traversed by many veins of quartz, and it is in these veins that the gold appears to exist; but almost all that is found is in the form of grain and lumps of various sizes in the alluvium which covers the rocks. It appears from the "American Almanac" for 1834, that the quantity of gold collected in 1832 was equal to about 141,400 dollars. The proportion produced by the different states where it is found was as follows:—

<table>
<thead>
<tr>
<th>State</th>
<th>Dollars</th>
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<tbody>
<tr>
<td>North Carolina</td>
<td>458,000</td>
</tr>
<tr>
<td>Georgia</td>
<td>140,000</td>
</tr>
<tr>
<td>South Carolina</td>
<td>45,000</td>
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<tr>
<td>Virginia</td>
<td>34,600</td>
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<tr>
<td>Tennessee</td>
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678,600
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March 31 to April 30, 1835

THE COLLIERIES.—No. II.

We explained in the preceding Supplement the process of obtaining coal, and the manner in which it is prepared for the market. When this is accomplished, it has next to be transported to the ships employed in the coal-trade. For this purpose a road is constructed (generally a rail-road) leading from the mouth of the pit directly to the nearest harbour or river.

Nature has intersected the northern coal-field by three considerable rivers, in consequence of which the whole district possesses an easy, cheap, and expeditious mode by which its produce may find its way into the general market. These three rivers are the Tyne, the Wear, and the Tees, each of which is admirably adapted, both by its volume of water, its tides, and harbour-room, for the purposes in question.

The Tyne is the most important of the northern coal-rivers, and, as it possesses all the excellencies of the others, we shall confine our description to it. It originates from two small streams called the North and South Tyne, which unite a little above the ancient town of Hexham, at about thirty miles distance from the sea, where it becomes navigable for small craft. From Hexham it flows through a fine hilly country to Newcastle, where it is sufficiently wide and deep for vessels of large burden, and where its office as a coal-river may be said properly to commence.

Its course from Newcastle to the sea, at Tynemouth, presents scenes full of activity and enterprise. Nowhere is capital seen in fuller or more beneficial employment. Heedless alike of the obstructions of hills and valleys, it has created hundreds of railways, which, commencing at the mouths of the different pits, terminate at some convenient place on the banks of the river. On these thousands of waggon convey with rapidity the produce of the mines to the vessels lying at anchor in the river, which, as they complete their freight, are towed out and depart with every favourable wind for their several destinations.

For this purpose a road is constructed of the different pits, terminating at some convenient place on the banks of the river. Upon these railways the waggon move in trains of from ten to thirty or more in number, according to the extent of the works or the existing demand for coal. The nature of the power which puts them in motion depends in some measure on the distance they have to travel, and the inclination or other peculiarities of the surface. On those which are perfectly level, a locomotive steam-engine generally heads the train, and drags it to its destination with startling rapidity. On other railways, which have a regular ascent the whole way, the waggon are impelled by their own gravity, and, by the aid of a long rope and a series of pulleys, drag up the empty train, which, in its turn, when again descending with a load, draws the other to the pit in like manner.

When the railroad is carried up a ascending piece of
at Newcastle is above 1,100, and their tonnage amounts to 221,276 tons. A colliermakes an average nine voyages to London in a month, containing about 16 tons (33 cwts.) of coal, and when the number of waggons has been entered by a clerk appointed for that purpose, they are placed, one at a time, on a square open frame, which, on the withdrawal of a bolt, is immediately moved from the staith by machinery until it is suspended over the main-hatchway of the vessel. A man who descends with it then unfastens a latch at the bottom of the waggon, which, being made to turn upon hinges like a door, immediately opens, and the whole of the coal in the waggon is cleanly poured into the hold. To facilitate this operation the sides of the waggons converge towards the bottom, and are lined with smooth iron-plates. Attached to the suspending machinery are two counterpoising weights, which, being less heavy than the waggon when laden with coal, do not impede but aid steadiness to its descent; but, the moment the coal is discharged, their gravity draws up the waggon to the staith. The mode of loading the vessels is both complete and ingenious. In an excursion on the Tyne, between Newcastle and Shields, the perpetual ascent and descent of the waggons in the manner above described forms a very novel and curious spectacle to a stranger.

In situations where, owing to the height of the cliffs, the above mode of emptying the waggons would be inconvenient or impracticable, a large spout is used, and the vessel is brought under the aperture at the lowest part of the hill, in which the coal emptied at the top passes along the spout, and is discharged into the ship's hold. The height of the staith at Seaburn is perhaps forty feet above the deck of the vessel, and to diminish the force with which the coal would descend the spout from such a height, there is a trap-door at the lower end, by which the force of its descent is diminished, and it reaches the hold without injury to the vessels. The accompanying cuts (pages 161 and 163) represent both the mode of loading by staith and by the spout. One of these two methods is invariably pursued whenever there is a sufficient depth of water to allow the vessel to come alongside the staith; but as this is not always the case, whenever an impediment exists, some other mode becomes necessary. There are many coal-works in which, owing to local obstacles and the intersection of private property, a right of way cannot always be obtained. The greatest obstacle of all, and one which is coeval with the coal-trade itself, is the bridges which, in some places, like the Tyne, at Newcastle, have for a century, by their level bars, effectually barred the passage of coal-vessels above the town. These owners, therefore, whose pits lie “above bridge” are compelled, in addition to the railway and staith, to employ a number of light barges called “keels,” for the purpose of conveying their coal to the ships. This mode of conveyance is the most ancient, and was universal before the invention of the staith and its mechanical apparatus.

A keel is built sharp at both ends, and is capable of containing about 16 tons of coal (about 21 tons), has a sort of quarter-deck for the convenience of the keelmen, and a footway or gangway along the sides. The collier, waiting to receive the cargo of the keel, lies at anchor in a convenient part of the river, and generally a keel is lashed on each side of her. The coal is shovelled through her ports, or into a large tub, which, when filled, is drawn up, turned over, and the coal emptied into the hold. But this method occasions the breakage of the coal to such an extent as to deteriorate its value in the market.

By the vessel receiving her cargo from the staith, without the intervention of the keel, a saving of about 9s. per London chaldron is effected in keel dues. The employment of keelmen is therefore dispensed with wherever it is possible. Still their wages are tolerably constant, and are higher than those received by pitmen and considerably higher than the wages of an agricultural labourer. They average from 18s. to 21s. per week, and occasionally they obtain, under certain circumstances, from 30s. to 40s. They are paid by the tide, voyage, or trip.

We feel much pleasure in recording a circumstance in the history of the keelmen, which does great credit to their foresight, and is worthy of imitation by all classes of our industrious population. Warned many years ago by the sentiment expressed in the northern proverb——

“Did youth but know what age would crave,

Many a penny it would save,”

they raised a sum by subscription among themselves, with which they founded an extensive establishment in Newcastle, known by the name of the “Keelman’s Hospital.” In this quiet retreat fifty-two aged men and women find a comfortable asylum during their infirm years. This is the only hospital in the kingdom built and supported by the working classes for their own members. The keelmen met once a year to celebrate the establishment of this institution, perambulating the town with bands of music, playing the lively Northern air——“Well may the keel row.”

A stranger who visits the banks of the Tyne will not fail to be struck by the immense heaps of sand which are to be seen, some of them being from 100 to 200 feet in height. The colliers, after discharging their cargoes, take in a quantity of sand as ballast, and on their return to the river, it is discharged on its banks. It is afterwards removed to the top of these “ballast hills,” which is often a tedious and expensive process. Sometimes a steam-engine and an “endless train” of ascending and descending buckets is necessary.

Newcastle, the metropolis of this district, has doubled its population within the last thirty years. It has been enriched by the coal-trade, which attracts vessels from all parts of the world to discharge their merchandise upon its quays. By the exchanges which follow these transactions, a multitude of trades are called into activity, which in their turn give employment and wealth to industrious thousands, who, spreading over the neighbourhood, form new and flourishing communities. In this way North and South Shields, at the mouth of the Tyne, and many intermediate villages on its banks, have sprung up within the memory of persons who are yet living. Of the coal consumed in London, one-half, amounting to more than 1,000,000 tons, is shipped at Newcastle. The foreign export of coal from Newcastle amounted, in 1833, to 233,418 tons, being above a third of the whole quantity sent abroad. Vessels do not enter or clear at North and South Shields, but at Newcastle, of which those places are the out-stations. The number of ships registered at Newcastle is above 1,100, and their tonnage amounts to 221,276 tons. A collier makes on an average nine or ten, and sometimes more, voyages to London in a
Irvine, Ayr, and Glasgow contributed 464,599 tons; Norfolk, 83,564 tons; Kent, only a few short miles from their homes. Even at 52,549 tons; Devonshire, 42,784 tons; Cornwall, 31,285 tons; Ireland was only 1s. 7d. per ton. After having, in the interval, undergone some modifications, the whole of these duties were totally abolished in 1831.

The immense activity which the coal-trade gives to the shipping interest renders this branch of commerce not only important on account of the wealth which it creates, but intimately allies it with our national welfare; for, by forming a most admirable nursery for seamen.

Evensixty years ago, when it was far less extensive than it is at the present moment, Postlethwaite said, "in a time of urgent necessity, the colliery-navigation alone has been able to supply the government with a body of seamen for the royal navy able to man a considerable fleet at a very short warning, and that without difficulty, when no other branch of trade could do the like." Above 10,000 men and boys are engaged in the Newcastle shipping alone.

Five-and-thirty years since, Colquhoun, who wrote a treatise containing an historical view of the commerce of the port of London, says, in that part of it which relates to the coal-trade, that this branch of our enterprise "exceeds the foreign commerce in the number of ships annually discharged; and requires double the number of craft which is required for the whole import and export trade of the Thames." In 1799, the number of colliers which arrived in the Thames was 3,179; in 1815, there were 5,529; and in 1833, 7,077. In 1829, the duty on coal exported to Ireland amounted to 1,021,862 tons; of which London contributed 464,399; Norfolk, 83,564; Kent, 52,549; Devonshire, 42,784; Hampshire, 37,813; Sussex, 36,295; Essex, 30,881; making, with other maritime counties, 647,260.

In the same year, the duty on coal exported to Ireland amounted to 1,021,562; of which London contributed 464,399; Norfolk, 83,564; Kent, 52,549; Devonshire, 42,784; Hampshire, 37,813; Sussex, 36,295; Essex, 30,881; making, with other maritime counties, 647,260.

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In 1829, there were sent to the British possessions 128,893 tons. In 1833, the isles of Guernsey, Jersey, Alderney, and Man imported 53,866 tons; our North American settlements, 55,813 tons; British West Indies, 46,442; Gibraltar, 9914 tons; and Malta, 7000 tons.

Of the coal exported to foreign countries, Holland takes a greater quantity than any other. In 1833, the exportation from this country to Holland amounted to 142,385 tons. Denmark took 74,445 tons; Germany, 69,896; France, 45,219; the United States, 29,512; Russia, 54,005; Portugal, 18,532; and Italy, 10,000 tons.

London is, of course, the most important market for coal. In 1833, the supply amounted to above 2,000,000 tons, which was furnished by the following places:—Newcastle, 1,060,839 tons; Sunderland, 667,787; Stockton, 170,690; Blythe and Benton Sluice, 48,069; from Scotland, 13,159; from Wales, 92,159; from Yorkshire, 16,110; from inland pits, by the Grand Junction Canal, 2,456; and the western part of the Thames, 4,395 tons, making a total of 2,051,804 tons.

The immense activity which the coal-trade gives to the shipping interest renders this branch of commerce not only important on account of the wealth which it creates, but intimately allies it with our national welfare; for, by forming a most admirable nursery for seamen. Even sixty years ago, when it was far less extensive than it is at the present moment, Postlethwaite said, "in a time of urgent necessity, the colliery-navigation alone has been able to supply the government with a body of seamen for the royal navy able to man a considerable fleet at a very short warning, and that without difficulty, when no other branch of trade could do the like." Above 10,000 men and boys are engaged in the Newcastle shipping alone.
and renders it unnecessary for a coal-owner to leave his works and attend the shipping-port in search of buyers; at the same time it prevents the ship-owner leaving his ship in order to seek a cargo at the pit. When the trade is unusually good, the coal-owners sometimes hire vessels and send them to market at once. A cargo is generally purchased by the trader, who, after payment of the freight and other charges, disposes of it to the London merchant.

Legislation on the subject of coal commenced about 400 years ago, and as the use of this article gradually became more extensive, it was surrounded by many regulations, some of which were intended to benefit the consumer, and others to render the imposition of a tax beneficial to the state. The enormous supply which the metropolis at present requires is furnished under peculiar local regulations, one of the most important of which is that all coal must be publicly sold at the Coal Exchange. The following extract from an old pamphlet, published nearly 200 years ago, and purporting to be a dialogue between a wholesale and retail dealer, will show the advantages of a public market for the sale of coals. The former, detailing the means which he used to enhance the price of coal, says:—“Though the fleet be an hundred saile, yet we meet them at Yarmouth, or before they come so farre, and suffer not above twenty or thirty to appeare at a time, and then give out the rest are suspected to be lost or taken. We tell the masters that our yards at London are full, that money is dead, and they must deliver or sell forthwith, or else their charges will quickly eat out their gaines; and so we get coales at our owne prices, and sell them as we list.” He then goes on to say:—“There are now some forty or fifty saile of collyers come into the poole, and the poore people have great hopes to see coales fall in their prices; whereas, alas, poore silly fools, our agents at Newcastle have bought them all for us.”

The practice at present is, when a vessel with coal arrives in the port of London, to transmit to the authorised factors at the Coal Exchange a statement containing the name of the vessel, the port to which she belongs, and the quantity and name of the coal she contains. The sale of the cargo then takes place under certain known and public regulations. The times of sale are between the hours of twelve and two on Monday, Wednesday, and Friday in each week. The average number of ships at market on each of the above days during the year is about ninety; the average number sold each day about forty-six.

In the port of London the crew are not employed in delivering the cargo when sold. In order, therefore, to avoid any delay in this operation, which would be injurious both to the seller and purchaser, but particularly to the former, whose profits depend to a great extent upon the rapidity of his voyages, a beneficial division of employment is created, which is useful to both parties under the existing regulations concerning the delivery of the ship. Men, called coal-undertakers, attend the Coal Exchange when the vessel whose cargo he has engaged to deliver is to be sold. He obtains the name of the buyers, and then hires a gang of labourers, and apprises the purchasers of the time when the delivery will commence.

The men whose duty it is to deliver the colliers of their cargoes, are called coal-whippers or coal-heavers, and are about 1800 in number. Their existence is entirely owing to the regulation which precludes the crew of the vessel from performing this work. In any other port but London it is done by them. They are therefore a “privileged” class; but, like similar bodies whose interests are based upon regulations which are artificial and incompatible with the general good, they fail to draw from them all the advantages which at first sight they might be thought undoubtedly to confer. As far as the consumer is concerned, the operation of
this monopoly is decidedly injurious. The expense of delivering a cargo of coal is above 20l., while a vessel laden with timber, which is a more cumbersome article, is delivered at a cost of about 9l., owing to the competition of labour being unfettered. Each of the 1800 coal-whippers of London earns on an average 66l. a-year. This sum, with economy and good management, would surround them with many comforts, and if the general habits of this class were steadier, they would form a respectable body amongst the industrious population of the metropolis. They deserve to be well paid, as their labour is very severe; but it would not be difficult to prove that there are much better means of sustaining the animal powers than ale and porter, or gin, which too often they consume in large quantities. But if these men be not distinguished by their habits of temperance, the unfortunate position in which they are placed with respect to the coal-undertakers (who are usually publicans), absolutely compel them to become his customers. This degrading thraldom is the result of their " privileges," and could not be maintained if competition were free to any one who was capable of earning his bread by such labour. There were but 800 coal-whippers when Colquhoun's work was published. But he gave in that work statements proving that the coal-heavers were each defrauded out of 30l. annually; and he estimated the profits of the publicans on the liquors which are forced upon these men, with the money taken for commission, as being not less than 8577l. per annum.

It appears that there existed at one time an act (10 George III., cap. 53) which, as far as possible, relieved the coal-heavers from their dependance on publicans, by enacting that no coal-undertaker should take or demand money from any coal-heaver as a commission for procuring him employment; and that no coal-undertaker should be a victualler, or directly or indirectly concerned in receiving any part of the profits of such trade, or in any other manner in the selling of spirits or drink of any kind, on pain of being deprived of his appointment. This act was in force for three years, when it expired, and has never since been re-enacted.

Perhaps we ought to add, that though the circumstances described by Colquhoun still exist, and the habits of coal-heavers may still be characterized as frequently intemperate, yet, that the intensity of these has considerably diminished; and it is gratifying to reflect that, although the wages of coal-heavers are not so high as they once were, they now bring home to their families a larger weekly sum than at the former period.

The bargemen are employed in conducting the barges from the ships' side to the different wharfs. An idea of their number may be formed by comparing the coal-trade at the commencement of the present century and its extent at this time. At the former period the monthly supply of coal for the metropolis was estimated at 300 cargoes per month. Colquhoun observes that, on some occasions, 90 colliers (each requiring on an average thirteen barges) were then discharging their cargoes at once, giving employment to 1170 barges. The total number of barges engaged in the trade he estimated at 2196.

From returns obtained at the Coal Exchange, it appears, that there are now 598 cargoes sold per month, which is double the quantity brought to the metropolis when the above estimate was made. The number of coal-barges at present employed is therefore most probably above 4000. They are usually the property of coal-merchants, and must be navigated by members of the Watermen's Company. The charges for lighterage,—i.e., for conveying the coal from the vessel and discharging it at the wharf,—is 2s. per London chaldron. Many of the bargemen receive about 30s. per week for conducting their barges up and down the Thames. We believe that coal is often taken from the vessels and conveyed as high as Lambeth at the rate of 1l. per chaldron. These barges are
carried by the tide, and conducted by a single man. If their cargoes had to be conveyed the same distance by land, the cost of coal would be enormously increased to the consumer.

The wholesale coal-merchants have wharfs along the banks of the river. In the first year of the reign of Queen Elizabeth (1558) twenty wharfs were established, and up to the commencement of the present century their number had not been increased. The coal being brought by the barges from the vessel is landed on the wharf, from whence it is sent out to the retail dealers and larger consumers. The cost for cartage and shooting is about 3s. 6d. per ton per mile, and assuming the average distance carted to be a mile and a half, it will amount to at least 5s. 9d. per chaldron. The charge of unloading the waggons is 1s. 6d. per chaldron.

Previous to 1831 the coal-trade of the metropolis was under a series of close municipal regulations, many of which are now done away with. They were, however, insufficient to prevent the extensive prevalence of fraud, and an act was passed in 1831, which, by one of its clauses, simplified the previous cumbersome administration of the law, and placed the trade on a footing much more advantageous to the consumer. This benefit was accomplished under which, within twenty-five miles of London, all coal must be sold by weight and not by measure. Every wagon carrying out coal from the merchant's yard is required to be provided with a weighing-machine, and the wagoner is compelled, under heavy penalties, to weigh any sack which the consumer may conceive to be deficient in amount. A ticket must always be delivered to purchasers of a certain quantity, specifying the name of the coal, and the number and weight of sacks which the wagon contains. Temptation to fraud is now removed as far as possible, and can be easily discovered if suspected.

To that class of persons whose consumption is small, the change in the mode of selling is of the greatest importance. Dr. Hutton, who, being brought up a collier, is a good authority on such a point, says, that if a cubic yard of coal when broken be equal to five bushels when measured, and the former be seven and the latter seven and a half—Mr. Buddle thinks eight. The consumer, therefore, paid for the latter proportion and received only the former. It was therefore clearly the interest of all classes of dealers through whose hands the article passed, to cause as much breakage as possible.

In addition, the evil of selling by measurement at all was greatly aggravated by the nefarious practice of selling by heaped measure. By forming the cone of small coal, much less would be measured than if larger pieces were used. Happily for all classes of consumers, the Act respecting "Weights and Measures," which came recently into operation, has abolished heaped measures entirely.

In an active and wholesome state of competition there cannot exist in any trade a class of men whose functions are not obviously connected with its useful and beneficial operations. It appears that in the middle of the sixteenth century the supply of coal was in the hands of too great a number of dealers. This subdivision, however, was not owing to the perfected manner in which men carried on their different trades, but shows rather that these trades had not yet found their natural channels, and that they were so unimportant as to have been unable to maintain a separate existence, just as we see now a village shopkeeper acting as a hatter, a draper, a grocer, a druggist, &c. An Act passed in the reign of Edward VI. attributed the circumstance of a trade being divided in the above manner to the "greedy appetite and covetousness of divers persons:" and then went on to state, that, in consequence of this, "fuel, coal, and wood runneth many times through four or five several hands or more, before it cometh to the hands of them that for their necessity do burn or retail the same" and as a remedy for the evil,—"It is therefore enacted that no person shall sell any coal, but only such as he has bought or consumed the same; and such persons as sell the same, shall be liable by retail to such as burn or consume the same for their own occupying."

Admitting, however, that the trade was, at the above period, engrossed by too great a variety of dealers, we shall see that 100 years afterwards, either in consequence of this very enactment, or from the fluctuating and unsettled condition of trade, it was then monopolized chiefly by two classes of traders. In a popular pamphlet, published at that time (1653), and entitled, "The two grand Ingrossers of Coles, viz., the Woodmonger and the Chandler," it is shown that they bought the coal at the pit, and so held in their hands the power of controlling the market. In this instance an immediate class of men was required between the coal proprietor and the London wholesale merchant, whose interests should be promoted by carrying supplies into the market, and so establish an equal balance between the two extremities of the trade.

In order, therefore, that the very poorest class may enjoy the luxury and comfort of a fire, there are, first of all, men employed in procuring the coal from the bowels of the earth,—others in navigating the ships which bring it to market,—merchants possessing wharfs and the conveniences which enable them to keep a sufficient store; and then come the retail dealers, from whom even so small a quantity as a single pennyworth can be obtained. Lest an article so important should become a monopoly, where it is sold in large quantities, the coal can only be disposed of, in London, in a public market, in which every transaction that occurs is published and widely circulated in newspapers, which also state the prices which the various descriptions of coal are fetching from one market-day to another. The tricks which were practised in this trade some two hundred years ago, and which the old pamphlet we have noticed details, would now be utterly void of success. The coal-owners had also an interest, from the different descriptions of coal, to see that the dealers who gave them the sale of their coal should carry the article in a manner which was not contrary to their own account, in order to have the benefit of the trade; and it appears that they also do this at times when prices are excessively low. Mr. Buddle stated to the Parliamentary Committee,—"Although many col-
The alterations which have taken place since this period, first in the abolition of the Government tax of 6d. per chaldron, and next in the fees which were paid to the meters, which amounted to upwards of £24,000 a-year, have rendered coal much cheaper, it is true; but there are still many vexatious regulations which enhance its price, and which ought to be modified or abolished. A sum of £25,000 a-year is paid annually to the Corporation of London for ‘metage,’ and is claimed as one of their prescriptive rights; but it might be advantageously commuted, as the Richmond duties have been. A further sum of £65,000 a-year, paid as seamen’s dues, will expire in the course of a few years. Some of the other charges are also susceptible of considerable reduction, amongst which is the enormous sum of £107,000 a-year paid to the coal-whippers, which, as it has been stated, benefits a number of publicans at the expense of the health and morals of these men. The charge for the work which they perform is 1s. 7d. a chaldron, whereas at Newcastle and Sunderland the waggons are filled at a cost of only 1s. 4d. or 1s. 6d. per chaldron; the additional labour of raising coal a little greater height in the former case would be well paid by an allowance of 4d. per chaldron. If the trade were free, the public would not be burdened by the support of the odious monopoly of the publicans.

It will be seen that the cost of bringing coal from the ship to the consumer’s cellar exceeds the original price of the article, and is also much higher than the expenses of transit from the pit’s mouth to the Thames. The charges of the London coal-merchant, amounting to 12s. 6d. per chaldron, consist of the following items:

<table>
<thead>
<tr>
<th>Item</th>
<th>s. d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boye’s Commission</td>
<td>0</td>
</tr>
<tr>
<td>Lighterage</td>
<td>2</td>
</tr>
<tr>
<td>Cartage</td>
<td>0</td>
</tr>
<tr>
<td>Credit</td>
<td>2</td>
</tr>
<tr>
<td>Shootage</td>
<td>0</td>
</tr>
<tr>
<td>sundries</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

Mr. Buddle states that the Tyne keelmen, who take the coal from the spouts, or staiths, to deliver into the vessels, are paid 1s. 8d. per London chaldron for navigating their keels from seven to eight miles, and casting the coals into the ship, a height of five feet independent of the horizontal distance which it is requisite to project them to reach the port-hole of the vessel into which they are loaded: in addition to which the keels will cost them from three-halfpence to twopence the London chaldron; “so that our keelmen have not so much as the lighterage in London comes to for merely carrying the coal from the side of the ship to the wharf; although the keelmen navigate the vessels from seven to eight miles, and discharge the cargo by shovelling it out of the keels into the ship.”

The price of cartage in London Mr. Buddle also thinks enormous. “In the North,” he says, “we let cartage by contract, including the loading, at 7d. to 8d. per ton, per mile, on turnpike-roads, and at from 9d. to 10d. per ton on heavy country-roads; so that the price of cartage in London is from four to five times as much as we pay for it in the country.” In allusion to the charge of 1s. 6d. for ‘shootage,’ which is paid in London for shooting the coal down into the cellar, Mr. Buddle says that, “at the rate we pay our wagggon-men for filling the waggons, I believe they would be very glad, for twopence, to heave these same coals out of the cellar again up the hole.”

The artificial circumstances in which, until a recent period, the coal-trade has been placed, may have occasioned some of the charges noticed above to have risen beyond the usual cost of labour; but it is highly probable that, in proportion as the influence of this state of things decreases, that the coal-trade will not, any more than other branches of enterprise, present such anomalies as those described by Mr. Buddle.

Mr. Taylor, an experienced individual connected with the coal-trade, laid before the Lords’ Committee the following estimate of the consumption in Great Britain:

<table>
<thead>
<tr>
<th>Item</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>The annual vend of coal carried coast-wise</td>
<td></td>
</tr>
<tr>
<td>from Durham and Northumberland</td>
<td>3,300,000</td>
</tr>
<tr>
<td>Home consumption, say one-fifth</td>
<td>660,000</td>
</tr>
<tr>
<td>Which quantity supplies 5,000,000 persons</td>
<td></td>
</tr>
<tr>
<td>and supposing the whole population</td>
<td>3,960,000</td>
</tr>
<tr>
<td>to amount to 15,000,000, the estimate will therefore be</td>
<td>11,880,000</td>
</tr>
<tr>
<td>Consumed in Iron-works</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Annual consumption of Great Britain</td>
<td>14,880,000</td>
</tr>
<tr>
<td>Exported to Ireland</td>
<td>900,000</td>
</tr>
<tr>
<td></td>
<td>15,780,000</td>
</tr>
</tbody>
</table>

Mr. Taylor has not, in this estimate, taken into account the foreign export of coal, which, in 1833, was 634,448 tons. The population of Great Britain is now about 17,000,000. The estimate will therefore stand thus:

<table>
<thead>
<tr>
<th>Item</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of 15,000,000 inhabitants</td>
<td>11,880,000</td>
</tr>
<tr>
<td>Add for consumption of 2,900,000, the</td>
<td>1,584,000</td>
</tr>
<tr>
<td>additional population</td>
<td></td>
</tr>
<tr>
<td>Exported, in 1833, to foreign countries</td>
<td>634,448</td>
</tr>
<tr>
<td>Exported to Ireland</td>
<td>900,000</td>
</tr>
<tr>
<td>Consumed in Iron-works</td>
<td>3,000,000</td>
</tr>
<tr>
<td></td>
<td>17,984,448</td>
</tr>
</tbody>
</table>

Mr. Buddle supplied some interesting information to the Parliamentary Committee. On being asked if he had anything to state respecting the number of men and ships employed on the rivers Tyne and Wear, he said that he had made a summary—that there are seamen, 15,000; pitmen and above-ground people employed at the collieries, 21,000; keelmen, coal-batmen, casters,
and trimmers, 2000; making the total number employed, in what I call the Northern Coal Trade, 38,000.

In London, whippers, lightermen, and so forth, 5000; factors, agents, &c., on the Coal Exchange, 2500; 7500 in all. Making the grand total in the North country and London departments of the trade, 45,500.

This does not, of course, include the persons employed at the out-ports in discharging the ships there."

The above return is strictly confined to the Tyne and Wear, and does not include Seaham, Blythe, Hartley, or Stockton. From it we may obtain a tolerably accurate approximation of the numbers employed in the trade of Great Britain. In the first place, then, it may be inferred that as the produce of the collieries on the Tyne and Wear does not exceed 3,000,000 tons, and employs 21,000 men, the whole of the collieries in Great Britain, as their produce is six times greater, will employ at least 121,000 men.

For the supply of London with less than 2,000,000 tons of coal, the shipping on the Tyne and Wear employs 15,000 seamen; and as the whole quantity shipped coastwise in 1833 was nearly 6,000,000 tons, the number of seamen employed in the coal-trade must be 30,000.

London consumes one-ninth part of the produce of the mines of Great Britain; and as the number of factors and individuals to whom the trade gives employment in the metropolis amounts to 7500, the number for Great Britain is probably 45,000.

The bargemen employed on the Tyne and Wear are 2000 in number;—for the whole country the number cannot be less than 10,000 men.

The population to whom the coal gives direct employment is therefore about 206,000.

Mr. M'Culloch estimates the number of individuals employed at from 160,000 to 180,000; but the increase in the consumption which has taken place since the abolition of the coast duty has enabled the consumer to go to market every year with nearly a million of additional capital, and the use of coal in gas-works, and for a variety of purposes, has therefore been considerably extended.

The capital employed in collieries, on the Tyne and Wear, Mr. Buddle estimates at about 2,200,000l. Mr. M'Culloch estimates at 10,000,000l, the capital employed in the coal-trade of Great Britain.

Camden remarked, about two centuries and a half ago, that "sea-coal are dug in great plenty, to the great benefit of the inhabitants." We shall not stop to inquire what signification he attached to the expression "great plenty," but if the benefits arising from the use of coal were apparent then, they are now increased thousand-fold, and the possession of an almost inexhaustible source of supply of coal has become one of the most important of our national resources, with which the stability of our manufactures, commerce, and strength as a nation is identified.
THE PENNY MAGAZINE
OF THE
Society for the Diffusion of Useful Knowledge.

PUBLISHED EVERY SATURDAY.

[May 2, 1835.

THE ERPINGHAM GATEWAY, NORWICH CATHEDRAL.

Vol. IV.
Dee's murder of John, and the consequent seizure of power by Henry V.; signalised himself at the battle of Agincourt; in 1385 had the King's protection on accompanying John, Duke of Lancaster, into Spain; in 1389 was Chamberlain of the Household, one of the barons of the Cinque Ports, warden of Dover Castle, and was also one of the lords who voted that Richard II. should be put into safe custody.

The then bishop of the diocese, Henry Spencer, was termed, even in that age of military ecclesiastics, the "Warlike Bishop of Norwich." In his youth he had been a soldier, nor did his elevation to the episcopal bench repress his martial propensities. Bold, resolute, and haughty, he alternately tried his strength with the people, his own clergy, and the nobility, and never failed of success. He was impeached in Parliament for having personally engaged in the contest between the rival Popes, Urban VI. and Clement VII.; but boldly repelled the charges preferred against him, and was acquitted. Where his pride and passion were not thwarted, his jurisdiction was generally marked by judicious measures; and notwithstanding his despotical character, he was in considerable esteem as a man of no mean attainments. But he was a bigot: "no heretic," says Hume, "was allowed to dwell in his diocese, and because the Lollards, or followers of Wickliffe, were so esteemed, he was a rigid persecutor of them, declaring if he found any in his diocese he would make them either hop headless or fry a fagot." "Such effect," he quaintly adds, "had false-grounded zeal even on learned and good men."

Sir Thomas Erpingham became a patron of the Lollards, and exerted himself with some zeal and energy in disseminating their principles in Norfolk. But neither the rank of Sir Thomas, nor the favour in which he stood with his royal master, deterred the bishop from laying hands upon him. He was arrested, and thrown into prison; and the price of his release was a renunciation of "Lollardy" and the erection of the gatehouse "at the entrance of the precinct over against the west-end of the cathedral" as a public atonement for his heresy. Sir Thomas was subsequently reconciled to the bishop by the commands of the King (Henry IV.), who, in a Parliament held February 9th, 1400, declared that the proceedings of the bishop against the knight were good, and originated in great zeal, and also directed them to "shake hands and kiss each other, in token of friendship, which they did; and it afterwards proved real, Sir Thomas becoming a great benefactor to the cathedral, and a firm friend to the bishop as long as he lived."

It is not improbable that Sir Thomas Erpingham, in patronizing the followers of Wickliffe, was more influenced by his wife, than by any settled principle of ecclesiastics, in regard for the new doctrines of the reformers. His first wife, Joan Walton, died in 1401, four years after the event already related; and in her will "she mentions no saints, but commends her soul to God only."—a circumstance which indicates that, though, out of regard for her husband's safety, she might suppress any open show of attachment to the persecuted doctrines and people, she still retained her principles. The after life of Sir Thomas unequivocally demonstrates the sincerity of his renunciation; and at his death, amongst other bequests, he gave 300 marks to the prior and convent of Norwich, to found a chantry for a monk to sing daily masses for him and his family for ever, at the altar of the holy cross in the cathedral.

The following quotation from Mr. Britton's work on Norwich Cathedral, gives the author's opinion respecting the Gateway, as well as a description of its details:

"Amongst the great variety of subjects and designs in the ecclesiastical architecture of England, the Erpingham Gatehouse may be regarded as original and unique; and considering the state of society when it was first raised, and the situation chosen, we are doubtfully surprised, firstly at the richness and decoration of the exterior face, and secondly in beholding it so perfect and unmitigated after a lapse of four centuries. The archivolt mouldings, spandrels, and two semi-octagonal buttresses, are covered with a profusion of ornamental sculpture; amongst which are thirty small statues of men and women, various shields of arms, trees, birds, pedestals and canopies; most of these are very perfect, and some of the figures are rather elegant. The shields are charged with arms of Erpingham, Walton, and Clopton, the two latter being the names of two wives of Sir Thomas Erpingham. In the spandrels are shields containing emblems of the Crucifixion, the Trinity, the Passion, &c., whilst each buttress is crowned with a sitting statue; one said to represent a secular, and the other a regular priest. In a canopied niche, in the pediment, which is plain, and composed of flint, is a kneeling statue, supposed to represent Sir Thomas. About half way up the gable on the parapet, are two pedestals, with parts of figures emblematic of two of the evangelists, and two others were formerly higher up."

There is a word or inscription repeated four times on a scroll on this gateway, which has been read by Sir Thomas Brown, and others as PENA or PENA, for penance; but Dr. Sayers suggests that it should be read YENK, an abbreviation for thank, as expressive of Sir Thomas Erpingham's thanks for the bishop's pardon—a reading which Mr. Britton thinks more probable than the former one.

A LITTLE KNOWLEDGE.

"A little learning is a dangerous thing; Drink deep, or taste not the Pierian spring; There shallow draughts intoxicate the brain, And drinking largely sobers us again."

Porr.

I cannot but think that a large proportion of the readers of the 'Penny Magazine' must consist of persons who, without any advantages of education,—or of more than an elementary education—have managed to collect a good share of floating knowledge, and have had their minds opened to receive a larger portion of the knowledge which true knowledge offers than has yet become common among persons in the class of society to which they belong, and with whom they are associated in the external relations of life. I have often been disposed to wish that the 'Penny Magazine' might become, in some degree, a vehicle through which such persons might state...
I saw it a proverb, because I knew it as such long before I was aware of its existence in Pope, in the passage which I have quoted at the head of this paper; and even now it seems to me uncertain whether Pope adopted a proverbial expression already existing, or that the expression has become proverbial from his use of it.

The expression, as proverbially used, does not limit the application of the term "learning" to classical or philological attainments, but employs it as synonymous with "knowledge;" and the sentence, therefore, as used and received, says the same as that "a little knowledge is a dangerous thing." I have no doubt that Pope intended to restrict his satire to the "intoxication" which a smattering of the classics was apt to produce in weak brains. But I have only to do with it in the sense in which it is vulgarly understood and applied.

I heard this expression so soon, and have heard it so often, that it has quite escaped my recollection at what period I actually heard it for the first time. My recollection is perfectly correct, however, in this, that whenever I did hear it, it was always intended as a sneer or a damper, and was always so received.

I am not going to relate my history; but I may say, in the interest of the cause, that I did not hear the expression when I adverts the commencement. At a very early period of life, and in the midst of untoward circumstances, and of occupations which left me the least possible leisure, I was a diligent collector of all the odds and ends of knowledge that fell in my way. I read all the bills that were posted upon dead walls and empty houses. I studied all the title-pages and open leaves that appeared in the windows of booksellers' shops; joyfully hailing the day when the windows of a particular shop were cleaned, and a change of books and pictures introduced. Sometimes, also, when I was allowed a little leisure, I brushed myself up as smart as possible, and ventured so far on the respectability of my appearance as to make the tour of the book-stalls, pausing at each; and, after dallying a little, "about it and about it," taking up some humble-looking volume and devouring so much as was possible of the information it afforded with the utmost intensity of appetite, and with all the excitement that attends a stolen enjoyment.

In process of time, I knew well the state of every book-stall, and could tell at a glance what books had been sold, and what additions had been made since my last visit; and many severer troubles in my subsequent life have made my heart ache less than sometimes to find a book gone from which I had calculated on gleaning more information on a second occasion than my first spell at reading had enabled me to obtain. I knew perfectly the dispositions of every proprietor of a stall in the three towns of our smooth, Devonport, and Stonehouse, and could tell to a minute how long I might dabble at his books before he would look sour; and in process of time, most of the stall-men, on their part, became habituated to me, and came to regard me as a tolerated nuisance, or as one of the customary inconveniences incident to the trade. Not one of them knew anything about me: but experience taught them that I was honest; and as I handled their books with the utmost tenderness and respect, and was careful that my presence should not interfere with actual customers, I do not remember that I ever received a check or rebuke from any stall-man in the whole course of these knowledge-hunting expeditions. How precious these opportunities were, and how dear the recollection of them are to me even now, can only be adequately understood by the few who have realised similar enjoyments, and can indulge in similar recollections.

Thus, and elsewhere, I was enabled to collect a number of miscellaneous facts in sundry departments of knowledge, but without being in possession of the links necessary to bind them together, and form them into a connected system. But even as detached facts they were valuable; and when I obtained one fact that seemed new, striking, and important, I felt a thrill to my very soul, as if I had found a blessing: and so I had.

I was always rather reserved and timid in my habits. No one could talk less than I was in the habit of doing; and I felt assured that I made as little display as possible to others of the information I had acquired. Yet there is, as I can now understand, in all knowledge, even in the knowledge of naked facts, something that opens the mind—I love this expression—and raises the tone, not only of thought and feeling, but of language and general deportment: thus, in the course of time, forming a distinction, more or less marked, between one who is ignorant and another who is partially informed.

As I thus went on, adding gradually to my little store of knowledge, I heard with increasing frequency the expression,—

"A little learning is a dangerous thing."

I paid small heed to it at first; but ultimately its application became so evidently pointed to myself personally, that it was no longer possible for me to misunderstand its intention. I took it as intended, and its effect was discouraging in the extreme; for I had not advanced so far as to receive otherwise than as gospel truths the proverbs and popular sayings in which past ages have condescended to concentrate their wisdom. I saw clearly that if this saying were true, and I doubted not it was true, I was every way undone. I saw no reason to hope that I should ever possess opportunities and leisure sufficient to render the utmost amount of my knowledge more than "little." If that small amount of knowledge to which I might aspire were really dangerous, the search for it ought to be immediately relinquished; but then, on the other hand, my habits and tastes were entirely turned to the pursuit, which seemed to me as that which was alone adequate to soften the bitterness and toil of the life I lived and was to live thereafter.

I remained for upwards of a week in the utmost doubt and perplexity; but at last it occurred to my mind that it was barely possible, after all, that the saying was not true. It was Sunday, and I had leisure. I instantly wrote out in big letters the sentence,

"A little learning is a dangerous thing;"

and, placing it before me on the table, sat down with a resolute determination not to rise until I had satisfied myself as to the truth or falsehood of the position it contained. I leaned ever it with both my elbows on the table, and felt as if I would subject to the most minute analysis every separate letter of which the sentence was composed. I will endeavour to state as briefly as possible the result of my cogitations on this occasion.

I saw that it was necessary in the first instance to inquire whether knowledge was, in itself, a good or an evil. If an evil, it must remain so whether the quantity were great or little; if a good, it would be interesting to inquire what peculiar quality it was in this good which could render a small quantity of it an evil. Many large folios have been written on smaller subjects than this;
and my own considerations upon it were of some length on the occasion I have mentioned; I cannot, therefore, do more than furnish for your pages a summary of the process by which I arrived at my conclusions.

It seemed to me, in the first instance, difficult to bring the mind to entertain the question, whether knowledge were a good or not; it appeared such an absurdity to suppose that it could be otherwise than good. 'I tried hard at it, however, but found it impossible to make knowledge, considered in itself separately from all agencies and influences, could be otherwise than good. In this I now know that I differed from some who consider knowledge in itself of a neutral quality: but I am still of my old opinion.

Perceiving that all was safe on this side, I turned round to try if knowledge were more vulnerable on another. I inquired to what extent knowledge might become evil in connexion with agencies and influences. Answering one proverb by another, I said, "What is one man's meat is another man's poison." Can knowledge, the meat by which the mind lives, ever become poison?

I paused a full half hour over this question, and then I looked up, and, with great pain and heaviness of heart, answered, "Yes!" I saw room to believe that there were hands which could turn fine gold to brass, and minds which could extract deadly poison from that which was nourishing food to others. I went on multiplying instances that knowledge was liable to corruption and abuse—was liable to become an instrument of evil. Oh, certainly, certainly, what is one man's meat is, indeed, another man's poison!

At the moment I had arrived thus far in my disheartening conclusions, I saw the whole question take a turn which made my heart leap tumultuously with the most boundless exultation. I saw, at one view, that precisely the same arguments which could be brought to make the excellence of knowledge questionable, could be equally brought to make questionable the excellence of everything that is commonly considered good. No sooner did I turn my head from knowledge, in search of some better and less corruptible thing, than I immediately saw that all other reputed goods were in the same predicament with knowledge—all corruptible—all liable to abuse; and therefore, that if knowledge were not good, there was no good thing under the sun. Still it was true that what was one man's meat to another man's poison; but is the meat the less a good, less valuable, less nourishing, because some stomachs are too weak to receive it or profit by it, and others possess so diseased an idiosyncrasy that the meat of other men becomes poison to them?

But still the question is, whether "a little learning is a dangerous thing?" It is admitted that much knowledge is good; but a little is dangerous and evil. If this be true, knowledge is very unhappy and peculiarly circumstanced. There is no other good of which the least is said to be dangerous. Take bread, the staff of life, as knowledge is of the intellectual life:—who says that a little bread is a dangerous thing? A quarterloaf is certainly most desirable; but those who cannot get a quarter loaf, will declare a crust to be better than no bread at all. Is he wise who rejects all bread because he cannot get a quarter loaf—or who eats no meat, because he cannot get a leg of mutton?

The more I considered it, the less I seemed able to understand why, of all things, a little knowledge should be dangerous. If it were so, it would be wrong in any man, high or low, to seek knowledge; because, as the knowledge of every one can be but little at the commencement, every seeker of knowledge must, for a considerable time, be in a dangerous position. I had a notion that the insinuation referred in some measure to the presumed effect of a little knowledge upon the conduct and disposition, in making a man dogmatical, vain, and conceited; but I placed no stress on this because I felt that the real effect of a little knowledge was to humble a man in his own sight, and to make him feel his own ignorance. I knew that in my own case this was the result; and that it operated in making me desirous of enlarging, indefinitely, the sphere of my information. There is no denying that fools may be injured, in the way supposed, by a little knowledge. They may be injured by anything, and can be benefited by nothing. But in forming general conclusions, we are not to consider how things affect fools; but how they affect men of average character and understanding.

Besides, I did not feel it easy to say what that amount of knowledge is which can be properly described as "little." No man who has so much knowledge as to distinguish him in his own sphere of life, can be said to have little knowledge; although it may be little if we compare it with the amount which is required to distinguish a man in another and higher sphere. An artisan, with his reading, writing, and arithmetic, has the instruments of as great a quantity of knowledge as the University scholar, with his Latin, Greek, and algebra; and if the mechanic superadds Latin, Greek, and algebra, his relative knowledge greatly exceeds that of the scholar, although its actual amount may be much less.

I really think I could go on with these considerations till I filled a Monthly Part of the 'Penny Magazine.' I have explained myself a little however, and am now content to pause. It is only necessary to state that I arose from the table perfectly satisfied that knowledge—even a little knowledge—was a very good thing; and that I would myself persevere in the pursuit of it. So I did, to the extent of my opportunities; and in the fifteen years which have since passed I have seen no reason to question the propriety of the conclusion at which I then arrived.

HOGARTH AND HIS WORKS.—No. XIV.

STAGE COACHES.

The present engraving affords a curious illustration of the peculiarities of stage-coach travelling in the early part of the last century. This illustration constitutes, in its chief interest to us, and it has thus, like some other of Hogarth's works, become invested, by the lapse of time, with a kind of interest different from that which it possessed for our forefathers. The scene is a country inn yard on the Dover road; and the precise inn was probably sufficiently indicated to contemporaries by the sign, containing the figure of an angel with the inscription, "The Old Angle In, Toms Bates from London," a specimen of orthography the like of which we doubtless much more common in Hogarth's day than at present. Of the passengers introduced, the passengers seem to claim our first attention. The dimensions of the bulky female seem but ill adapted to those of the vehicle which she is in the act of entering, assisted by another passenger who is holding up a drum-bottle with his left hand. This circumstance, and indeed the whole scene, is well calculated to remind the reader of the descriptions of stage-coach travelling which were, a few years previously to the date of the illustration, then current in "Pamela." The female, with the equally-stout man waiting for his turn to enter, seem, between them, to make out a bad case for the rest of the passengers. From the comfortable dress and well-fed appearance of this last person, together with the sword in his right hand, he seems to be in good circumstances; but he gives no attention to the little stunted and deformed postboy who, with cap in hand, solicits the customary fee. This little figure
Elm

seems introduced as a contrast to the other; while the corpulent landlord and equally stout landlady have a different, but equally-marked contrast, in the tall old lady, near the door dressed in a Joseph and velvet riding-hood. The other inside passenger is the well-dressed gentleman settling his account with the landlord, who seems solemnly attesting the reasonableness of his charges, which, from his severe countenance and the act of parliament peeping out of his pocket, the other seems much in the disposition to question. It is worthy of notice that the principal figures in this picture are so disposed as to produce the effect of a pyramid, according to the rules recommended by the practice of some great masters. Of this pyramid the apex is formed by the two outside passengers who are perched rather uncomfortably on the top of the coach. One is considered to be a French valet, and the other is certainly an English sailor, whose company seems likely to render the journey sufficiently unpleasant to the Frenchman. The other outside passenger is the old
woman seated in a basket, and smoking a pipe among the luggage behind the coach.

A French-horn is blowing out of the window, and by the handmaid who is bawling and ringing the bell for the man, must be left to the imagination. Nor is this all; for the time seems to be that of an election, and a chairing, with all its uproar, is going on in the background. It is but a mock chairing, however; for, in derision of the age and incapacity of one of the candidates, the mob are parading a man dressed in saddling-clothes, with a horn-book in one hand and a rattle in the other.

This engraving affords us an opportunity of stating some facts in the history of stage-coaches which we have collected from various sources, and which will be new to many of our readers.

The precise year in which stage-coaches were introduced is not well ascertained. It seems, however, from comparing statements, that something of the sort, for short stages, was in use earlier than what we now call "hackney-coaches." Indeed, it seems that the first instance in which carriages were applied to public accommodation for hire was in the instance of the vehicles which started regularly from Hackney, taking up coach passengers whom they set down in London. These were called "hackney-coaches," but evidently had more resemblance to short-stage coaches, or rather omnibuses, than to our hackney-coaches: and this resemblance to omnibuses seems to have held good also in the general form of these vehicles, which are described as resembling the caravans seen at country fairs, but without windows. When the present hackney-coach system was first introduced into London, the public did not impose any new name upon the vehicles thus employed, but called them by the previously-familiar name of hackney-coaches, which, in time, became exclusively restricted to this class of vehicles.

The distinction between stage and hackney coaches does not appear to have been definitely established till the reign of Charles II., towards the end of which we still find stage-coaches called hackney-coaches, when the context did not render it necessary to employ a more distinctive appellation.

Stage-coaches appear to have begun to be established on the great roads towards the end of the reign of Charles I.; and in that of Charles II. they had become so numerous that the tradesmen in and near London, at the latter end of that reign, took it into their heads to consider the existence of such vehicles a public evil, and to consider it much like that which dictated a late petition from the same quarter against cabs and omnibuses, petitioned the king and privy-council to put an end to the stage-coach nuisance. This was met by a counter-statement from the stage-coach proprietors, of which we have been fortunate enough to obtain a copy, and will now give an abstract of it for the benefit of our readers, retaining generally the words of the original.

After stating that they had, about thirty years previously, established stage-coaches, and since continued them at great expense and risk, they proceeded to say that the prejudice that would accrue to his Majesty's subjects in general would be evidently much greater, by the putting down of the said coaches, than the disadvantage that can be imagined to fall upon any person should the same be continued; though without, were it admitted that all the petitioners were damned thereby, yet their interests are all evidently not to be respected in comparison of the public, nor to be put in the balance with it.

As to the charge that the coaches had injured the profits and rents of inns, they think it must rather have arisen from other causes; but, even admitting the truth of the charge, it is added with much good sense, that the trade, as all others, being only intended for the benefit of the public, their private profit is not to come in computation with it, for the people are not made to enrich innors any other trades, but all trades for the comfort and service of the people, and all employed together are but as a particular interest in comparison thereof.

The charge that the consumption of provisions for man and beast had been lowered, and the rents of lands brought down by means of stage-coaches, is met by a flat denial. As to horse-meat, each of the stage-coach horses eats three times as much as any saddle-horse that travels; and in their coaches there is not this constant taking time with another, than one horse for every passenger that travels upon the roads: and besides this the number of saddle-horses had not diminished in consequence of the establishment of stage-coaches.

With any diminished consumption of man's meat, the memorialists do not consider that they have anything to do. It is either the laying aside the ancient way of hospitality and good house-keeping, or else the more modern way of hospitality and good house-keeping, evidently describing stage-coaches [evidently describing stage-coaches by this term] that hinders the consumption thereof.

The manner in which they meet the charge that the breed of horses had been deteriorated through the stage-coaches, is very curious. They contend the breed has rather improved; for that the stage-coaches kill more horses in one year than those who travel upon saddle-horses do in three; and so occasions more venf for breed thereby, and more encourages it. And besides, few or no gentlemen keep a saddle-horse, the less for the use that they make of stage-coaches, having the like need of them for travelling about their occasions in those parts of the country where the stage-coaches go not, that they had before.

In the remaining paragraphs the coach proprietors meet the charge that good horsemanship will be lost by the establishment of stage-coaches; and deny that the revenue from the excise and post-office is diminished in comparison of the public, nor to be put into the same proportion. They claim that the consumption of provisions for man and beast which has been lowered, and the rents of lands brought down by means of stage-coaches, is met by a flat denial. As to horse-meat, each of the stage-coach horses eats three times as much as any saddle-horse that travels; and in their coaches there is not this constant taking time with another, than one horse for every passenger that travels upon the roads: and besides this the number of saddle-horses had not diminished in consequence of the establishment of stage-coaches.

It seems that the hackney-coach proprietors in London were parties in this petition against stage-coaches. But the result of this attempt to put down an important public convenience was as unsuccessful as any similar attempt made by the few against the welfare of the many must ultimately prove, whatever temporary success it may obtain. The complaints against stage-coaches in the reign of Charles II. might be multiplied; of which, however, we will not divert our readers from the narrative of the reign of William IV., but the clamour on every side about the "cabs and omnibus nuisance" in the present day is so much in the same spirit, that our wonder at such shortsighted objections is not equal to the pain with which we perceive that in the public mind there remain dark and narrow crannies which the gradually increasing light of 150 years has not yet been able to penetrate.

The futility of the objections urged against stage-coaches is sufficiently demonstrated in the memorial we have quoted, that it only remains for us to imagine how we should have been circumstanced if, in compliance with the petition, the improvement in question had been put down. Our civilization would certainly have been of a much lower standard than at present; for there is no single circumstance, or rather
combination of circumstances, by which civilization is so much promoted as by the existence of facilities for an extended personal, epistolary, and commercial intercourse between the different parts of a country. Wherever such facilities do not exist, or exist but imperfectly, we may safely pronounce the people barbarous, and shall only be liable to mistake in estimating the degree of sensibility which issued from it so strong as to drown the odour of incense which issued from it. Part of these happy sensations may have arisen from the beauty of the surrounding scenery, the delicacy of the atmosphere, and the state of our own minds soothed by healthful exercise; but I am quite sure that a good portion of the pleasure was nothing but a reflex of the pleasure of the people we saw around us.

We continued our journey on Saturday morning, and reached the humble inn of the small town of Eboli in the afternoon. As we were resting awhile upon our beds before dinner, a priest came in and sprinkled holy water in the chamber, and then passed on to bless the other rooms of the house. This ceremony is performed in most houses just before Easter, and the country people will on no account dispense with it, as they hold the annual benediction efficacious in keeping sin and sorrow, evil spirits and ill luck out of doors. We sat down to our quiet meal as the church bells, in their usual manner, were tolling the "Ave Maria," and our main dish was, not a paschal lamb, but a kid, which, when very young, is, in my opinion, as good or even a better dish. The number of kids consumed at Easter, particularly in the pastoral districts, is very great.

On the next day, which was Easter Sunday, we walked over the Pashtan plain by Persano, and crossing the river Sele (the ancient Silaris), reached the ruined temples of Pæstum early in the afternoon. The only houses on the site of, or near to, that once splendid city, were a miserable little taverna, a hut, and a half-ruined edifice belonging to the bishop of the diocese, which is rarely visited. We frequently paused in the evening to rest in the taverna, where we were sorry to take up our lodging, the host had collected his family and his friends from a distance, and these, with two or three buffalo herdsmen employed in the plain, were celebrating Easter in a room scarcely larger than the cabin of a merchantman brig. Lamb would have been too dear, and small kid too unsubstantial, for people in their circumstances, but they had had their spezzato, or cut of mutton, with some coarse macaroni for dinner, and had done so much justice to them that nothing was left for us but some eggs, cheese, and cassatello, or Easter bread. Several of the party had not tasted animal food of any kind since Christmas, and were not likely to taste it again for months. The extraordinary feast had made them very gay and communicative, and when we treated them with a few bottles of the cheap country wine they enlarged with much eloquence on the pleasures of La buona Pasqua, and told us all about their way of living in general. For myself, I never passed a pleasant Easter. In other years I was always sorry that our host on this night could give us were two enamelled sacks stuffed with straw: we did not fare much better, as far as bedding was concerned, on any one night of this Easter week. We rose the next morning—the gay morning of Easter Monday, at the dawn of day, and after having spent some time among the temples, which I had often visited before, found ourselves, at what was still an early hour, at the foot of the sleep
At twenty-two o'clock, in Italian time, or two hours before sunset, the church was again thronged, and the priest pronounced the benedizione, or blessing.

As usual on most of these holidays, the poor peasants thus united devotion, business, and pleasure, all in one day; and I confess it appeared to me there was no impropriety or inconsistency in their so doing, but that on the contrary they had hit upon a very laudable and rational way of passing their Easter Monday.

Generally speaking, the men drank wine enough to exhilarate, without intoxicating them. In all that crowd, I did not see a single individual that could be called drunk. There was none of that squabbling and quarrelling so common on such occasions among the peasantry of the Terra di Lavoro, near Naples, who, taken altogether, are about the worst specimens of Neapolitans. Part of this may have arisen from the different nature of the wines, which in the Terra di Lavoro are mostly produced from volcanic soils, and are very heady and fiery; but I believe still more is to be attributed to the unwise and odious practice of sending soldiers, gens-d'armes, and abirri, to attend all the popular meetings or festivals near the capital, and who provoke, by their overbearing and interfering, ten quarrels for one that they prevent.

Soon after the benediction, the peasants began to leave Capaccio Vecchio, where there was not a single inhabited house, and went to their homes situated in hollows in the mountains, some two or three miles from the old town. As inns were out of the question in such a place, we went direct to the Franciscan monastery. The friars were civil, and willing enough to feed and lodge us, but they had nothing in the shape of a spare bed. The old superior shook his head, and spoke in the habit of eating the wolves' flesh. There were two of the poverty of the land; but after an hour's peregrination in the little town, he contrived to borrow a mattress, stuffed with the broad dried leaves of the Indian corn, from one—a couple of pillows from another—a woollen coverlet here—and one large coarse sheet there; and with these materials we made a double bed in one of the cells, in the best manner we could.

We finished the Easter Monday, and passed nearly the whole of the week with the friars, dining at table with them at half-past eleven o'clock in the morning and supping with them at seven in the evening. We were much better off in the refectory than we were as to our bed-room, for we had plenty of good wholesome food, and pleasant, light wine. Monks, novices, lay-brothers, and all, fared quite sumptuously while we were with them, having minestra verde (cabbage-soup), or macaroni, spezzato (or kid's flesh), red eggs, and casatiello, every day; and while this unusual feasting was going on, the friars kept saying,—by the aid of Saint Francis, blessed be his memory—Lenis, the holy spirit almost went out of us; but now it is Easter time, and we must be joyful.
The citron family of plants comprehends four distinct species:—the citron, the lemon, the orange, and the shaddock; and the orange and lemon have many varieties. Even in the East, where they are native, they are not a little capricious in their growth, the fruit and even the leaves frequently altering, so that it is not easy to say which is a distinct species and which a variety. They continue flowering during nearly all the summer, and the fruit takes two years to come to maturity; so that, for a considerable period of each year, a healthy tree exhibits every stage of the production, from the flower-bud to the ripe fruit, in perfection at the same time. They are all either small trees or shrubs, with brown stems, green twigs and leaves, bearing some resemblance to those of the laurel. We cannot, however, judge of the size of the orange-tree.
Italy before Vasco de Gama doubled the Cape of Good. Have been cultivated in the open air in England. For Azores are now the best that are to be met with in the West Indies; but rather the orange which was known in blossoms is most delicious. In the beginning of the sixteenth century, the trees at Beddington, in Surrey, of which Bishop St. Michael's in the south of France; and the bitter oranges, called in the commerce of England Seville or oranges, into Portugal, which was in the early part of the sixteenth century. The first oranges, it has been stated, were imported into England by Sir Walter Raleigh; and it is said that Sir Francis Carew, who married the niece of Sir Walter, planted their seeds, and they produced the oranges at Beddington, in Surrey, of which Bishop Gibson, in his additions to Camden's Britannia, speaks as having been there a hundred years previous to 1695. As these trees always produced fruit, they could not have been raised from seeds; but they may have been brought from Portugal, or from Italy, as early as the close of the sixteenth century. The trees at Beddington were planted in the open ground, with a moveable cover to screen them from the inclemency of the winter months. In the beginning of the eighteenth century they had attained the height of eighteen feet, and the stems were about nine inches in diameter; while the spread of the largest of the number was twelve feet one way and nine the other. There had always been a wall on the north side of them, to screen them from the cold in that quarter; but they were at such a distance from the wall as to have room to spread, with plenty of air and light. In 1738 they were surrounded by a permanent enclosure, like a greenhouse. They were all destroyed by the great frost of the following winter; but whether this was wholly owing to the frost, or partly to the confinement and damp of the permanent enclosure, cannot now be ascertained. At Hampton Court there are many orange-trees, some of which are said to be 300 years old. They are generally moved into the open air about the middle of June, when the perfume of their blossoms is most delicious. Orange and lemon trees have been cultivated in the open air in England. In a hothouse, placed in the shadow of the wall of Devonshire, they have been seen trained as peach-trees are against walls, and sheltered only with mats of straw during the winter.

The orange, naturally produced in warmer climates than our own, has been rendered our property by commerce in a very remarkable degree. It may be
procured at little more cost than the commonest of our domestic fruits; while it is perhaps the most refreshing and healthy of all the fruits of warm countries. It has thus become a peculiar blessing to us; for while it offers a gratification within the reach of the poorest, it is so superior to other fruits, that it cannot be despised for its cheapness, even by the richest. The duty upon oranges at present amounts to 68,000l. per annum, at the rate of 2s. 6d. for a package not exceeding 5000 cubic inches. Assuming the cubical contents of an orange to be 1.5 cubic inches, there are 3000 in each package; and thus we see that 272,000,000 of this fruit are annually imported, allowing about a dozen oranges a-year to every individual of the population.

The above is chiefly abridged from the second volume of 'Vegetable Substances,' in the "Library of Entertaining Knowledge."

MINERAL KINGDOM.—Section XXXVIII.

Gold.—(concluded).

We shall now briefly allude to the sources from which gold appears to have been derived in ancient times, and prior to the discovery of America. That it existed in considerable quantity is evident from the numerous allusions both in sacred and profane history to treasures of gold, and to vessels and ornaments made of it. There are some passages, however, which are obviously fabulous, such as the story related by Diodorus, of Semiramis having erected statues of Jupiter, Juno, and Rhea, of beaten gold, forty feet in height, and of drinking vessels of gold dedicated to Jupiter weighing 1200 talents. But the descriptions of the sumptuous displays of the precious metals in the palaces of ancient kings and princes, even if we suppose them free from exaggeration, are apt to give an erroneous impression of the riches of ancient when compared with modern times; for all the heaped-up treasures and gorgeous vessels of gold would amount to a small sum, if compared with the mass which is subdivided in minute quantities in the general consumption of articles of commerce and luxury among a large population. Speaking of the quantity of gold in circulation and in use, even among the comparatively small population of Europe in the seventeenth century, Mr. Jacob says, "If we suppose Europe at that period to have contained 100,000,000 inhabitants, and one-tenth of these to have been married or widowed females, with each a gold ring of only a pennyweight of gold, the value of them would amount to 2,000,000l. sterling. If we suppose that one-tenth of the inhabitants had a silver watch, and one-hundredth part a gold watch with cases weighing two ounces, the whole would amount to 20,000,000l. sterling. The supposition is made without any assumption of its correctness, and merely to show the prodigious extent and consequent consumption of an article when, from the decline in its value, it takes possession of our manufactures."

In another place he remarks: "The introduction of tea, but especially the extension which it gradually received, till it has become the daily fare of almost the whole community, had an influence on the consumption of silver for small spoons. They were scarcely known in the previous reign, but multiplied in the reign of Queen Anne, and have gone on increasing from that time to the present, when they may be counted by millions, perhaps by hundreds of millions."

The chief supply of gold in ancient times was from Asia. Herodotus speaks of people living near the source of the Indus searching for gold, and that they resembled the Bactrians in that respect. Now we know that in modern times gold is found in many parts of Tibet, and that the mines there yield annually about 10,000 ounces. The amount of the precious metals brought by Alexander the Great from the East appears to have been very great. Herodotus speaks of the northern region of Asia producing prodigious quantities of gold, and the researches of modern travellers have shown that mines were worked by nomadic tribes in Siberia from a very remote period. Sirabo speaks of gold mines in Armenia, in the province of Hesperus near Cambale. Nubia and Ethiopia furnished a large deposit of gold and silver before the Christian era. There were very productive gold-mines in Thrace, which were worked extensively during the time of Philip of Macedon, and are said by Diodorus to have yielded gold yearly to the amount of 1000 talents. In the reign of Philip the art of refining had arrived at considerable perfection, or the gold found must have been very free from alloy, for his coins are of great purity, and they are even excelled in that respect by those of his son. The gold-mines of Thrace were in operation in the reign of Valesius, who died A.D. 378, but they had altogether ceased to be worked in the succeeding century. No gold is now known to be found in any of the countries at present subject to the Turks. There were productive gold-mines in different parts of Spain, according to Pliny. The country around Aquileia, and the whole district of the Noric Alps, which now forms a part of the kingdom of Austria, were formerly rich in gold-mines, and became suddenly so productive as to lower the price one-third throughout all Italy and the adjoining countries. The mines of Hungary were not worked before the Christian era, but these and others in Austria were the chief sources of supply during the middle ages.

Uses of Gold.—From its softness and flexibility gold would be very unfit for coinage in its pure state, and it is therefore mixed with a small proportion of copper, which has the effect of hardening it. An elaborate series of experiments was made by Mr. Hatchett on the alloys of gold with different metals, an account of which is published in the Philosophical Transactions for 1803. He ascertained that the hardest alloy with copper is composed of 11 parts of gold and 1 of copper, and that has been adopted as the standard gold of our coinage. The effect of some other metals in changing the properties of gold is remarkable, for if 1/12th part of lead be added, the alloy is as brittle as glass. If a quarter of a grain of bismuth be added to an ounce of gold, that is 1/12th part, the mixture, although in colour and texture resembling gold, is perfectly brittle. If a like quantity of antimony be added, the mixture is not only brittle, but has hardly any metallic lustre. It becomes, therefore, a matter of great consequence in alloying gold to employ copper which has been previously ascertainment to be perfectly pure, for it very usually contains a small admixture of lead and antimony. The hardness imparted by the copper is not such as to destroy that degree of softness and toughness in the mixture which renders it possible to give the impression of the dies with perfect exactness. It would not answer to form coins and medals of gold by pouring the melted metal into a mould, for, in passing from the fluid to the solid state, it contracts considerably in bulk, whereas the reverse would be necessary in order to obtain a sharp impression. The quantity of gold coined at the Mint in London, since the commencement of the new gold coinage in 1817 to the 31st December, 1829, amounted in value to 44,224,490l., and it was coined in half-sovereigns, double-sovereigns, 40,672,456 sovereigns, and 7,039,588 half-sovereigns. The addition of copper imparts a reddish tinge to the gold, and this is rendered deeper as the quantity of copper is increased. Trinkets and various articles of jewellery and plate are made of gold of very different degrees of purity. "What is called fine
of Milan, where there is a complete army of statues, too many of them are placed in positions where they can scarcely be seen.

Like other伟大 buildings, the Cathedral of Florence has been subjected to the caprices of power and a bad taste of despotism. The façade was almost half incrusted with beautiful marble, and additionally adorned with many statues and basi-relievi, executed from designs by the venerable Giotto, one of the fathers of painting—one of the immortal Italians who dug up the fine arts from the grave in which they had been buried for centuries. In 1556, without any visible motive, a grand duke of the house of Medici demolished this façade from and beneath another in a totally different design. This new façade was very slowly executed, and never finished; and in 1688 another grand duke, whose taste it did not please, knocked it all down, just as his predecessor had demolished the venerable works of Giotto. For several years the front of the church presented nothing but bare unsightly walls; and then, on the occasion of some ducal marriage, the reigning Medici had it shabbily painted in fresco, and in that condition it remained for upwards of a century. Thus the façade is a somber epitome of the genius of the Medici, the family of merchant princes whose virtues and abilities went out like lamps lacking oil, almost immediately after their assumption of absolute power—kept their marbles, their "porphyry, jasper, agate, and all hues" to heap upon their own inglorious tomb, in the church of S. Lorenzo; and even that monument of their vanity and tawdry taste they never finished.

Seven great doors, three in front and two on either side, give admittance to the interior of the Florence Cathedral. Those doors are richly ornamented by various artists. The façade of St. Peter's.

The choir is itself a blemish. It is of an octagonal form, to correspond with the shape of the cupola, which is not circular but octagonal, or nearly the same as that of pure gold. The gold used by the first-rate London jewellers has about two-thirds of its weight of pure gold. The Dutch ducat, alloyed with silver only, is of a pale-yellow colour, and may be bent by the fingers. For gold leaf, the purest metal must be selected: to make this, a bar weighing about two ounces is forged on an anvil, and passed between steel rollers until it forms a long riband as thin as paper. This is cut into 150 pieces, and each of these pieces is hammered on an anvil till it is about an inch square. Several of these very thin plates are laid between small sheets of vellum, and placed in a press; and then beaten with a very heavy hammer until the gold plates are extended to about four inches square. Each of these is cut into four parts, and placed between layers of prepared ox-gut, and a packet of these is beaten as before until they extend to about four inches square. Another similar subdivision and beating takes place, and thus at last the two ounces of gold produce 2400 leaves, and each grain has been opened out to nearly 91 square inches in surface. Each piece, having a thickness of about a thousandth of an inch. It is capable, however, of being beaten much thinner, as we have already noticed. Mr. Jacob estimates the annual consumption of all the gold beaten in the United Kingdom at about 17,500 ounces of fine gold.

The only employment of gold in the arts, otherwise than in its metallic state, is in a preparation which is used for painting on china, to give a pink or red colour.

CATHEDRAL OF FLORENCE.

In extent and magnificence the Duomo of Florence ranks among the first ecclesiastical edifices of Europe. It also derives a great interest from its venerable antiquity, and from being generally considered as the beginning of a new era in the history of architecture. Tuscan writers, who have been rather too positive in their praise, have said a great deal about the bold abandonment of the Gothic style, and the happy adaptation of the ancient Roman style of architecture in this building, which shows an admixture of several styles, though it certainly has more of the ancient Roman than any work that preceded it in the middle ages. Its fine double cupola was the first raised in Europe, and in other respects the Duomo of Florence served as a model to succeeding architects. This cathedral was begun in 1296. The first architect employed upon it was Arnolfo di Lapa, a scholar of Cimabue the old painter. In 154 years, and under successive artists, it was nearly finished. "But," says an old Florentine author, "the grand cupola was the parturition of the marvellous genius of Ser Filippo Brunellesco, an architect who in his days had no equal." It is related of Michael Angelo Buonarroti, that he used to gaze at this proud dome with rapture, and say it never could be surpassed by mortal man. He afterwards surpassed it himself in his dome of St. Peter's at Rome; but spite of his magnificent boast, the cupola of Florence was a prototype, and had more to do with St. Peter's than the dome of the Pantheon, which Buonarroti said he would suspend in the air. Brunellesco, the author of the cupola, gave the finishing hand to the cathedral. In size, materials, and boldness of conception, it is only inferior among Italian churches to St. Peter's. The walls are cased with black and white marble, and both without and within they are adorned with numerous statues, many of which are beautiful as works of art, or interesting as early specimens of Italian sculpture. As in the Cathedral of Milan, there is a complete army of statues, too many of them are placed in positions where they can scarcely be seen.

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Seven great doors, three in front and two on either side, give admittance to the interior of the Florence Cathedral. Those doors are richly ornamented by various artists. The façade of St. Peter's.
Here, on the 26th day of April, 1478, when high mass mostly from violent and personal motives, and who, host the blood of Giuliano de' Medici, was shed by the greatest tyrant in Italy, and with other descried the Pazzi; and his brother Lorenzo, clinging to the who hated liberty even more than they hated the Medici. the horns of the altar, and afterwards flying into the Here, some years before, when Constantinople was trembling at the approach of the Turks, the Greek host, the blood of Giuliano de' Medici was shed by the greatest tyrant in Italy, and with other descried the Pazzi; and his brother Lorenzo, clinging to the who hated liberty even more than they hated the Medici. Here, some years before, when Constantinople was trembling at the approach of the Turks, the Greek host, the blood of Giuliano de' Medici was shed by the greatest tyrant in Italy, and with other descried the Pazzi; and his brother Lorenzo, clinging to the who hated liberty even more than they hated the Medici.

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and beggar, sat side by side with the Pope, consenting to renounce the schisms and heresies of the Greek Church; and engaging (without consulting them) to bring all his people into the bosom of the church of Rome, on condition agreed upon, that the Pope should procure him arms, treasures, and the assistance of the ancient cities of Europe. Here the German emperor, Frederic III., forgetting that the holy spirit of the place was one of peace and good-will to all men, knighted some scores of the bravest or fiercest of his cut-throat soldiery. A portrait recalls the memory of the greatest of all Florentines, and shows the tardy repentance of his ungrateful countrymen. "An ancient picture by Orcagna, in which is painted the divine poet Dante, is placed here in consequence of an express decree of the Florentine Republic; and this is the only public memorial we possess of that great master of Tuscan poetry." Such are the melancholy words of an old Florentine writer, who, like all his countrymen, deplored that the bard should have died in poverty and exile, and have left his strictly-guarded ashes in a foreign state. Next to this picture of Dante is the portrait of an English soldier of fortune,—the renowned and infamous condottiero Sir John Hawkwood, who betrayed and sold the Pisans, in whose service he was, to their bitter enemies the Florentines, for a sum of money.

In another part of the church there is a curious old portrait of Giotto. Brunellesco has the honour of a bust, as well as that of a Latin epitaph, on his tomb. This epitaph, which was written by Carlo Marzuppini of Arezzo, "Poe and Secretary of the Republic," is remarkable, as it includes the original idea of our inscription in St. Paul's to the memory of Sir Christopher Wren. The Florentine inscription tells the reader to look at the cupola to form a notion of Brunellesco's excellence in architecture. Our inscription to Wren, which is better turned, says, "Reader! if you would behold his monument, look around you."

In various parts of the cathedral, there are statues by Baccio Bandanelli, Savino Rovezzano, and other early artists. The chapels which shoot off from the side aisles are rich in pictures, sculpture, and reliefs. The campanile, or belfry, which is the square tower that the reader will see in our engraving, surmounted with a flag, is one to, but wholly detached from, the body of the cathedral. This was a common method in Italian churches, where the bells were hung, not in the temple, but in a separate tower near to it. Instances of this occur at the celebrated cathedral of Pisa, at the church of Santa Chiara in Naples, and in many other places. The campanile of Florence is light and airy. It is coated on the outside with variegated marble, and studied here and there with statues. Giotto the painter drew the designs on which it was erected. And here it is worthy of remark, that nearly every one of those early artists was not a mere painter, or sculptor, or architect, but united in himself the knowledge and practice of all the three arts, besides being skilled in civil engineering, and, in most cases, a poet, or an accomplished musician, to boot. They were a wonderful set of men, who suddenly sprang up in the midst of a most turbulent liberty, when wars and factions shook the peninsula from one end to the other, and even threatened the existence of Tuscan and Lombard was of necessity a soldier. The impulse they gave lasted some years after the decline of freedom; but Italy never saw such men in the tranquillity that arose out of confirmed despotism.

Opposite to the principal entrance of the cathedral there stands another detached building, which the reader will see in our view. This is the baptistery, which it was also usual not to include in the church, but to erect apart. At Pisa, as here, and in many other places, the baptistery is a separate edifice, rising near the cathedral. This baptistery was not confined to one parish; all the children born in the city and suburbs used to be christened in it; and as the population in the thirteenth, fourteenth, and fifteenth centuries was immense, the baptismal fonts must have presented very near an hundred. A notion may be formed of the extent of the population from a fact mentioned by Machiavelli. He says that the bells of the campanile sounding the tocsin would, in a few hours, bring together 130,000 well-armed men, and all these from Florence alone with the adjoining valley of the Arno.

The baptistery is an octagonal building with a low dome supported by many granite columns. Its interior walls are lined and the pavement is inlaid with marble. The concave of the dome is covered with pictures by Orcagna, in which is painted the divine poet Paradise, were the work of Lorenzo Ghiberti. The figures and groups of the relieves refer to events in the Life of Saint John the Baptist. By the sides of the principal entrance there are two porphyry columns given to the Republic by the Pisans in 1117, in gratitude for important services rendered by the then friendly Florentines, who had kept watch and ward in Pisa whilst its warlike citizens went to the conquest of foreign state. Next to this picture of Dante is the portrait of an English soldier of fortune,—the renownedin style, and so beautiful that Michael Angelo was betrayed and sold the Pisans, in whose service he was, to their bitter enemies the Florentines, for a sum of money.

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Cotgrave gives "Cockney" as one of the English meanings of this French word. Dr. Pegge himself acknowledges it to be one of the least definable of words, but nevertheless tries his hand at it. He says that the French have an old appropriated verb—Coquenir un enfant, "to fondle or pamper a child." The participle passive of this verb will be Coqueline, which by no great violence may be reduced in the mouth to Coquen; for in pronunciation the last syllable but one (i) will easily melt in the mouth, and then accound in sound with our word "cockney." If none of these etymologies will do, we have the alternative of accepting the word as it stands in the text of the play, and treating it as a compound of the words "cock" and "neigh;" it accounts for the origin of the combination by informing us that,—Once upon a time a true-born and true-bred Londoner went into the country, and on first hearing a horse neigh, cried out—"How the horse laughs!" but being told that the noise made by the horse was called neighing, he stood corrected. In the morning when the cock crew, the citizen immediately exclaimed, with confident conviction, that the cock neighed! We need not add that this is merely a forced conceit, as, indeed, more serious derivations often are. Writers agree better about the meaning than they do about the etymology of the word. It is intended by the word Cockney to express a person brought up in the city of London, and ignorant of the manners and ideas of all the rest of the world. In this sense, the word can hardly in the present day be applicable to the natives of London, and that it was more so at a former period, as it probably was, is partly accounted for by the state of the roads and the want of public conveyances, which precluded the inhabitants from those little excursions which, at proper seasons, they are now enabled to obtain. In Chaucer the word does not seem to be applied particularly to the inhabitants of London, but to mean generally a sly fellow, destitute of wit or courage:—"I shall be held a daffe (i. e., a fool) or a Cockney." The word, however, in its restricted signification, is older than Chaucer. Thus, Hugh Bigod, Earl of Norfolk, in the reign of King Stephen, had a castle which was considered impregnable; and when Gehen to go. In Yorkshire, Lancashire, and other parts of the kingdom, the term Ge is still used as a prefix to denote things large and immaterial. This in the common vegetable nomenclature we have "horse-radish," and among them. Horses are made to move or stop mechanically at the sound of these words, being drilled into the observance of them by their continual recurrence under certain circumstances, and by the fear of punishment.

Now, the word Ge, with a very trifling modification, seems to be the imperative Geld of the German verb Gehren—to go. In Yorkshire, Lancashire, and other northern parts of the kingdom, the term Ge is still retained as a conversational word. Thus, if things do not suit or fit each other, or where neighbours do not accord, the expression is—"They do not ge well together." Bailey and Dr. Johnson allow the word a place in their 'Dictionaries;' but content themselves with observing that Ge (so they write it) is a term among waggoners to make their horses go faster, without recurring to the radical word.

"Wo" was anciently applied to knights and combatants in armour. It is no other than a broad pronunciation of the Danish word Ho! commanding cessation or desistance. At tilts and tournaments, when the king, or the president of the combat, gave the signal for discontinuance by throwing down his warder (or baton), the heralds cried out to the combatants Ho!—that is, "Stop." The French have enlarged the term to a dissyllable by the assistance of their favourite adjunction et, and used the compound word Hota (or Hota there) in combats, and which we have adopted in common language when we call to a person to stop. The word still exists in nautical language in nearly an uncorrupt state. Thus, when one ship hails another, the words are, "What ship? Hoy!" That is, "Stop, and tell the name of your ship."

We shall conclude this article with a few notes on the names of some trades, which to us seem wanting in significance.

Stationer.—The Company of Stationers existed long before the invention of printing. A stationer, therefore, was a dealer who kept a shop or a stall, as dis-
A Milan cap is mentioned in 'Don Quixote.' Denominated from churches, have their names from the danger in following them farther: to him who has no rule produced by the labour. The Scotch write it 'tinklar.'

The Danish betele, which both signify a beggar. Exposed for sale in them... Many instances of this will occur to those acquainted with such towns.

Our island are evident symptoms. This valley is about twenty-moments. In this gradation of human nature every there is evident. The minerals on the spot are pyrites, lava, dignity of our nature. Perhaps there is no higher proof of that date. The operation probably obtained in save fuel by those fountains. They place their culinary

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The Jungle Cock.

The bird known by this name among the English in India, is the "Wild Cock" of Sonnerat, who was the first to describe it in his "Voyage aux Indes Orientales." This naturalist maintained with considerable zeal that this bird formed the stock whence most of our races of domestic fowl have proceeded. He concurred in the opinion of Buffon, that most of our varieties of domestic fowl have proceeded from a single type, and that the differences which we perceive among them have resulted from accidents of climate, domestication, and crossings of varieties. Sonnerat, who did not or would not know of any other species of wild cock than this—for he speaks slightingly of the authority of Dampier, who mentions that he saw wild cocks in the Indian Archipelago—naturally enough concluded that in this jungle-fowl he had found the primitive stock. Subsequent inquiries have, however, confirmed the statements of Dampier, not only as to the existence of species of wild fowl in the Indian Archipelago; but it is also admitted that the Bankiva species in Java, and the Jago species in Sumatra, more nearly approximate to our common fowl than that now under consideration, and to which Sonnerat's statements refer. Upon the whole, it seems that our varieties of domestic fowl proceed from mixtures of original species. Practical observers arrive at much the same conclusions on this point with scientific naturalists. It is thus, for instance, considered in India that our game cock originated from a mixture of the jungle cock with wild species in Malaya and Chittagong. Altogether, however, it must be admitted that, on this disputed point, very little is actually known; and the domestication of the bird ascends to such remote antiquity, that it seems hopeless to determine the era, and still more hopeless to ascertain the original species with precision. It is proper to add that the jungle fowl, which we now proceed to describe, are quite distinct in India from the domestic races reared by the natives, which do not in any respect differ from the domesticated varieties in all parts of the world.

The jungle cock is about one-third less in bulk than our common village cock. Its length from the point of the bill to the extremity of the lowered and extended tail, is about two feet four inches; and its height from the level of the feet to the top of the head, without including the crest, is fourteen inches and a half. The head is furnished with an indented comb, and the wattles resemble those of the domestic cock, but the naked space around the eyes and on the throat is larger than in that bird. The feathers of the head and neck grow longer as they approach the body; and in their form and substance are different from those which cover the same parts in other cocks, whether wild or domestic. The quill is thick and flattened, forming a white stripe; the whole length of the feather, as far as the extremity, where it ends in a dilated cartilaginous...
substance, is of a rounded form, thin, highly polished, and white. The feathers of the back, and those of the tail coverts, are long and narrow, and are of a dusky brown colour, varied with spots of a brighter hue, the whole having a white stripe on their edges. The breast, the belly, the sides, the thighs, and the abdomen are dusky, tinged with green. The greater quill feathers are dull black, and the middle and secondaries are black, with green reflections. The lesser and middle wing-coverts have the shafts flattened, and their tips furnished with a thick and solid cartilaginous plate, of the same general appearance with those on the neck, but of a deep red colour. The colour of the tail-coverts is ice blue; they are lengthened out and arched over the two vertical planes of the tail, which is composed of fourteen feathers, separated into two portions inclined towards each other, and forming an acute angle. The two middle feathers are longer than the others, and form an arc, the convexity of which is turned from the body of the bird. The feathers of the tail are of a black hue, with green reflections. The feet are of a greyish colour; the beak horn-coloured; the fleshy appendages of the head are red, more or less deep.

The female of this species is much less than the male, and has scarcely any comb or wattles. The throat is covered with feathers, and this forms a remarkable distinction from the domestic hen, which has that part nearly naked. The circumference around the eye is naked and reddish. The whole of the plumage of the lower parts of the body resembles that of the male, except that the colours are less brilliant. The feathers of the neck are but slightly lengthened, and, as well as those of the wings, are destitute of the singular cartilaginous tips with which those of the male are furnished. The whole of the upper part of the body is grey, more or less dusky, with the shaft of each feather white. It deserves to be remarked, that in this, as well as in the other Indian wild species, the females do not differ among themselves in the colour of their plumage, like our domestic hens. The females about those primitive species resemble each other individually, which, as is well known, is by no means the case with our domestic hens, the differences between the individuals of which sometimes extend to characteristic attributes, such as the absence of crest, of gills, great difference of size, &c. This is a strong fact against the opinion of Buffon, who considered that a white plumage must be the attribute of the primitive race, and imagined that hens, originally white, became varied from white to black, assuming all the intermediate colours in succession. But our acquaintance with wild species which were unknown in Buffon's time enables us to conceive it more probable that the primitive hens are brown, red, or grey indifferently, and that white and black colours are among the consequences of domestication, for all the wild hens which we have hitherto been observed have the intermediate colors.

The cry of the jungle fowl is in some measure different from that of the domestic species; but there is much resemblance in their habits and dispositions. The following lively statement on this subject is from ‘Excursions in India,’ by Captain Thomas Skinner, published in 1832.

"In some parts of the forest we saw several jungle fowls: they have exactly the same habits as the domestic poultry. The cock struts at the head of his hens, and keeps his patch over their safety. Whenever they were disturbed by an attempt on our part, he flew to the highest branch of some tree beyond our reach, and crowed with all his might, while his dams ran into holes and corners to escape our attacks: they are so cunning, that we found it impossible to get within shot of them with all the caution we could use. While intent upon capturing at least one, as we were creeping after them upon our breasts, lying occasionally like riflemen under cover of the unevenness of the ground to catch them at palmate, we came suddenly upon an ambuscade that very soon put an end to our sport."

"We were about midway up the face of a hill that was thickly covered by trees, and much clogged by shrubs and creepers that wound in all directions. On reaching the foot of the enemy's position, still advancing upon our breasts, and bending a keen eye upon the birds strutting before us, up rose, with a growl that denoted an offended spirit (for we had literally touched his tail), a large black bear; and turning round, looked in the face with the most undisguised astonishment. It was the most unsought, as well as most unpromising introduction I had ever met with. There was no time for parley, and getting upon our legs, we at once stood upon the defensive. This sudden metamorphosis completed his surprise, and, yelling louder than before, he set off as fast as he could shuffle from the extraordinary appearance with which he was met. We determined that discretion was the better part of valor and began to retrace our steps, leaving the jungle fowl to benefit by the interruption."

The following is the process which the Shecarries—or natives of low-caste in India, who gain a livelihood by catching birds and animals—employ for the purpose of taking the jungle fowl:—"Two or three of these men go for this purpose together, and proceed in this manner. A line of thirty or forty yards long is fastened to the ground with wooden pegs at each extremity, and then elevated by props to the height of about eighteen inches. To this prop nooses of horse-hair are fastened at distances of about two feet from each other, and when the birds attempt to pass under the line, they are caught in the nooses by their necks. Sometimes a similar line is fastened to the ground, and left lying there with all the nooses spread, and as the birds pass over them they are caught by the legs. These lines are never spread where there is much jungle. When the line or lines are ready, the men go off to a considerable distance, and beat the bushes in a direction towards them."
hire the greater. With a commission from the chief post-master, or chief lords of the council (given either on public business or under the pretence of it), a passenger pays twopenny-halfpenny a mile for his horse, and the same for his guide's horse; but if several persons travel in company, one guide will do for the whole. Other persons, who have no such commission, must pay threepence a mile. This extraordinary charge for horse-hire is well recompened by the greater speed of the journey, by which the increased expenses of inns in slow travelling are avoided. All the difficulty is in bearing the great fatigue. The traveller is at no expense for the food of these last eight; but, at the inns, men of inferior condition eat at the keeping, and lose that which he expects a few pence in the way of gift. For the most part, Englishmen, especially in long journeys, ride their own horses. But if any person wishes to hire a horse at London he pays two shillings the first day, and twelve, or, perhaps, eighteenpence a-day afterwards, till the horse is brought back to the owner. In other parts of England, a man may hire a horse for twelvemonth, and at the same rate for a month or two. Likewise, carriers let horses from city to city, bargaining that the passengers must put up at their inn, that they may look to the feeding of their horses. They will thus lend a horse for a five or six days' journey, and find the animal meat themselves, for about twenty shillings. Lastly, these carriers have long covered waggons in which they carry passengers from city to city: but this kind of journeying is very tedious, for they must take waggon very early, and come very late to the inn; so that horse and women of inferior condition travel in this sort. Coaches are not to be hired anywhere but at London; and although England is, for the most part, plain, or consisting of little pleasant hills, yet the ways far from London are so dirty, that hired coachmen do not ordinarily take any long journeys. For a day's journey, a coach with two horses is let for about ten shillings a-day, or some fifteen shillings a-day for three horses, the coachman finding the horses' meat; if the journey be short, about eight shillings will suffice, but then the passengers pay for the meat of the horse. One horse's meat will cost twelvemonth, or eighteenpence for one night for hay, oats, and straw; but in summer they are put to grass at threepence each, although those who ride long journeys keep them in the stable on hard meat, as in winter, or else give them a feed of oats when they come from grass in the morning.

In the inns, men of inferior condition eat at the host's table, and pay about sixpence a-meal; butgentlemen have their chambers and eat alone, unless they have friends or acquaintance in company. In this case their reckoning commonly amounts to about two shillings for each; but one who eats alone in his chamber, with two servants attending, will generally have to pay five or six shillings for supper or breakfast.

In the northern parts, towards Scotland, gentlemen do not keep to their chambers, but eat at the host's table together, where they have plenty of good meat, and especially of choice kinds of fish, and each man pays no more than sixpence, and sometimes only threepence a-meal.

We now turn to our other authority who, under the name of "A Lover of his Country," published the book we have already mentioned, in which he enumerates a number of public grievances which parliament ought to remove. Among the principal of these is the "one of the greatest mischiefs that have happened of late years to the kingdom,—mischievous to the public, destructive to trade, and prejudicial to lands." We shall endeavour to disentangle from his long and laboured statement such facts as may enable us to obtain a view of the improved facilities for travelling which had arisen in the fifty-six years which elapsed between the date of Eyre Monson's book and that of this production. It will sometimes be necessary to state the writer's complaints in order to bring out the details. We, of course, cannot sympathise in his feelings, and shall have occasion to smile at his opinions and fears. But it may, nevertheless, be well to remember that the stage-coaches of which he complains were not such as those we now possess: they were evidently clumsy and ill-conducted vehicles, and, from the wretched state of our roads at that time, travelling in them must have been a miserable and tedious performance to any mode of land conveyance that we now boast.

The "Lover of his Country" dwells with great bitterness on the effeminacy which these vehicles engendered in his majesty's subjects. "They become weak and listless when they ride a few miles, unwilling to get on horseback, and unable to endure frost, snow, or rain, or to lodge in the fields. That stage-coaches discourage the breed of horses is evident; for will any person that has a horse hire him at a shilling a mile? At any rate, the caution is founded in truth. It will sometimes be necessary to hire a horse at London or York, and to travel a distance of twenty miles, and yet not to be able to hire a horse at twenty miles' distance in those parts. All the year round, stage-coaches cannot be hired for five shillings a day, unless the horses are very fat and very old, or of very indifferent quality.

We were going to point out the laughable points in this complaint; but on a moment's reflection we abstain from throwing a stone at this old gentleman of the seventeenth century, lest we should break the windows of some of our neighbours in the nineteenth century, who have very recently spoken in much the same way against canals, roads, and stage-coaches. But it may, nevertheless, be well to remember that the stage-coaches of which he complains were not such as those we now possess: they were evidently clumsy and ill-conducted vehicles, and, from the wretched state of our roads at that time, travelling in them must have been a miserable and tedious performance to any mode of land conveyance that we now boast.
saddle-clothes, and good riding suits, coats and cloaks, stockings and hats, whereby the wool and leather of the kingdom was consumed. Besides, most gentlemen before they travelled in coaches used to ride with swords, belts, pistols, holsters, portmanteaus, and hat-cases, which in these coaches they have little or no occasion for. For when they rode on horseback, they rode in one suit, and carried another to wear when they came to the public end; in the summer they used the coaches they ride in a silk suit, with an Indian gown, with a saha, silk stockings, and the beaver hats men ride in, and carry no other with them. This is because they escape the wet and dirt, which on horseback they cannot avoid; whereas in two or three journeys on horseback these clothes and hats were wont to be spoiled: which done, they were forced to have new very often, and that increased the consumption of manufacture. If they were women that travelled, they used to have safeguards and hoods, side-saddles and pillions, with strappings, saddle or pillion clothes, which for the most part were laced and embroidered; to the making of which there went many several trades, now ruined. Our "Lover of his Country" does not forget to add that clothes and other property were also more liable to be lost under the saddle than under the coach system; and how much this circumstance tended to the encouragement of trade need not be told.

Immediately after this, however, the author neutralizes his previous statements by complaining of the increased frequency of travelling among the country gentry, who, at London and elsewhere, were led into expenses in purchasing things the want of which they would not have felt if they had remained at home. The stage-coaches and caravans are also alleged to hinder the consumption of provisions. "For instance, a coach with four horses carries six passengers; a caravan, with four or five horses carries twenty, or twenty-five: these, when they come to their inn, club together for a dish or two of meat; and having no servants with them, spend not above 12d. or 16d. a-piece at a place; yet perhaps four, five or six pair of sheets."

From the writer's attempt to show that stage-coach travelling was dearer than going on horseback, we quote so much as shows the cost of stage-coach conveyance in his time:—"Men do not travel in these coaches with less expense of money or time than on horseback: for on horseback they may travel faster; and if the weather be cold, better considered, with as little if not less charges. For instance, from London to Exeter, Chester, or York, you pay 40s. a-piece in summer, and 45s. in winter for your passage; and as much from those places back to London. Besides, in the journey they change coachmen four times, and there are few passengers but give 12d. to each coachman at the end of his stage; which comes to 8d. backward and forward, and at least 3s. comes to each passenger's share to pay for the coachman's drink on the road, so that in the passage backward and forward to either of these places costs 4l. 11s., and in winter 5l. 1s.; and this only for eight days' riding in summer and twelve in the winter." It thus appears that, at this early period in the history of stage-coaches, it took six days in winter and four in summer to perform a journey which is now done, at all seasons, in less than twenty-four hours! He afterward allows five days for the same journey on horseback. The writer then proceeds to contend that travelling on horseback was much superior even in point of personal convenience, to riding in stage-coaches. His statement will, at any rate, enable us to perceive how greatly our travelling facilities, both as to roads and conveyances, have been improved since the seventeenth century.

He asks, "what advantage it can be to a man's health to be called out of bed into these coaches an hour or two before day in the morning:—to be hurried in them from place to place till one, two, or three hours within night: insomuch that, after sitting all day, in the summer-time, stifled with heat and choked with dust, —or, in the winter-time, starved or freezing with cold, or choked with filthy fogs, they are often brought into their inns by torch-light, when it is too late to lay up to the next day's journey to the end of their stage into the coach so early that they can get no breakfase? What addition is it to men's health or business to ride all day with strangers, oftentimes sick, ancient, diseased persons, or young children crying; all whose humours he is obliged to put up with, and is often poisoned with their nasty scents, and crippled with the crowd of boxes and bundles? Is it for a man's health to be laid fast in the foul ways, and forced to scud up to the knees in mire; afterwards sit in the cold till teams of horses can be sent to pull the coach out? Is it for their health to travel in rotten coaches, and to have their tackle, or perch, or axle-tree broken, and then to wait three or four hours (sometimes half the day), and afterwards to travel all night to make good their stage?"

The writer then argues that stage-coaches are not necessary to any persons whatever. Sick or aged persons, or young children, if they have occasion to travel, may ride in the long waggons-coaches, or on horseback. And as to their expense, he says:—"if some few stage-coaches were continued, to wit, one to every shire-town in England; to go once a week backward and forward, and to go through with the same horses they set forth with, and not travel above thirty miles a day in the summer and twenty-five in the winter, and to shift inn every journey, that so trade might be diffused,—these would be sufficient to carry weeds and the lame, that they pretend cannot travel horseback: for on horseback they may travel faster; on horseback; and, being thus regulated, they would not be so much from those places back to London. notices of stage-coach travelling to the present time.

Lova every one in whom ye behold the honoured traces of humanity, even where they seem in ruin.—Wieland.

Devouring Books. — It is recorded of Madame de Stael Holstein, that before she was fifteen years of age she had "devoured" 600 novels in three months, so that she must have read more than six days a week. Louis XVI. during the five months and seven days of his imprisonment immediately preceding his death, read 150 volumes, or one a day. If this speciality of great strength in circumstances like those of Louis, it is less so in those of a young lady of fourteen or fifteen. No one can have time for reflection who reads at this rapid rate; and, what is more, may be of itself a danger to the health, for abusing nature to an extent as much greater than those who overcharge their stomachs as the intellectual powers are higher than the animal propensities. Thousands of young people spend their time in perpetual reading, or rather devouring books. It is true, the food is light, but it occupies the mental faculties for the time in fruitless efforts and operates to exclude food of a better quality.—Annals of Education.
The above scene is fully detailed in the Book of Genesis. Jacob, who, after the loss of his son had not expected to see him again, afterwards dwelt with him in Egypt nearly twenty years, beheld the extent of his authority and the esteem with which he was regarded, and saw in Joseph's children the commencement of that increase which was in the course of time to render his posterity one of the most extraordinary people of the earth. At Jacob's own request, the two children of Joseph, Ephraim and Manasseh, were brought to receive his blessing shortly before his death. The eldest, Ephraim, stood at his father's right hand, and Manasseh on his left. In putting out his hands to give them his benediction, Jacob placed his right hand upon the head of the youngest, instead of the first-born, which Joseph perceiving, said—"Not so, my father: for this is the first-born." But his father did not remove his hand, and in blessing them foretold the future greatness of both the children; but that the posterity of the younger should become a multitude of nations, while that of the elder should only become a single people. The female standing at the foot of the bed is probably intended for Azenath, Joseph's wife.

In this composition the most striking figure is that of the venerable patriarch, in whom the painter has blended dignity and solemnity, while an expression of paternal affection triumphs over the decrepitude and dimness of age. The children present a striking contrast to each other. Ephraim receives with heartfelt reverence the benediction of his grandfather; while his elder brother seems intent on other things, and altogether abstracted from the passing scene. The painter has also lavished upon one a profusion of ringlets, and a more marked character of personal beauty. More of art is visible in one, but nature shines with greater force in the other.

Paul Rembrandt, called Van Ryn, owing to his birth-place being near Leyden, at only a short distance from the Rhine, was born in 1606. As he did not show much aptitude for letters, his father, who was a miller, and had been successful in his calling, gratified his son's inclinations by placing him under a painter, with whom he remained three years. He then studied at Amsterdam; after which he returned to his home, determined in future to follow no other guide but nature. A picture which he finished at this time excited the admiration of some of his neighbours, who advised him to proceed to the Hague and dispose of it there. He did so, and obtained for it 200 florins. Much encouraged by this successful commencement, Rembrandt proceeded to the capital, where he prosecuted his avocation as a painter, to which he added that of an engraver, with great diligence. He also established a school for instruction in the former art, and soon found himself in the pathway to competence and an honourable fame.

It has been hitherto pretty generally asserted that Rembrandt was of an exceedingly avaricious disposition, and that it increased as his good fortune augmented. But this and some other charges are proved to be unfounded by later biographers, who have entered into a closer examination of the circumstances of his life. Mr. Nieuwenhuys has shown, in his 'Review of the Lives and Works of some of the most Eminent Painters,' that Rembrandt, being at one period desirous
of purchasing a large house, obtained a loan of 4150 guilders from one of the burgomasters. In 1656, when the period for the repayment of the money had arrived, the country was in a state of great embarrassment, and Rembrandt was in consequence unable to satisfy his creditor, who caused his property to be seized. Mr. Nieuwenhuyse has given the inventory of his effects. This list proves his devotion to art, and contains a number of paintings, engravings, and drawings of eminent masters, and a valuable collection of casts, &c., from the antique. The number of the painter’s own productions in this catalogue show that his embarrassments were not occasioned by any want of industry in his profession. Rembrandt died in 1674, aged 65.

The connoisseur will not always find in the works of Rembrandt either accuracy of design, elegance of form, or lofty conceptions. But to balance these defects, what knowledge of light and shade,—what magic colours,—what simplicity and force of expression! The characteristics of his compositions are so peculiar, that the least practised eye can distinguish them. The most striking large scale, and which are by far the cheapest of all—the white-linden honey, which is principally obtained by hollowing out a large smooth cavity in the trunk of the tree, around which and his own body he fastens a rope. On these, at the height of twenty-four or thirty feet above the ground, they construct the bee-house by the help of the tree with a tool resembling a chisel. When the work is completed, the aperture is closed with a board, in which are several holes large enough to afford the bees free ingress and egress.

The manner in which the Bashkirs execute this rather difficult work, and the agility with which they ascend the loftiest and smoothest trees, affords a fine display of dexterity and skill. A rope and a sharp hatchet is all that they require to assist their ascent. The workman places himself against the trunk of the tree, around which and his own body he fastens a rope. He then with his hatchet cuts a notch in the trunk at a certain height, and setting his feet against the tree, springs to that height by the help of the rope. He supports himself by the rope, resting his feet in the notch until he has cut another, to which he ascends in the same manner; and this is continued until he reaches the desired point. As he is to make some stay there, he notches in the tree a more convenient stand for his feet than was before necessary: resting his feet in this, and supporting the weight of his body by the rope, he then commences his work, the tools required for which he has taken up in his girdle. It is always considered necessary to cut away the branches below the hive, in order to render the access more difficult to the bears, which still exist in considerable numbers in the Ural, and which are by far the most dangerous enemies known to the bee cultivator. Some of the measures adopted to secure the hives from the depredations of these animals are very curious.

The most common contrivance is to insert a number of knives or iron spikes bent upwards into the trunk of the tree. The bear, by the exercise of great caution and sagacity, is generally able to clamber up a tree thus defended without much difficulty; but if the spot is chosen again he seldom escapes with his life, or at least without being desperately wounded, being caught by the hooks and lacerated by the knives in the descent. Some old and experienced bears, who have learned what to expect from these instruments, have been known to loosen or break them with their paws as they went up.

Another method, which is considered more certain than the former in its effects, is to suspend a thick and heavy block of wood before the aperture of the hive. This block the bear flings from him repeatedly with increasing fury; but as often as he does so, the block, of course, returns and hits him violent blows upon the head. Ini-
NARES'S GLOSSARY.

Apostle spoons. Spoons of silver gilt, the handle of each terminating in the figure of an apostle. They were the usual present of sponsors at christenings. Some are still to be seen in the collections of the young princess, the king replies,—

*Come, come, my lord, you'd spare your spoons.*

Henry VIII. Act v. Sc. 2.

These spoons are often mentioned by the writers of that time:—

*And all this for the hope of two apostle spoons, to suffer! and a cup to eat caudie in! for that will be thy legacy.*

B. Jonson's Burth. Fair, Act i. Sc. 3.

Black Monday, Easter Monday. So called from the severity of that day, April 14, 1360, which was so extraordinary, that of Edward III.'s soldiers, then before Paris, many died with the cold.—Stower, p. 264.

*Then it was not for nothing that my nose fell a bleeding on Black Monday last,—* Mer. Verne, Act ii. Sc. 5.

Caul. A thin membrane, found encompassing the head of some children when born: superstitiously supposed to be a token of good fortune throughout life. These caul's were even imagined to have inherent...
virtues, and were sold accordingly; nor is the superstition yet extinct, for advertisements for the sale of them are still not uncommon. Mr. Todd testifies the same. They are also considered as preservatives from drowning, and for that purpose are sold to seafaring people.

Camomile. It was formerly imagined that camomile grew the more luxuriantly for being frequently trodden or pressed down; and this was a very favourite allusion with poés and other writers. Shakspeare ridicules an absurd use of it:

"For though the camomile the more it is trodden on the faster it grows, yet youth, the more it is wasted, the sooner it wears"—1 Henry IV. Act ii. Sc. 4.

The above is evidently written in ridicule of the following passage, in a book then very fashionable, 'Lyly's Euphues,' of which it is a parody:

"Though the camomile the more it is trodden and pressed down, the more it spreads; yet the violet the oftener it is handled and touched the sooner it witheth and decays."—Euphues, Sig. D. Bl. Let.

"Chilkers Day. It was a popular superstition, which in the remote parts of the island is not yet extinct, that no undertaking could prosper, which was begun on that day of the week on which Childersmas, or Innocents' Day last fell."—Old Law. Act iii. Sc. 1.

"Friday, quotha, a dismal day! Childersmas Day this year was Friday.—Sir John Oldcastle, Part I. Suppl. to Sh. vol. ii. p. 297.

"Coat-cards. The figured cards now corruptly called court-cards. Knaves, we trust, are not confined to courts, though kings and queens belong to them. They were named from their dresses. The proofs of it are abundant. One says,—

"I am a coat-card indeed!"

He is answered,

"Then thou must needs be a knave, for thou art neither king nor queen."—Rowley, When you see me, 8:c.

"Well, we call'd him a coat-card. Of the last order."—B. Jon's Staple of News.

"She had in her hand the Ace of Hearts, with a coat-card."—Chapman's May-day.

The same is alluded to by Massinger:

"Here's a trick of discarded cards of us: we were ranked with coats as long as my old master lived."—Old Law. Act iii. Sc. 1.

"In 'Robertson's Phrase Book,' (1681.) under Card, we find this:—'The dealer shall have the turn-up card if it be an ace, or a cote-card.' But the usage being then become doubtful, court-card is subjoined.

"To draw Cuts. To draw lots, being papers cut of unequal length, of which the longest was usually the prize.

"How shall we try it? That is a question. We will draw cuts for the senior; till then, lead thou first."—Com. of Errors. Act v. at the end.

"In the 'Complete Angler' (Part I. ch. v.) they draw cuts who shall sing:—

"Pesc.—I think it best to draw cuts, and avoid contention." Pet.—It is a match. Look, the shortest cut fails to Gordon's Corner. Cor.—Well then, I will begin, for I hate contention."—Bagster's 2nded. p. 164.

Thus the shortest cut was here the loser, or the person to pay the social penalty of a song. It occurs in the old Scotch song of 'Bessy Bell and Mary Gray,' where the lover thus settles his wish for both lasses:

"Was't me, for, faith I cannot get, To ane by law we're stane; Then I'll draw cuts, and take my fate, And be with ane contented."—Mus. Misc. Vol. i. p. 160.

"Dinner Time. The proper time for dinner is laid down by Thomas Cogan, a physician, in a book entitled the 'Haven of Health,' printed in 1584. It is curious to observe how far we have since departed from the rule:

"When four hours be past after breakfast, a man may safely take his dinner, and the most convenient time for dinner is about eleven of the clock before noon. The usual time for dinner in the universities is eleven, or else where about noon."—Chap. 211.

So Old Merrymouth, in "Beaumont and Fletcher," says,—

"I never came into my dining-room but at eleven and a clock: I found excellent meat and drink on the table."—Ks. of B. Post. Act i. Sc. 2.

It soon became later:—

"Or if our meals would, every twelve and seven, Observe due hours."—Mayne's Amor. War.

"Jew's Eye. This phrase does not require explanation, but its origin may be worth remarking. The etторitious to which the Jews were subject in the thirteenth century, and the periods both before and after, exposed them to the most tyrannical and cruel mutilations, if they refused to pay the sum required of them. 'King John,' the trios House, 'once demanded 10,000 marks from a Jew of Bristol, and, on his refusal, ordered one of his teeth to be drawn every day, till he should consent. The Jew lost seven teeth, and then paid the sum required of him.'—Chap. xii. A.D. 1272. The threat of losing an eye would have a still more powerful effect. Hence the high value of a Jew's eye. The allusion was familiar in the time of Shakespeare:


The fine black eye of the Jew does not seem sufficiently accounted for to the saying.

We will give our remaining extracts in an abridged form.

"Maudye Thursday (the day preceding Good Friday) is derived from maunday, a busケット; on account of the king giving alms every year at Whitehall on this day, and the gifts being contained in baskets. The king giving alms every year at Whitehall on this day, and the gifts being contained in baskets. 'Sizer,' at Cambridge, equivalent to servitor at Oxford: from size, a small portion of bread, or other food, the Jews still use in use there.

"To handy hasty words to scant my sizes."—Lear, Act i. Sc. 4.

"Watch. Though the invention of watches may be traced to the fourteenth century, the wearing a watch was considered a mark of gentility until a late period. Aubrey relates a curious story of watches. Mr. Allen, a reputed sorcerer, being at Home Lacey, in Herefordsire, happened to leave his watch in the chamber-window. The maids coming in to make the bed, and hearing a thing in a case cry tick, tick, tick, concluded that this was Mr. Allen's devil, or familiar spirit, and taking hold of it with the tongs, threw it out of window into the moat, in order to drown the devil. The tires Thus, however, caught hold of the spig of an elder-tree, and saved the old gentleman's watch. This may have happened about the year 1590.

"Wych, a salt-spring, or salt-work. All the places where salt-springs, or pits, were anciently found terminate in wych, or witch. Hence Drayton speaks collectively of the wyches in Cheshire:

"But that which vexed her most was, that the Peakish care before her darksome self such dignity should have; And th' wyches, for their salts, such state on them should take."—Polyglot. Vol. iii. p. 711.

And the marginal note on wyches, is "the salt-wells in Cheshire."—"
HOGARTH AND HIS WORKS.—No. XV.

MARCH TO FINCHLEY,
The general subject of this engraving is the march of the Foot Guards to their place of rendezvous on Finchley Common, in their way to Scotland against the rebels in the year 1745. The numerous circumstances which this picture embraces do not tell on any one point, it would be difficult to say anything in the way of illustration beyond what the picture itself relates, did we not possess the advantage of a very complete explanation by a writer who was a contemporary and friend of the artist. This explanation was for a long time attributed to Bonnel Thornton; but Mr. Samuel Ireland in his 'Graphic Illustrations of Hogarth,' showed that the daughter of Saunders Welch, Esq., a magistrate of Westminster, informed him that the article was written by her father, an old and much-esteemed friend of the artist, whose portrait in oil of Mr. Welch is still extant, and is engraved in Ireland's work. The lady further informed him that this critique or explanation being published in the periodical paper called 'The Student,' occasioned some difference of opinion between her father and Hogarth. The critic did not, however, appear to have given any serious offence to the painter, not withstanding it was reported irascibility of his temper; for he said,—"I generally thought with the author of this paper, and when I differed from him I have found reason to take shame to myself."—And now to the explanation, in which we do not purpose implicitly to follow Mr. Welch, but shall, at our discretion, occasionally avail ourselves of other explanations, particularly of one which is published in the 'Old Woman's Magazine,' and which Mr. John Ireland has copied, as well as the other, into his "Hogarth Illustrated." The scene of the representation is laid at Tottenham Court Turnpike, the King's Head, Adam and Eve, and the Turnpike-house, being in full view; beyond which appear parties of guards, with baggage, &c., marching towards Highgate, with a distant prospect of the open country. The picture, considered as a whole, affords a view of a military march, and the disorders and humours connected with it.

Near the centre of the picture the painter has placed his principal figure, which is that of a handsome young grenadier, who seems distracted by the rival claims of the women on his right hand and on his left. The one to his right appears to be a young woman who has become the victim of his passions, and by them has perhaps been reduced to her present condition of a ballad-singer. This woman who holds his right arm, and regards him with mingled affection and distress, is strongly contrasted with the other, who appears to have equal claims upon him, and whose countenance expresses jealousy and rage at finding him thus situated, while her uplifted arm threatens him with the weight of her anger. The contrast between the two women is complete throughout; it seems to be even intimated, in Hogarth's own ingeniously indirect way, that they are of opposite political parties; all the wares in the ballad-singer's basket such as the song of 'God save the King,' and a portrait of the Dauphin at Berlin, being of a loyal description; while the other, who appears to be a news-hawker, is furnished with a supply of exclusively Jacobite journals, the titles of which are apparent in the original painting. The cross on the cloak of the latter may also be intended to denote a difference of religion. The outrageous character of the proceedings of this woman has attracted the notice of a sergeant behind the group, and he seems prepared to interfere with no very gentle exercise of the authority with which he is invested. The hard-featured appearance of this man is in good contrast with the principal figure.

Near the left corner of the picture is another leave-taking scene between a drummer and his wife and child.
fer-boy, were hired by Hogarth to sit to him for a half-a-crown a-piece.

The next principal group in the foreground is an illustration of gin-drinking. A soldier, with his dress in great disorder, has sunk upon the ground, overcome by the efficacy of that potent poison. Yet he calls for more; and two persons respond to the call. One, a frightful comrade, endeavours to force him to drink water from his canteen; but from this the drunkard turns away with disgust, and holds out his hand for the drum which the female sutler readily fills out for him. But another arm is also held out for it. The enunciation child, which this man carries on her back stretches forth its little grasping hand, with earnest entreaty, for a taste of that burning fluid which it has been already taught to relish. This is painful, because it is true.

We may direct the attention of the reader to the chickens in front of this group. Welch informs us that they had been pointed out as an exquisite absurdity by a contemporary, who was a professed connoisseur in painting. He had said that nothing could be more rich than to introduce chickens so near such a crowd; and what increased the absurdity was, that the birds were not, as might naturally be expected, endeavouring to escape from the crowd, but were actually running towards what it is their nature to shun. Welch points, with well-authorized triumph, to a truly Hogarthian circumstance, which had escaped the notice of this acute critic. The chickens are seeking the parent-hen, the presence of which, in the pouche of the soldier who offers water to the drunken man, is indicated to the spectator by the appearance of one of the wings.

The corner of the picture, under the sign-post of the King's Head, is occupied by an honest tar on horseback, whose exuberant loyalty finds vent in the established maritime method. The loyalty of this man is understood to be contrasted with that of the fellow before him, with the countenance of a confirmed drunkard, who, with his gun on his shoulder and his bayonet before him, with the countenance of a confirmed drunkard, seems to threaten deadly measures against the enemy in the approaching conflict. The reader may, however, accept the alternative of another explanation, which supposes this man to be guarding from interruption the proceedings of his neighbour, who is filling his canteen through a hole which he has bored in a barrel of strong beer, with which a man is endeavouring to make his way through the crowd.

Among the figures in the background in this part of the picture, those which principally attract our attention are, the stately young officer, behind the last-mentioned group; the basket-woman; and the woman who defends herself from the rudeness of one fellow, while another abstracts some of the linen which she was engaged in taking down from the line on which it hung to dry.

Having thus endeavoured to elucidate, from various sources, all the principal and some of the subordinate details exhibited in our engraving, we now proceed to state some particulars connected with the history of this much-admired performance.

The circumstances attending the publication of the engraving and the removal of the picture are best explained in the following notices, which appeared, in 1750, in the 'General Advertiser.' The first advertisement appeared in April:

"Mr. Hogarth is publishing by subscription a print representing the March to Finchley in the year 1746, engraved on a copper-plate, twenty-two inches by seventeen; the price 7s. 6d. Subscriptions are taken at the Golden Head in Leicester Fields till the 30th of this instant, and not longer, to the end that the engraving may not be retarded. Note:—each print will be half-a-guinea after the subscription is over. In the subscription-book are the particulars of a proposal, whereby each subscriber of three shillings, over and above the said seven shillings and sixpence, it is proposed the print, will, in consideration thereof, be entitled to a chance of having the original picture, which will be delivered to the winning subscriber as soon as the engraving is finished."

On the first of the next month, the following appeared in the same journal:

"Yesterday, Mr. Hogarth's subscription was closed; 1943 chances being subscribed for, Mr. Hogarth gave the remaining subscriptions to the Foundling Hospital. At two o'clock, the box was opened, and the fortunate chance was 1941, which belongs to the said hospital; and the same night Mr. Hogarth delivered the picture to the governors." Mr. John Nichols states, that he was informed by Mr. Nathaniel Thomas (who was many years editor of the 'St. James's Chronicle'), that the general report at the time was, that the fortunate number belonged to a lady, who made a present of the picture to the hospital. It was deemed more than usual, at that time, an improper present. Hogarth himself, speaking of this picture, observed, that the picture was disposed of by lottery (the only way a living painter has any chance of being paid for his time) for 300l."

"By the like means," he adds, "most of my former pictures were sold."

Soon after the lottery, Hogarth waited upon the treasurer to the Foundling Hospital, and informed him that the trustees were at liberty to dispose of the painting by auction. Scarcely, however, was the message delivered, before he changed his mind, and never afterwards would consent to the measure which he had originally proposed. The Duke of Ancaster offered the hospital 300l. for the picture; and Mr. John Ireland understood that a much larger sum was afterwards offered for it by another gentleman.

It is rather remarkable that this representation of purely English manners and humours should be dedicated to the King of Prussia. The cause of this deserves to be explained. Before publication, the picture was submitted to George II., and the picture was taken to St. James's for his Majesty's inspection. The king, who was a zealous soldier, but one of the most incompetent men on earth to enjoy a work of humour, or appreciate a work of art, was apparently prepared, from the title of the work, to expect a serious historical performance in honour of his favourite guards, who had marched so readily against the rebels. We may therefore imagine his amazement when the actual piece was placed before him. He was highly indignant that a painter should dare to satirize his gallant soldiers,—for he thus viewed the matter,—and sent back the picture with disgust. Some accounts state, however, though others are silent on that point, that the king sent the painter—a guinea! Whatever be the particular facts, it is certain that Hogarth was so much mortified by the reception which his great work received from the king, that he altered the dedication, and inscribed it to the King of Prussia, as an encourager of the arts.

DOMESTIC HABITS OF THE SCOTCH IN THE LATTER PART OF THE SIXTEENTH CENTURY.

The following curious account of some domestic usages in the northern part of the island, upwards of two centuries ago, is from Fynes Morison's 'Itinerary,' which we lately had occasion to mention to our readers when furnishing an account of English travelling in the seventeenth century. Morison travelled in Scotland in 1598.

"Myself was at a knight a house, who had many servants to attend him, that brought in his meat with their heads covered with blue caps, the table being more than half furished with great platters of porridge, each being a little
piece of sodden meat; and, when the tables were served, the servants did sit down with us: but the upper mess, instead of porridge, had a pullet, with some prunes in the broth. And I observed no art of cookery, or furniture of household stuff, but rather rude neglect of both, though myself and my companion, sent by the governor of Berwick upon bordering affairs, were entertained in the best manner. The Scots, living on fish, and beef meat kept merrily frozen, and stored in towers, and so consumed their revenue of victuails, living in great want of money. They vulgarly eat hearth-cakes of oats, but in cities have also wheaten bread, which, for the most part, was bought by courtiers, gentlemen, and the best sort of citizens. When I left Berwick, the Scots, to weekly, upon the market-day obtained leave, in writing, of the governor to buy pease and beans, whereof, as also of wheat, their merchants at this day send great quantities from London into Scotland. They drink pure wines, not with sugar, as the English; wine, after the French manner; but they had not our vintners' fraud to mix their wines. I did never see nor hear that they have any public inns with signs hanging out; but the better sort of citizens brew ale, their usual drink (which will distemper a stranger's body), and the same citizens will entertain passengers upon acquaintance or treaunt. Their bedsteads were then like cupboards in the wall, with doors to be opened or shut at pleasure, as so we climbed up, and down to one bed, yet the shortest piece of the sleep, but closed at the feet and so doubled. Passengers did seek a stable for their horses in some other place, and did there buy horse-meat, and if, perhaps, the same house yielded a stable, yet the payment for the horse did not make them have beds free, as in England. When passengers go to bed, their custom was to present them with a sleeping cup of wine at parting. The country people and merchants used to drink largely, the gentlemen some what more sparingly; yet the very courtiers, at feasts, by no means. They drink healthily not without excess; and, to speak truth without offence, the excess of drinking was then far more general among the Scots than among the English. Myself being, at the court, invited by some gentleman to supper, and having drunk twice as much wine as I thought proper to sup with them but upon condition that my inviter would be my protection from large drinking, which I was many times forced to invoke, being courteously entertained, and much prevailed to carousing, and so for that time avoided any great intemperance. And as I have seen and heard the observ'd in my conversation at the English court with the Scots of the better sort that they spend great part of the night in drinking, not only wine, but even beer; as myself when in the habit of great intemperance, so I cannot altogether free them from the imputation of excess, where with the popular voice chargeth them."

**Operation of Tapping a Sandwich Islander.**—This day has been one of no small interest. Our surgeon has, to the great surprise of the natives, successfully performed the operation of tapping Karamoku. Lord Byron and some of the officers were present, as well as a number of the chief's, some of whom were exceedingly anxious about the safety of the Regent, and could scarcely be made to comprehend that an opening in so material a part, considered by them as the seat of life, could be made without danger; and that the tap, if success was not made, to see issue from the aperture. Their wonder and delight were accordingly extreme at the complete success of the surgeon; and Karamoku himself, though he had generously trusted himself into the hands of a stranger, must have experienced an exhalation of relief, after the satisfaction of the wound; and on being asked, before the operation, if he objected to it, he answered, "No: my life is in your hands; do as you think good." And though he suffered considerable pain, when it was over he exclaimed "Maitai, maitai!" (good, good.) Kahumanu was extremely affected; and though not in the habit of displaying much tenderness of nature, the tears were streaming down her face, while she supported his head, and repeatedly kissed his forehead. The relief the old man experienced was very great, as the quantity of water drawn off was considerable. * * *

**COACH-MAKING IN AFRICA.**

I was consulted by Mukni (the Bey of Fezzan) respecting the construction of a coach, and I promised him that, if he could manage to procure good wood for the purpose, Belford should make it, and that I would train four horses to run it. I anticipated much pleasure and amusement in this new occupation, to be performed at the expense of the bey. * * * Belford now began to contrive the coach in question, and out of an old Shibbia and some boxes, he made a body, six feet in length, three in breadth, and four in height. This he covered over like a higgler's cart, with an arched top, having a door behind, by which a person might easily get in; but Mukni finding that he could squeeze himself into a smaller compass, had it reduced in such a way as to render it necessary for him to be pushed in and out shot out like a sack of coals. The body being complete, and to the taste of the bey, he was soon reduced; but when the animal was put into the shafts, we discovered that the carriage stood at about three feet from the ground. The sultan never for a moment quitted the carriage. When made, a very good effect was produced. The carriage was now as gaudy as the sultan could wish, and he was pleased at the progress which he made. Numbers of people came to see it, and many asked if that was the kind of vehicle in which our king and his wives used to ride. I was frequently puzzled how to answer; for, to say the truth, though Belford, conning all the best methods of coach-making, had done wonders, it still much resembled one of those market-carts which are dragged about London by donkies. It soon, however, lost that appearance, being covered with a splendid hood of scarlet cloth, and having a bed laid inside of it. The shafts, body and wheels being painted green, then not very durable. The sultan had some verdigris, which he had brought from Tripoli; part of this was mixed with olive-oil, which, not drying, was scraped off, but the rest being prepared with vinegar formed a wash which answered his fondest expectations. The carriage was now as gaudy as the sultan could wish, and he was the sole and happy possessor of it; but a serious inconvenient soon presented itself: the coach was not large enough to allow a place for a driver, and his horses were too spirited to be trusted alone. The sultan himself mounted on two strong poles, which did duty as shafts; and to these were fixed two wheels from one of the field-pieces, so that the carriage stood at about three feet from the ground. The sultan never for a moment quitted the carriage. When made, a very good effect was produced. The carriage was now as gaudy as the sultan could wish, and he was pleased at the progress which he made. 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Tous celebrated structure is understood to have been built, in the reign of King Stephen, by Alexander, Bishop of Lincoln, who also erected the castles of Banbury, in Oxfordshire, and Sleaford, in Lincolnshire. Henry of Huntingdon says, that this castle, emphatically called the New-work, gave name to the town. It seems, at that time, to have been considered somewhat improper for an ecclesiastic to busy himself in the erection of fortresses; and we are informed that Alexander founded two monasteries in the way of expiation. If the old writers are to be literally understood, the bishop was certainly the founder of the castle; but Dr. Stukely and Mr. Dickinson are disposed to contend that they are not to be understood as saying more than that Alexander enlarged, ornamented, and fortified a castle which previously existed. One of the principal reasons for this conclusion is that, even in its ruins, this castle exhibits at least two different styles of architecture,—one much anterior to the other, which was not likely to have been the case had the bishop built the structure from the foundation.

Be this as it may, the king did not at all approve of the taste which Alexander and other bishops displayed for building and strengthening castles; and when ultimately roused to act with vigour against the turbulent barons and factious ecclesiastics, he commenced with the atter, and either cajoled or forced them into submission, until he obtained possession, successively, of all their strongholds. Alexander was found to be very intractable, and was therefore, with his uncle, seized by the king, and detained in prison till all the fortresses of both were surrendered. The governor of Newark Castle refused to surrender it, unless ordered to do so by the bishop in person; but he did not persist in this determination when he received notice from the prelate that the king had made a vow that he (the bishop) should have neither meat nor drink till that fortress was surrendered.

During the troubles in the latter end of King John's reign, the castle was in the hands of the royal party; and it was not only gallantly defended, but the garrison frequently sallied out and wasted the lands of such of the insurgent barons as had estates in that neighbourhood. The Dauphin of France therefore thought it necessary to send a considerable force, under the command of Gilbert de Gaunt, whom he had created Earl of Lincoln, to take the castle. This was found to be no easy matter; and when Gilbert heard of the approach of the king at the head of a powerful army, he raised the siege and retired to London. Not long afterwards, the king actually arrived, but in no condition to fight the barons, had they been there; for on his march from Lynn through Lincolnshire, a great part of his men, together with all his treasure, carriages, baggage, and regalia,

"Were in the washes all unwarily\nDevoured by the unexpected flood."

When he reached the castle, he was no less indisposed in body than distressed in mind, and died there on the 19th of October, 1216. Stowe adds—"Immediately on the king's death, his servants, taking all that was about him, fled, not leaving so much of anything (worth the carriage) as would cover his dead carcasse."

When the French prince made terms with John's successor, the barons who had assisted the former being left in an unpleasant predicament, seized and fortified this castle with the view of making terms for themselves with the king. The Protector, the Earl of Pembroke, marched against them, and, after a siege of eight days, the fortress was surrendered to him, the besieged throwing themselves upon the king's mercy. Henry restored the castle to the see of Lincoln, which was then filled by Hugh de Wells, Chancellor of England.

After this nothing of historical interest occurs for several centuries in connection with Newark Castle.
It deserves to be mentioned, however, that Peter de la Mare, the Speaker of the House of Commons, was sent prisoner to this castle in the year 1376, at the instance of the Duke of Lancaster who, after the death of the Black Prince, influenced the royal councils. De la Mare is said to have seen through and opposed a design of the Duke to secure the succession of the Crown to himself and descendants, to the prejudice of the issue of his elder brother. In the year 1530 Cardinal Wolsey lodged in the castle with a large retinue, while on his way to Southwell, where he spent great part of that summer. In Peck's *Desiderata Curiosa,* this castle is mentioned among the other castles and royal mansions belonging to Queen Elizabeth. The fee of the constable is there stated at 6l. 13s. 4d. a-year, and that of the porter at 5l. King James I. lodged in the castle in the year 1602, on his way from Scotland to London. He was entertained by the corporation of the town, who, among other demonstrations of loyalty, presented him with a gilt cup. Here it was that he afforded to the English the first demonstration of those exalted notions of prerogative and kingly power which he had afterwards such unfortunate success in inculcating into the mind of his ill-fated son Charles. During Charles's reign, the castle again became of historical importance. The garrison of the castle and the inhabitants of the town adhered firmly to the royal interest throughout the protracted struggle between the King and the Parliament. It formed to the royal party a strong and most useful post, from whence many successful excursions were made; and it became an occasional place of retreat for the king himself. It was twice besieged without success by the Parliamentary forces under Sir John Meldrum; and when it surrendered in May, 1646, it was by the king's special command; and the governor, Lord Bellasis, obtained very advantageous and honourable conditions for himself and the garrison. After the surrender of the king, most of the royal garrisons were ordered by the Parliament to be dismantled, and this of Newark among the rest. Since that time it has been a ruin.

But though in ruins, it still presents an august appearance; the effect, however, is much impaired by the remains being applied to the purposes of coal-wharfs, stables, &c. The parts which remain entire are the south-west angle, the west wall, and a considerable portion of a square tower towards the north-west corner. The western wall, which is washed by the river, presents in one part of it three distinct stories, or tiers of apartments, especially towards the north-west angle. In the tower at the south-west angle, as well as in the whole west wall, from that to the centre tower inclusive, there is an appearance of greater antiquity than in any other part of the building now remaining; but, advancing from south to north, as soon as the eye arrives beyond the centre tower, a very manifest difference appears. Among the many Gothic windows in the principal remaining front, there is an excellent projecting window, which forms a perfect specimen of those called bays or bowers in ancient times. Underneath the great hall, which appears to have been one of the most recent parts of the edifice, there is a very curious arched vault or crypt, the roof of which is supported by a central range of pillars, and on the side of the vault towards the river are loop-holes and embrasures.

It is even now not difficult to discover the general outline of this once formidable fortress and princely habitation. It seems to have been a square of very great dimensions, and the number of its stories appears to have been at least five. Within the exterior walls nothing now remains; and the plot has long been used as a bowling green.

*The best view of this stupendous pile,* says Dickinson, *is from the north-west, the direction of the road from York. Many circumstances contribute to deprive it of those qualities which constitute a very picturesque ruin—the want of wood, the extreme irregularity of its architecture, and above all, the con
tiguity of inferior erection to the purposes of habitation or the conveniences of commerce. Viewed, however, at the distance of a mile, whether considered as the termination of a vista, or as the first object on the approach to a town, it presents a grand and in
teresting scene to the attention of the traveller; in the words of the poet—

*Frowning majestic o'er the silver wave.*

**ENGLISH TRAVELLING IN THE EIGHTEENTH AND NINETEENTH CENTURIES.**

*Contemporary* books and periodical works enable us to obtain a tolerably accurate view of the travelling accommodations in this country at the commencement of the last century, and to trace the improvements which have since taken place. If, in following this account, we have occasion to wonder at the exceedingly slow rate at which all travelling processes were conducted in the early portion of this period, we should not forget that the rate at which the stage-coaches then went, although it seem slow to us, who compare it with the easy and rapid travelling of a subsequent period, doubtless appeared very differently to those who could only compare it with a worse state of things which previously existed. If three miles an hour had before been the usual rate of travelling, an increase of speed to four miles must have seemed rapid travelling indeed. The present rate has been attained by gradual improvements; and when we consider the miserable state of the roads, the clumsiness of the vehicles, and the absence of any effectual regulations for preventing delays on the journey, we do not see much occasion to wonder at the state of things we shall now proceed to describe.

A French traveller, M. Misson, who was in this country in 1719, furnishes the first statement of which we shall avail ourselves. He says:—*They have several ways of travelling in England. The post is very uncertain. The regulation throughout, as well as the horses are better than those in France. There are coaches that go to all the great towns by moderate journies; and others, which they call flying coaches, that will travel twenty leagues a day and more, but these do not go to all places. They have no Messagers de Chevaux as in France; but you may hire horses for what time you please. The sea and the rivers also furnish their respective conveniences for travelling. I say nothing of the waggons, which are great carts covered in, that lumber along, but very heavily; only a few poor old women make use of this vehicle.*

Those coaches that went *moderate journies* were apparently those which travelled on the common roads, and the *flying coaches* were those which went on the best and most frequented roads,—perhaps on the new roads,—for it was about this time that the improvement of the public roads became an object of attention. One thing is certain, that these coaches which *flew* at the extraordinary rate of between four and five miles an hour were not very common. It is a matter of admiration; and, at a much later date, the speed of the common stage-coaches could hardly have reached four miles.

Defoe doubtless has in view one of the *flying coaches* when, in his *Tour through Great Britain,* he mentions among the recommendations of Ipswich that it possessed the advantage of an easy communic-

*History and Antiquities of the Town of Newark.*
tion with the metropolis, there being a fast coach that went from thence to London in one day. It is not certain how many hours a coach-day contained. It probably signifies, in this and many other instances, the whole period of day-light, with some intervals of refreshment; although those that did not pretend to be flying coaches were content to be on the road about twelve hours in the twenty-four. Our impression is, that the flying coaches at this period never reached five miles an hour, and that the common coaches rarely reached, and perhaps never exceeded, four miles. In this early part of the century, no stage-coaches travelled by night: time they began to avail themselves of moonlight nights, and ultimately, as at present, they went both by night and by day. At first, stage-coaches were interdicted from travelling on Sundays; but, about the middle of the century, a limited number were licensed to do so on some particular roads, and in the end all restriction was withdrawn.

In the year 1725 a work was published by Mrs. Manley, with the title of 'A Stage-coach Journey from London to Exeter.' Persons may now be whirled from one of these cities to the other in less than twenty-four hours, from this production, that past passengers were then four days on the road, and that about forty-eight hours were employed in actual riding. In point of fact, the journey took five days in this instance, because a Sunday intervened, on which day, as the stage-coaches did not travel, the passengers were detained at Salisbury.

It was summer; and Mrs. Manley, who complains greatly of the hardships and fatigues of the journey, mentions that the passengers were roused every morning at two o'clock, left the inn at three, and about the same time was attached to the post, the present day's journey. When the passengers left the inn to enter the coach, a crowd of beggars were, at this early hour, found waiting for alms about the coach, "and would never leave unbespattered".

The company seemed to be allowed a pause at ten in the forenoon to take dinner. The lady appears very little satisfied with the fare: she says, "They most unmcerfully seat us down to dinner, at ten o'clock, upon a great leg of mutton. It is the custom of these dining-stations to preserve their day's fare. It is ready against the coach comes; and, though you should have a perfect antipathy, there is no remedy but fasting. The coachman begs your pardon; he would not stay dressing a dinner for the king, (God bless him!) should he travel in his coach."

The mystery of driving four-in-hand was not known in those days. When more than two horses were employed, the leader, or one of the leaders, was ridden by a postilion, as no coachman professed to control more horses than those fastened to the shaft. This custom was retained much longer than the variety of stages which occur in the history of stage-coaches. It appears that by 1740 stage-coaches had begun to travel by moonlight, at least on some roads. Fielding's 'Joseph Andrews' was published about that time; and the hero, after being robbed and left for dead by footpads in the night, is discovered by a stage-coach. He just began to recover his senses as a stage-coach came by. The position, hearing a man's groans, stopped his horses, and told the coachman. The common people still continued, in general, to use the waggons, unless for the sake of the greater expedition they ventured upon the dangerous roof of the carriage, or nestled in the basket behind. Those who have read the work we have just mentioned will remember the horror of Mrs. Graveraets in the idea of admitting "a fellow in livery" inside the coach, notwithstanding the disabled condition in which he appeared.

The 'Tales of an Antiquary,' published in 1829, contain an excellent description of stage-coaches and stage-coach travelling about the time of Hogarth's picture. We adopt the account, in a somewhat abridged form, without hesitation, having been able from other sources, to satisfy ourselves of the accuracy of the details.

"In my own young days, stage-coaches were constructed principally of a dull black leather, thickly studded, by way of ornament, with black, broad-headed nails, tracing out the panels; in the upper tier of which were four oval windows, with heavy, red, wooden frames, or leather curtains. Upon the doors, also, were displayed, in large characters, the names of the places whence the coach started, and whither it went, stated in quaint and antique language. The vehicle itself varied in shape. Sometimes they were like a distiller's vat, somewhat flattened, and hung equally balanced between the immense front and back springs. In other instances, they resembled a violoncello-case, which was, past all comparison, the most fashionable form; and then they hung in a more genteel posture, namely, inclining on to the back springs, and giving to those who sat within the appearance of a stiff Guy Fawkes. In some, the stage-coaches, in most cases, rose into a swelling curve, which was sometimes surrounded by a high iron guard. The coachman and the guard, who always held his carbine ready cocked upon his knee, then sat together; not, as at present, upon a close, compact, varnished seat, but over a very long and narrow boot, which passed under a large spreading hammer-cloth, hanging down on all sides, and finished with a flowing and most luxurious fringe. Behind the coach was the immense basket, stretching far and wide beyond the body, to which it was attached by long iron bars or supports passing beneath it; though even these seemed scarcely equal to the enormous weight with which they were frequently loaded. These baskets were, however, never great favourites, although their difference of price caused them to be frequently well filled."

"The wheels of these old carriages were large, massive, ill-formed, and usually of a red colour; and the three horses that were affixed to the whole machine, the foremost of which was helped onward by carrying a large, long-legged elf of a postilion, dressed in a cocked hat, with a large green and gold riding-coat, were all so far parted from it by the great length of their traces, that it was with no little difficulty that the poor animals dragged their unwieldy burden along the road. It groaned and creaked at every fresh tug which they gave it, as a ship rocking, or beating up, through a heavy sea strains all her timbers, with a low, moaning sound, as she drives over the contending waves."

In the course of the next quarter of a century, the roads and stage-coach travelling underwent very considerable improvement. The vehicles themselves indeed do not appear to have been much improved, but they had been brought to act with more regularity and system than before. A French traveller, M. Groseley, who was in this country in 1765, gives the following account of the manner in which he travelled from Dover to London. It will, however, be observed that the vehicle in which he travelled was not the common stage-coach, but the "flying-coach," which we have already mentioned.

"The great multitude of passengers with which Dover was crowded, afforded a reason for dispensing with a law of the police, by which public carriages in England are forbidden to travel on a Sunday. I myself set out on Sunday with seven more passengers in two carriages, called "flying-machines." These vehicles, which were drawn by six horses, go twenty-eight leagues in a day, from Dover to London, for a small sum."

"See the 'Country Inn Yard,' after Hogarth, in No. 198."
single guineas. Servants are entitled to a place for half that money, either behind the coach or upon the coach-box, which has three places. The coachmen, whom we changed every time with our horses, were lusty, well-made men, dressed in good cloth. When they set off, or were for animating their horses, I heard a sort of periodical noise, resembling that of a stick striking against a square block of whalebone. I have since discovered that it is customary with the English coachmen to give their horses the signal for setting off by making this noise, and by beating their stoods with their feet in cadence; they likewise use the same signal to make them mend their pace. The coach-whip, which is nothing else but a long piece of whalebone, covered with hair, and with a small cord at the end of it, is no more in their hands than the fan is in winter in the hands of a lady, and they have made it to appear, as their horses scarce ever feel it.

The overturning of stage-coaches was a far more common accident about the middle of the last century than at present. In the 'Gentleman's Magazine' for 1771, a correspondent points out the causes of these accidents, and proposes remedies. The first and most manifest cause was the great height of the body of the coach from the ground, with the number of the passengers who sat upon the top. He wishes that riding on the top could be forbidden; but fears in that case the coach-owners would raise the inside fares, which would preclude many from travelling by coach. Another cause was the excessive roundness of the turnpike roads, which was often so great as to make it dangerous for even a post-chaise to turn out of the middle of the road when it met another carriage, the road being so very steep on each side. He proposes, as a remedy, that it should be made imperative on coach-proprietors to lengthen the axle-tree, so that the wheels, instead of being, as then, only four feet eight inches distant from each other, on the outside, might be distant five feet eight inches. It would not be easy for such a coach to overturn; and as this alteration would allow the body of the coach to be enlarged so as to contain six passengers, the price of inside places would sink, and travelling become in general somewhat cheaper.

The demand for outside places does not appear to have diminished. In 1775 we find the 'Annual Register' stating that the stage-coaches of the time generally drove with eight inside and often ten outside passengers each; and that there were then of these vehicles, flies, machines, and diligences, upwards of 400; and of other four-wheeled carriages 17,000.

It is evident that such vehicles as those represented in Hogarth could not accommodate ten outside passengers, or indeed eight inside ones. The vehicles must therefore have been enlarged, and additional accommodation provided on the outside. Indeed we may at this point run on to 1818, when we find a correspondent of the 'Gentleman's Magazine' whose memory seems to go back as far as the point to which we have brought the account, if not further, stating, in the way of complaint, the alterations which had taken place within his recollection. We abridge this curious statement, which will suitably conclude this article, as no important alterations except in reduced fares and that man by thinking only becomes truly man. Take increase of speed, have taken places since the date of this old gentleman's querulous communication. He says that, of late years a great revolution had taken place in journeyings by stage-coaches, and which had produced nearly the whole of those accidents which were attributed to the coachmen. This was the fashion of preferring the outside to the inside of coaches. If this fashion continued, he had no doubt that posterity would inquire what the inside of a coach was made for. It had already come to be considered as a receptacle specially appropriated to the effeminate, the sick, or the aged. This demand for outside places had produced two results; one was a rise in the price of such places, and the other, increased accommodation before, behind, and at top, for the increased number of persons who chose to travel in that way. People seemed to be quite as indifferent to the noise of horses, and any more danger by riding with eighteen outsiders, than in walking with equal number of persons on a grass plot; though nothing could be clearer than that a vehicle thus overloaded at top, and comparatively empty within, was in great danger of being overturned.

Stage-coach passengers, he continues, learnt this preference from people of fashion, who at that period exhibited a decided preference for riding on the outside of their private carriages. It had necessarily altered the relative estimation in which inside and outside passengers were held, and had abolished the order of precedence formerly observed at country inns. There, in former times, while the insides were shown into a handsome dining parlour, the outsiders were referred to the kitchen, or had their meal in some inferior apartment, and were considered as only a small degree above vaggon passengers. But now, were an innkeeper to judge thus of stage-coach outsiders, what dreadful blunders would he not make—what insults would be not offer? Were he upon the old scale, he might shut up house in a week.

The old gentleman proceeds to speak with some indignation of the disuse of legs engendered by the increased facilities for riding. He says, "The time was, Sir, when from my country-house at the bottom of Gray's Inn Lane, I could, on a Sunday morning, from five o'clock or sooner, see hundreds beginning their journey on foot to places eight or ten miles distant; but now the same class of people, and of the same age, are mounted aloft with a dozen-and-a-half of lazy souls like themselves, and confine their walks to their friends' gardens—30 feet by 20, including a pond. Nay, what shocks me more, when I reflect on past times, is, to see even the Islington stages, at three and four o'clock in the afternoon, loaded inside and outside with hale, hearty, stout young brokers, Excise and Bank clerks, and other young gentlemen, who can learn only from their fathers what to be made of the use of their legs."

What would this "Old Insides," as he calls himself, have said about omnibuses? He recommends, indeed, that insides in public conveyances, should in future be dispensed with; and that vehicles should be constructed on the principle of cut-forks, capable of holding thirty or forty persons. From the tone of his complaint, it appears that this old person could hardly have been prepared to expect that nearly the reverse of what he proposes would be carried into effect. We have now vehicles without any outside passengers, yet providing accommodation inside for fourteen persons.

Thinking.—Thinking leads man to knowledge. He may see and hear, and read and learn, and as much as he please: he will never know any of it, except that which he has thought over, that which by thinking he has made property of his mind. It is then saying too much if I say that man by thinking only becomes truly man. Take away thought from man's life, and what remains?—Paternal Instructions, in Moral Comments; a bequest from Pestalozzi to his pupils.
The Shaddock (Citrus decumana) is one of the four distinct or leading species into which the orange tribe of plants is divided. The shaddock is larger than the orange, both in the tree and the fruit. The tree has spreading prickly branches: the leaves are egg-shaped and rather acute, and the leaf-stalks are furnished with remarkably large heart-shaped wings: the flowers are white, with reflexed petals, and very sweet-scented. The fruit, which is from two and a half to eight inches in diameter, is spheroidal, of a greenish yellow colour, and has twelve or more cells, containing, according to the variety, either a red or white pulp. The juice is sweet in some varieties, and acid in others; it is rather insipid, but is excellent for quenching thirst. The rind, which is of a disagreeable bitter flavour, is very thick, in consequence of which the fruit can be much longer preserved during sea-voyages than that of any other species of citrus.

The shaddock is a native of China, and the neighbouring countries, where the name of "sweet ball" is given to it. Its common name is derived from Captain Shaddock, who brought it from China to the West.
Indies.' It has, however, been neglected there, and is now but seldom entitled to its oriental name of sweet- ball. Instead of propagating the shaddock by budding, as is done in China, and which is the only way it can be improved, or even kept from degenerating, they have reared it from seed, and have in consequence only obtained a harsh and sour sort of little value. The shaddock came to England from the West Indies, and was cultivated by Miller in 1739. In the West it is certainly the least valuable of the genus to which it belongs; and for the attention which it has received it is chiefly indebted to the showiness both of the tree and the fruit. In its native country the fruit attains a much greater size than in the West. Thunberg says that it is commonly of the size of a child's head in Japan; Dr. Sickler describes it as weighing fourteen pounds, and as having a diameter of from seven to eight inches. Their accounts are confirmed by Bishop Heber, who thus describes the shaddock of India:—

"The shaddock resembles a melon externally, but it is in fact a vast orange, with a rind of two inches thick, the pulp much less juicy than a common orange, and with rather a bitter flavour, certainly a fruit which would be little valued in England, but which in this burning weather I thought rather pleasant and refreshing." The shaddock has been recently sold in London under the name of "forbidden fruit."

MARRIAGES IN RUSSIA.

Russia is one of those countries in which the parties more immediately interested have little to do in the formation of matrimonial connexions. Marriages are generally negotiated through the intervention of friends; and the parents, of the female in particular, usually decide who is to be her husband, with little reference to her own inclinations. This custom probably proceeds, in a great measure, from the early age at which marriages are commonly contracted in this country; for it seems to be thought that young people may be trusted with the important relations of married life before they are fit to be trusted with the selection of the person who is to form the centre of those relations. The consequences of such a system are often very unhappy, although less frequently so, perhaps, than might happen in countries where parents relinquish, sooner than in Russia, all control over their children. It is among the lower classes that very early marriages are the most common; and from the peculiar situation of the Russian peasant, and the state of the country in general, such marriages cannot be considered so imprudent, in a worldly point of view, as they would be in a country so highly civilized and so populous as our own. Housekeeping is attended with little expense, and the young pair commonly live with the parents of the husband until the united families become too large to be accommodated under one roof. It is a rule among the common people to avoid becoming dependant on their children; and therefore the parents—or the surviving parent, even if the female—retain the management of the household entirely in their own hands till death. The laws of the country, indeed, are more than usually favourable to widows and mothers. In the higher and middle classes of society,—if we may be allowed, for a moment, to speak of a middle class in Russia—the wife does not fill a position which offers any marked difference from that which wives in the countries of life occupy in the other nations of Europe. But the wives of the | peasants are much less favourably situated than those of a similar station in this country. The behaviour of the husbands may generally be characterised as rough and austere, according to our notions. The females work hard, and are commonly obliged to be quiet spectators

of the intemperance and irregularities of their husbands, seldom venturing to expostulate or complain. To this, however, there are many and beautiful exceptions; and, judging from his personal impressions, the writer considers that as much domestic happiness is often realised among the lower classes in Russia as a fair consideration of the condition of the people authorised him to expect.

The betrothing, which is performed with ecclesiastical rites, and is itself indissoluble, generally takes place eight days previous to the marriage. During this interval, the bride is only visited by the bridegroom, and by the girls of her acquaintance, who exert themselves to amuse her, particularly by singing. On the day previous to the nuptials, these females conduct the bride to the bath, and there spend much time in dressing and plaiting her hair, all the while singing songs descriptive of the happiness of married life.

The following account of the actual marriage ceremony, between a couple in good circumstances, is principally derived from a detailed account given in Dr. Granville's 'St. Petersburg.'

At the appointed time, a large number of friends of the parties having previously assembled in the church, the priest, attired in rich vestments, and attended by a deacon, proceeded down the church from the altar to the door, where he received the candidates for marriage. After he had delivered to each a lighted taper, and made the sign of the cross three times on their foreheads, he conducted them to the upper part of the nave. The bride was attended by young ladies in splendid dresses, and incense was scattered before them as they advanced. The priest, as he went, recited a litany, in which the choristers assisted, and, at its conclusion, halted before a table, on which the rings were deposited: then, turning towards the altar, with the bride and bridegroom behind him, he repeated a short and very impressive prayer, or invocation. After this, he turned round to the couple and blessed them; and then taking the rings from the table, gave one to each, proclaiming, in a loud voice, that they stood married to each other, "now and for ever, even unto ages of ages." This declaration he repeated three times, the bride and bridegroom exchanging rings at each declaration. The rings were then again surrendered to the priest, who, after having crossed the foreheads of the young couple with them, placed them on the fore-finger of the right hand of each. He then again turned towards the altar and recited an impressive part of the service, in which allusion is made to all the passages of the Bible in which a ring is mentioned as the symbol of union, honour, and power.

After this, the priest took both the parties by the hand and led them towards a silken carpet, by which spread upon the ground. This is, to the mass of the spectators, a moment of the greatest interest; for it is firmly believed that the party which first steps upon the carpet will possess the upper through-out life. "In the present instance," says Dr. Granville, "the bride secured possession of this prospective advantage with modest forwardness."

Two silver imperial crowns were then produced by a layman and received by the priest, who, after blessing the bridegroom, placed one of these ornaments upon his head; the other was merely held over the bride's head, in order that the superstructure raised by a fashionable hair-dresser of St. Petersburg might not be damaged.

After the crowning, a cup was brought to the priest, who, after drinking from it himself, gave it to the bridegroom, who took three sips and then delivered it to the bride, by whom the same ceremony was repeated. After a short pause, other prayers were recited, and these being concluded, the priest took the pair to the
hand and walked them three times around the desk, reciting some sentences. Then, taking off the bridegroom's crown, he said,—"Be thou magnified, O bridegroom, as Abraham! Be thou blessed as Isaac, and multiplied as Jacob, walking in peace, and performing the commandments of God in righteousness."

In removing the bride's crown, he said,—"And be she magnified as Rebecca, and multiplied as Rachel; delighting in thine own husband, and observing the bounds of the law, according to the good pleasure of God."

After this, the tapers were extinguished, and taken from the bride and bridegroom, who were then dismissed by the priest with his blessing, and received the congratulations of the company and saluted each other. Dancing and feasting continues for three days after the wedding, and on the eighth day the parties again repair to the church, when the priest performs the ceremony of "dissolving the crowns," with appropriate prayers, in allusion to the rites of matrimony.

In furnishing the account which we have thus condensed, Dr. Granville describes what he actually witnessed, and considers that other accounts, so far as they differ from this, are "exaggerated or fanciful." This is one of those hasty statements by which travellers, who have witnessed an observance in only one instance, complex their thoughts by amplifying the statements of others, who may have seen the same thing, and correctly described it, in another of its forms. The wedding at which this author was present took place in that class of society which the soonest relinquishes those peculiar usages that form the most prominent external characteristics of a nation. An earlier witness of a marriage in the same class of society may have seen peculiarities which do not at present come under life. The custom of making presents to a new-married pair is carried to a considerable extent in Russia; and, when the parents are in good circumstances, and have large connexions, the bride is sometimes so loaded with gifts that a large room is filled with them. These benefactions are, for the time, exhibited in a collected form, with considerable pride. It only remains to add, that second and third marriages are not much approved in Russia, and fourth marriages are entirely forbidden.

Character of a Sot.—A sot has found out a way to renew, not only his youth, but his childhood, by being stoved, like Ason, in liquor; much better than the virtuoso's way of making old dogs young again: for he is a child again at second hand, never the worse for the wearing, but as purely, fresh, simple, and weak, as he was at first. He has supplied his senses by living in a moist climate. He measures his time by glasses of wine; as the ancients did by his brother. He has swallowed his humanity, and drunk himself into a beast. He is like a spring-tide: when he is upon it must have the victory and be master at all times after, which commonly happen to the man, from the bride and bridegroom, who were then dismissed by the priest with his blessing, and received the congratulations of the company and saluted each other. Dancing and feasting continues for three days after the wedding, and on the eighth day the parties again repair to the church, when the priest performs the ceremony of "dissolving the crowns," with appropriate prayers, in allusion to the rites of matrimony.

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The Red Mullet.—The generic term, Mullus, by which this fish is distinguished, is said to have reference to the scarlet colour of the sandal worn by the Roman consuls and emperors, which was called mulleus. The mullet was held in extraordinary estimation by the Romans. One sling pounds' weight is recorded to have produced a sum equal to 48l.; one still larger 64l.; and even 240l. were given for three of very unusual size, procured on the same day, for a repast of more than usual magnificence.—Farrell's British Fishes.
The vessel represented in the engraving belongs to a class peculiar to the East Indian seas, more especially to the cluster called the Ladrones, and other adjacent islands. As the term proa in Spanish is equivalent to the English prow, both signifying the head or fore part of a ship, the primary expression from which they are derived conveying the idea of "that which projects or stretches forward," it is probable that the Spaniards bestowed the name proa on these vessels from their singular construction. Both bow and stern are alike, so that, by only shifting the sail, the vessel can sail backward or forward, without putting about.

Magellan, who discovered the archipelago to which he gave the name of Islas de los Ladrones, or islands of the thieves, because the natives evinced a pilfering propensity in their intercourse with his people, simply remarks concerning the boats of the islanders, that their canoes are oddly contrived and patched up, yet sail with wonderful rapidity. As the name proa was applied of course subsequently to the discovery of the islands, the inference is natural enough that it was so applied during the early intercourse of the Spaniards with the natives.

A particular description of the proa is given by the writer or writers of 'Anson's Voyage round the World.' Speaking of the Indians who inhabit the Ladrones, it is said, that "they are no ways defective in understanding, for their flying proa, in particular, which has been for ages the only vessel used by them, is so singular and extraordinary an invention, that it would do honour to any nation however dexterous and acute. Whether we consider its aptitude to the particular navigation of these islands, or the uncommon simplicity and ingenuity of its fabric and contrivance, or the extraordinary velocity with which it moves, we shall find it worthy of our admiration, and meriting a place amongst the mechanical productions of the most civilized nations, where arts and sciences have most eminently flourished.

"The name of flying proa given to these vessels is owing to the swiftness with which they sail. Of this the Spaniards assert such stories as appear altogether incredible to those who have never seen these vessels move. However, from some rude estimates made, by our people, of the velocity with which they crossed the horizon at a distance whilst we lay at Tinian, I cannot help believing that with a brisk trade-wind they will run near twenty miles an hour. Which, though greatly short of what the Spaniards report of them, is yet a prodigious degree of swiftness.

"The construction of the proa is a direct contradiction to the practice of the rest of mankind. For as the rest of the world make the head of their vessels different from the stern, but the two sides alike, the proa, on the contrary, has her head and stern exactly alike, but her two sides very different; the side, intended to be always the lee-side, being flat; and the windward-side made rounding, in the manner of other vessels. And to prevent her oversetting, which, from her small breadth and the straight run of her leeward-side, would, without this precaution, infallibly happen, there is a frame laid out from her to windward, to the end of which is fastened a log, fashioned into the shape of a small boat, and made hollow. The weight of the frame is intended to balance the proa, and the small boat is

* Tinian, one of the Ladrones or Marian islands, is celebrated from the pleasing description given in Anson's 'Voyage of its salubrity and agreeableness,—but the description is exaggerated, amounting doubtless from the rapid recovery of the crew, previously exhausted and almost worn out.
by its buoyancy (as it always is in the water) to prevent her oversetting to windward; and this frame is usually called an outrigger. The body of the proa (at least of that we took) is made of two pieces joined endways, and sewed together with bark, for there is no iron used about her. She is about two inches thick at the bottom, which at the gunwale is reduced to less than one. The proa generally carries six or seven Indians; two of which are placed in the head and stern, who steer the vessel alternately with a paddle, according to the tack she goes on, he in the stern being the steersman; the other Indians are employed either in bailing out the water which she accidentally ships, or in setting and trimming the sail. From this description of these vessels it is sufficiently obvious how dexterously they are fitted for ranging the collection of islands called the Ladrones. For as these islands lie nearly north and south of each other, and are all within the limits of the trade-wind, the prosa, by sailing most excellently on a wind, and with either end foremost, can run from one of these islands to the other and back again, only by shifting the sail, without ever putting about; and by the flatness of their lee-side, and their small breadth, they are capable of lying much nearer the wind than any other vessel hitherto known. Our engraving has been made from a drawing by W. Westall, A.R.A., who, when he took the sketch from the deck of Captain Flinders's ship, was surprised to see these prosa sail right round the vessel in which he was, although that was sailing at a very rapid rate.

The ingenuity of these islanders, as shown in the construction of these vessels, has enabled them to take advantage of their position on the surface of the globe. Sir George Staunton, in his account of 'Lord Macartney's Embassy to China,' observes, that 'the Ladrones, from time immemorial, have possessed a natural advantage of their position on the surface of the globe. When it is fused in an open vessel, it absorbs oxygen in considerable quantity, amounting sometimes to twenty-two times its volume; but it parts with the molecule of it at a higher temperature. Gay Lussac attributes to that circumstance the peculiarly beautiful aspect of granulated silver. If silver in the form of leaf or fine wire be intensely heated by means of electricity, galvanism, or the oxy-hydrogen blowpipe, it burns with vivid sparks, and gives out an exquisite green-coloured flame, and emits a dense grey smoke.

Silver is found not only native, that is, in the pure state, but in combination with other substances, forming a great variety of ores. When pure it is sometimes met with in regularly-formed crystals, and it traverses rocks in the form of veins of various dimensions, and is found in insulated masses in rocks. These last are sometimes of great size; for instance, in one of the mines of Peru a lump of pure silver was discovered which weighed 500 lbs. It is related that in the seventeenth century a mass of native silver was found at Kongsherg, in Norway, which weighed 560 lbs. The mines of Freiberg in Saxony have often produced masses of 100 lbs. weight. There are about twenty-five different varieties of silver ore; the most common are the following:—Sulfuret of silver, consisting of about 80 per cent. of the metal, and 20 of sulphur; red silver ore, containing about 57 per cent. of silver, 15 of sulphur, 16 of antimony, and 12 of muriatic acid, and 6 of iron; and antimonial silver, consisting of about 64 per cent. of silver and sixteen of antimony. But a large proportion of the silver brought to market is obtained from the ores of other metals, in which silver is a subordinate ingredient, but which, on account of its great value, it is profitable to extract even when occurring in minute quantity. Thus the silver in lead ore is sometimes separated with profit when it exists only to the extent of eight ounces in the ton of lead; which is only one part in 1481, or a single grain of silver in more than half-a-pound of lead. The ore called galena contains,
The great supply of silver to the rest of the world is from the mines of Mexico and South America. The riches of these mines is immense; and, far from having diminished, they have gradually augmented in produce for three centuries. All the silver mines of Mexico are situated near the summit, or on the western flank of the Cordilleras, the range of mountains which run through the centre of the country; and the greatest number, as well as the most productive of them, are situated between the 18th and 24th degrees of latitude. They are in general at moderate elevations above the great table land; but that table land is from 5600 to 8000 feet above the level of the sea. The highest mines are at an elevation of 9800 feet; but the climate, even in that high region, is mild and salubrious. At the time of Humboldt's visit there were about 500 mining establishments, containing about 8000 miners, and from 8000 to 4000 veins or masses were worked. These mining establishments are called Realadas; thus we have the Real Catorce, the Real del Monte, &c.

The ores of silver most commonly met with in Mexico are the sulphuret, the antimonial, and the muriate. Native silver is not sufficiently abundant to be reckoned among the productive ores, but it usually accompanies the sulphuret. Sometimes masses of it of great size have been found, as at Batopilas in New Biscay, where one weighing 442 lbs. was met with. The richest body of sulphuret of copper, called grey copper, is of frequent occurrence, and contains so much as to be considered one of the most productive of the silver ores; and there is an earthly ore called colorados in Mexico, and pasco in Peru, which is an intimate mixture of minute particles of native silver, and muriate of silver, with brown oxide of iron. A great deal of the silver of Mexico is extracted from lead ore. At Real del Monte, a sulphuret of iron yields 22 ounces of silver in the quintal, or 102 lbs. Some of the ores are extremely rich. The antimonial ore of Sombrerete yielded in six months 493,274 troy pounds of silver, equal to about 1,300,000l. in value, in a working of not more than 100 feet. In the mine of Valenciana, in the district of Guanaxuato, there were, in 1791, some ores which contained 186 ounces in 102 lbs.; but there were others which were so poor as not to yield more than three ounces; the average being only nine ounces in that same mine. It is supposed that the mean richness of all the ores of Mexico is not greater than from three to four ounces in the quintal of ore. The mines of Peru are not richer on the average, and the famous mine of Potosi is not so much so; for its average produce is no more than 1:70 in the quintal. The average produce of all the mines of Saxony is from three to four ounces in the quintal; so that the great quantity of silver yielded by the Mexican mines is owing to the great facility with which they are worked, and to the enormous quantity of the ore, and not to its intrinsic value.

REMARKS ON THE RELATION BETWEEN EDUCATION AND CRIME.

The above is the title of a judicious pamphlet by Dr. Francis Lieber, which has recently been published at Philadelphia, in the United States, by the Society for Allowing the Miseries of Public Prisons. As the observations it contains are of universal application, and especially as they appear to have been called forth by statements which have been made in this country as to the supposed inefficacy of education in preventing an increase of crime, we have judged it advisable to furnish our readers with an abstract of Dr. Lieber's useful paper.

It has been stated, in both Houses of the British Parliament, that education is far from causing a de-
crease of crime, and the circumstances of the United States have been adduced in evidence of the alleged fact. In one case, it had been asserted that official information had been received from the city of New York, which warranted the conclusion that the one was the cause of the other, to the exclusive neglect of the other.

Under these circumstances, Dr. Lieber felt it of much importance that, if it were really practicable, an accurate investigation should be made. This was the position. Some remarks of Messrs. de Beaumont and de Tocqueville, in their work on the Penitentiary System of the United States, with respect to the apparent increase of crime in the State of Connecticut, had also been referred to as confirming this statement, to the true causes of this phenomenon, hastily inferred that the one is the cause of the other, or, at all events, that the former does not operate in producing a decrease of the latter. But in order to ascertain the true effect of general instruction we should guard against rash conclusions, and take for examples countries of large extent, in which universal instruction has been established for a number of years,—such as Prussia—rather than refer to those in which no thorough effect can as yet be expected, or which are so small that casual occurrences, entirely foreign to the amount of criminality in the community, may essentially disturb the usual proportion of crime and population.

It is evident that education, according to the definition which has been given, cannot possibly promote crime, unless a man be so bold as to assert that man's nature is so thoroughly bad, that, in whatever way it may be cultivated, if cultivated at all, it shoots forth the germs of its seeds of corruption—a view which would be repugnant to our conceptions of the goodness as well as wisdom of the Creator. But the question is, whether universal instruction is conducive to a decrease of crime? meaning thereby, as it is commonly understood, universal instruction in the various elementary branches of knowledge. Now, such knowledge, or, indeed, any knowledge, is in itself neither good nor bad: it has no moral character of its own. Arithmetic will assist a defecter as much as an industrious man who works for his family, as a knife may serve the murderer, as well as him who cuts a piece of bread with it for a crippled beggar. But if we come to speak of public instruction, knowledge does not retain a character so entirely indifferent.

It has often been remarked that instruction without the careful culture of the heart leads to immorality rather than to morality. This is undoubtedly true. Domestic education—the rearing of the young in sound morality—the fear of God—and the all-important example of virtue in their parents before their eyes—are of vital importance to every society; and can never be supplanted by any general school-system, however wisely it may be contrived. Suppose, however, domestic education in general, or with large classes, to be bad, and not only to continue thus from generation to generation, but, as there is nowhere a mental or moral standing still, to grow worse and worse, would not the school be one of the most natural means to correct this state of things, and gradually to introduce a better one? If the moral domestic education is not bad, instruction is not the less necessary. As to the alleged neglect of this important part of education in schools, the objection, if of any weight, points rather to the higher sorts of schools than to those established on a general system for the benefit of the less favoured classes of the community, which may be presumed most likely to suffer from the want of adequate moral discipline at school in consequence of being less likely to find it at home. Perhaps there is hardly a school, even the meanest, in which a child does not receive some moral instruction which may importantly influence his ultimate character and habits. A teacher cannot help
enforcing some moral rules, by way of keeping order in his school-room; nor can the lessons which the children have to read and learn remain without instilling some moral precepts into the mind, or disposing it better for the reception of moral and religious views. Besides, there is in all knowledge, even in the most indifferent as to moral effects,—for instance, arithmetic,—a softening power, which renders the mind more pliable; and, however inferior it may be in itself, forms one more link which connects the individual with the society in which he lives. The more we can cultivate this feeling of being linked to a society of moral beings, and to a nation in which, like others, we have duties to perform; and the more we can prevent the growth of a feeling of separation from society, or of opposition to the rest of society, the more shall we also prevent the various acts of selfishness,—of absorbing egotism,—of crime.

Dr. Lieber next adverts to a consideration which, if the increase of crime simultaneously with the diffusion of education were admitted, would alone, perhaps, be sufficient to account for it. This part of the subject deserves to be considered with great attention. It is, that there are no individuals more exposed to crime than those who remain ignorant in a civilized community; or, in other words, those individuals who are touched by the wants and desires of civilization, or by the effects of general refinement, without being actually within the sphere of civilization, is no peculiar source of crime; ignorance, with civilization, is an abounding source of crime, both because it lessens the means of subsistence, and because it lowers the individual in the general and his own esteem—it severs him from the instructed and educated. Instances are afforded to us in the lowest, most ignorant, and destitute classes in all great cities, who receive certain views and notions of civilization, and yet live without education and instruction. We have arrived at a state of things in which an individual who cannot read, is actually, in most respects, excluded from the great sphere of civilization; and whoever is thus excluded from the general course of civilization, is more exposed to misery, and more liable to be drawn into the snares of crime than others who are more firmly linked to society, and upon whom, therefore, shame has a greater power; and who, moreover, find it easier to gain a livelihood in an honest way, after stating such considerations as these, Dr. Lieber returns to urge the fallacy of the assumed test for estimating the effect of education upon crime, by comparing the proportion between crime and population, since public instruction has been established in a given country, to that which before existed. The increase of crime, or, in other words, the increase of convictions, is a very unsuitable test of the increased criminality of a community, unless we are enabled, from a number of concurrent circumstances, to judge more precisely of the case. Sometimes the police has been more vigilant, sometimes the laws have been made more proportionate to the crime, and individuals have consequently been more ready to prosecute; sometimes a great influx of destitute persons has taken place, at others public attention has been roused and directed to certain crimes until then neglected; an army may have been disbanded—a winter may have been peculiarly severe—a season of harvest may have existed, more transactions may have afforded new opportunities; &c.; in short, in a number of causes, some of which are continually exercising their influence upon mankind, may have existed without the least connexion with public instruction; nay, the latter may have continued to exercise its beneficial influence during the whole time that crime was increasing, and may actually have prevented it from still greater excesses.

With regard to the alleged increase of crime in the city of New York and in the United States at large, Dr. Lieber has no materials which could authorize him to make any definite statement on the subject. He is rather inclined to think it may be true, but accounts for it on some of the above grounds. Not a little of this effect at New York must be contributed to the influx of European rogues, vagabonds, and homeless adventurers to that great sea-port town. Generally, also, something may be attributed to the more frequent practice now than formerly of giving full newspapers full details of criminal trials and transactions. It is necessary that such cases should be noticed; but the full statement of particulars is a practice which is fraught with evil. It satisfies one of the worst cravings of the human mind, and affects it in turn in the same way in which physical stimulants and exciting liquors satisfy, and in turn ruin the body; it has a tendency to render the reader callous, and it has a positive and evil effect upon independently disposed persons. Dr. Lieber wishes that the editors of the more respectable papers would set the example, and abstain from furnishing those detailed accounts which he considers so injurious.

But all other causes which operate in producing crime, are inferior in effect to intemperance. We have late- shown that intemperance has not increased in the country; and are therefore unable to argue that any supposed increase of crime here has resulted from the increase of intemperance itself. Nevertheless, the effect of intemperance in producing crime remains the same; because not only its tendency is to lower the character and render it habitually depraved, but because a large proportion of crimes are committed by persons under the actual influence of intoxication. But although we cannot assign any increase of crime to increase of intemperance in England, and thus help to exculpate the cause of education from the charges it has so undeservedly incurred, we can do what is quite as useful; we can claim for education in connexion with the more general diffusion than at any former time of good principles and useful knowledge, the merit of having prevented the increase of intemperance, and even of having effected a diminution in the aggregate amount. We are firmly persuaded that the same causes will continue to operate in producing the same effect,—namely, the diminution of intemperance, and therefore of crime. Dr. Lieber may draw an instance from the United States a great increase of intemperance took place some years since, and is now showing its melancholy effects on the intemperate themselves, as well as on those who in the mean time have grown up with such pernicious examples before them. The apparent increase of crime in England must be looked for in some of the other causes to which we have before adverted, particularly the increased efficiency of the police, and the greatly softened character of the criminal laws, producing together a greater facility in the discovery and punishment of crime that has ever before existed. The increase in the number of convictions, beyond the proportional increase of population, does not imply any actual increase in crime; but only that more crime has been detected. We doubt that there has been any actual increase of crime within the last ten years; we rather apprehend there has been a diminution.

Then, it may be asked, is there really no test by which the effect of education in preventing crime may be estimated? There is only one test to which we purpose, still following Dr. Lieber's pamphlet, to call the attention of our readers in a future Number.

* * * The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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HOGARTH AND HIS WORKS.—No. XVI.

(Conclusion of the Series.)

The world, 

The Chorus of Singers,' otherwise more explicitly described as the 'Rehearsal of the Oratorio of Judith,' was published in 1734, and employed in the first instance as a ticket for the sale of 'Modern Midnight Conversation.' The oratorio to which it refers was written by William Huggins, Esq., and set to music by William De Fesch, who was sometime chapel-master of the cathedral at Antwerp, and was, in Hogarth's time, a respectable professor of the violin, and, during several seasons, a leader of the band at Mary-le-bone Gardens. The 'Oratorio of Judith' was performed with scenes and decorations, but met with no success.
and was therefore published in some sort as an appeal from the decision of the audience. It however met with an indifferent reception from the public at large, notwithstanding it was decorated with a frontispiece engraved by Vanderburgh, from a design furnished by Hogarth. In the group before us, the line on the music-book,—

"The world shall bow before the Assyrian throne,"

is taken from the oratorio, and was probably selected for the sake of conveying a satirical allusion to the ill success which had attended the performance. Mr. Nichols, in his statement of the variations of Hogarth's plates, says there is a mezzotint copy of this plate entitled 'The Musical Group,' in which the title given on the top book is, 'An Ode for New Year's Day,' and the line on the music-book is,—

Cecilian sisters, tuneful nine.

"To paint a sound," says Mr. John Ireland, "is impossible; but, as far as art can go towards it, Mr. Hogarth has gone in this print. The tenor, treble, and bass of these ear-piercing choristers are so decisively discriminated that we all but hear them."

"The principal figure," continues the same writer, "whose head, hands, and feet are in equal agitation, has very properly tied on his spectacles; it would have been prudent to have tied on his periwig also, for, by the energy of his action, he has shaken it from his head, and, absorbed in his eager attention to true time, it is unconscious of its loss."

Mr. Ireland informs us that the little figure in the left corner is a likeness of Hogarth's friend, Mr. Tothall, the woollen-draper, who lived in Tavistock Court. The name of the performer on his right hand,

Worsho growing bass

Would drown the clanging of the brass ass

he could not learn, and thinks it probable that, with the above exception, the heads are not intended as particular portraits, but as a general representation of the distortions into which public singers are sometimes in the habit of throwing their features, either from the difficulty of producing particular notes, or from mere affectation.

Some observations of Mr. Charles Lamb on this plate may be found in page 127 of our last volume.

The engraving of the 'Laughing Audience,' of which we give a copy in the last page of this Number, originally entitled the 'Pleased Audience,' represents one of the royal theatres. The bottom of the print exhibits one end of the orchestra, behind which is a corner of the pit, and above this a part of the side boxes. Mr. Samuel Ireland, in his 'Graphic Illustrations of Hogarth,' speaks of this production in the following warm terms:—"I cannot pass this etching without paying my tribute of commendation to its extraordinary merit. Though a small work, the abundant knowledge of the human countenance is astonishingly marked in every feature; and it is certainly not inferior in execution to many of his larger productions. Yet with all its merits, the original sketches in pen and ink have still more force and spirit. These invaluable sketches, with many others of the same kind, are in my possession; they were drawn on small scraps of paper from markings of character that he accidentally met with in the course of his rambles, and that he made at the instant on his nails and the palm of his hand. This anecdote was communicated to me by Mrs. Hogarth, on whose veracity every reliance may be had."

"Mr. John Ireland is still warmer in his praise of this group than even 'his namesake. He says:—"From the first print that Hogarth engraved to the last that he published, I do not think there is one in which character is more displayed than in this spirited little etching. It is much superior to the more delicate engravings from his designs by other artists, and I prefer it to those that are still higher finished by his own burin."

The engraving exhibits three groups of persons attending a comic performance, but differently employed and interested; and this difference comprehends all the suits which the box-hands may be supposed to contain. The persons in the uppermost group exhibit the most fashionable inattention to the business of the play, by which the unsophisticated people below are thrown into an ecstasy of mirth. To this merry set another contrast is afforded by the three musicians in the lowest compartment, who, in the sedate performance of their duties, are equally with the uppermost party lost to the excitement of the moment.

The beau in the upper compartment, for whose favours the rival orange-girls contend, is a rich specimen of the dandy of Hogarth's day; and, judging from it, we should say that the absurdities of fashion were far more outrageous at that period than at present. It is, indeed, among the circumstances which mark the national advance in civilization, that the male costume has long been undergoing a process of simplification; and even that now under notice, however absurd it may appear, was a step in that process, denoted chiefly by the absence of the enormous periwig, which earlier in the century clustered of all who made any pretensions to gentility, but which was getting out of fashion about the date of this print. The present beau, however, according to John Ireland's description, "has a cuff that for a modern top would furnish fronts for a waistcoat, and a family fire-screen might be made from his enormous bag. His bare and shrivelled neck has a close resemblance to that of a half-starved greyhound; and his face, figure, and air forms a fine contrast to that of the Grisette whose he addresses." The other beau, who, with his hand on his breast, is paying his compliments to the stout female, and presenting her with a pinch of snuff, is more simply dressed than the other; but he has a sufficiently ridiculous queue, and every line of his countenance seems moulded by grimace and affectation.

It is useless to expatiate on the faces in the middle compartment. He perfectly understands their respective characters at once, from the diversified manner in which the same exciting cause acts upon them. For it should be observed that mirth is not only in each countenance differently expressed, but that the amount of mirth is different in each instance. We are furnished with mirth in all its gradations, from the titter or chuckle which admits of a continued attention to the business of the stage, to laughter as an uncontrollable and exhausting convulsion. It is this diversity in the emotion itself, and in the mode of its expression, which enables us to estimate the characters of the persons in this group with as much precision as the intention of the people in the boxes enables us to estimate theirs. Among these merry people there is one whose sartorial countenance and contracted brow, as he sternly views the scene which occasions so much pleasure to those around him, is of ill omen to the author of the play or to the performers. He is a critic; and, judging by old rules and doctrines where others judge by their feelings, he may be supposed to hold the play in little higher consideration than he does that part of the audience who applaud and are interested in that which he thinks they ought in true justice to his.

This group was engraved in 1733, and was originally given with the receipt acknowledging payments for the 'Rake's Progress' and 'Southwark Fair.'

The curious picture of 'The Gate of Calais' had its origin in a personal adventure, the account of which
211

THE PENNY MAGAZINE.

is necessary to the proper elucidation of the cut. The
mind of the artist entertained a large measure of some
of those partialities and prejudices, which Englishmen
who have not travelled, or had opportunities of enlarged
observation, very naturally entertain. Among these
is that blind partiality to everything English, and
disposition to depreciate and scorn everything that
is not English, and above all, everything that is French,
which was very generally entertained up to a com-
paratively recent period, and which still lingers among
the ignorant classes of society, or those whose minds
still feed upon the garbage of dead or dying prejudices.
It is one of the good signs of the times that the national
prejudices which once appeared in open day, and were
gloried in, have now retired to holes and corners, and
solitary places. Those of our readers who have attained
to manhood, will recollect the time when the windows of print-shops swarmed with prints that bodied
purpose of an engineer, he was told by the commandant,
a somewhat arduous search among the London shops
to carry him on board, nor did they quire him till he
found a single print or caricature of this description.

These things were doubtless in a great degree oc-
casioned by our almost continual wars with the French,
as well as by the measures taken to kindle or keep
alive the national dislikes. Admitting this, it seems to
us one of the most cogent arguments for peace, that
war thus tends to sustain the mind in a diseased state,
to distort the feelings, to corrupt the judgment, and
to obscure the understanding. The French are a people
who have been greatly changed since the time of
Hogarth, and with full allowance for the exaggeration
permitted to a caricaturist, much of that view of the
French which this engraving indicates does not now
in any way apply to them.

If Hogarth in his conduct, as well as in the picture
before us, exhibited strong national antipathies, we can
only, in the way of excuse, remind our readers that such
feelings were at that time common; and that it would
have been considered almost un-English to have been
without them. It was, besides, immediately after the
conclusion of a sanguinary war with France, and before
time had allowed for the heated feelings excited
by that contest to subside.

On the conclusion of the peace of Aix-la-Chapelle in
1747, Hogarth went over to France with the full deter-
mination, as it appears, to be displeased at everything
he saw out of Old England. It must be admitted that
France did at that time present much that was calcu-
lated to excite the ridicule of a satirist and the regret of
a philanthropist. Mr. John Ireland remarks,—“ For
a meagre powdered figure, hung with tatters, torn a-la-
mode de Paris, to affect the airs of a coxcomb and the
importance of a sovereign, is ridiculous enough; but
if it makes a man happy why should he be laughed at?
It must blunt the edge of ridicule to see natural hilarity
defy depression; and a whole nation laugh, sing, and
dance under burdens that would nearly break the firm
knit sinews of a Briton. Such was the picture of
France at that period; but it was a picture which our
English satirist could not contemplate with common
patience.”

Mr. Steevens has given the following account of
Hogarth’s line of conduct in France, as related by an
eminent English engraver who was abroad at the time.
Hayman, and Cheere the statuary, were of the same
opinion.

“While Hogarth was in France, wherever he went,
he was sure to be dissatisfied with all he saw. If an
elegant circumstance, either in furniture or the
ornaments of a room, was pointed out as deserving
approbation, his narrow and constant reply was, ‘What
then? but it is French! Their houses are all girt or be-
fooled!’ In the streets, he was often clamorously rude.
A tattered bag, or a pair of silk stockings with holes in
them, drew a torrent of imprudent language from him.
In vain did my informant (who knew that many Scotch
and Irish were within hearing of these reproaches, and
would rejoice at least in the opportunity of getting the
painter mobbed) advise him to be more cautious in his
public remarks. He laughed at all such admonitions,
and treated the offerer of it as a pusillanimous wretch,
unworthy of a residence in a free country,—making
him the butt of his ridicule for several evenings after-
wards. This unreasonable and unseemly courtesy was at last
completely extinguished by what happened to him while he
was drawing the ‘Gate at Calais;’ for, though the
innocence of his design was rendered plain by the un-
acceptable manner in which he was afterwards treated
on the testimony of other sketches which he had about
him, which were by no means such as could serve the
purpose of an engineer, he was told by the commandant,
‘That, had not the peace been actually signed, he should
have been obliged to have hung him up immediately
upon the ramparts.’ Two guards were then provided
for the hatred and contempt of John Bull towards
That, had not the peace been actually signed, he should
in any way apply to them.

If it makes a man happy why should he be laughed at? this and idle curiosity I was prompted to make a sketch
of it, which being observed, I was taken into custody;
but not attempting to cancel any of my sketches or
memorandums, which were found to be merely those of
a painter for his private use, without any relation to
fortification, it was not thought necessary to send me
back to Paris. I was only closely confined to my own
lodgings till the wind changed for England, where I
sooner arrived than I set about the picture,—made
the gate my background, and, in one corner, introduced
my own portrait, which has generally been thought
a correct likeness, with the soldier’s hand upon my
shoulder. By the fat friar, who stopsthe lean cook
that is sinking under the weight of a vast sirloin of
beef, and two of the military bearing off a great kettle
of soup-maigre, I meant to display to my own country-
men the striking difference between the priests, food,
soldiers, &c., of two nations so contiguous that, in
a clear day, one coast may be seen from the other. The
The only known portrait in this performance, besides that of the artist, is that of the friar, for which Mr. Pine was so unsucessfully endeavoured to persuade Hogarth to give the friar another face. It is said that, when he sat to our artist, he was not aware to what purpose his likeness would afterwards be applied.

With the cuts in our present Number, the series from Hogarth's plates, which it was our intention to place before our readers, is completed. It will be found to include a few which were not specified in the list which we gave at the commencement of the undertaking. It has been our wish to furnish our readers with as much of Hogarth as could be admitted into a work of such general and extensive circulation as the 'Penny Magazine;' and after our list was prepared, we were led to consider that there were a few plates not necessarily excluded by the line we had been obliged to draw. It must be evident to those who are even slightly acquainted with the works of our artist, that in determining to furnish from them a series which no parent could hesitate to allow his children to study, a careful selection was necessary, which would exclude some of Hogarth's foremost compositions. It was simply our intention to supply a family series of Hogarth, that the works of that great artist, and the moral lessons they convey, might not be wholly unknown to the young on account of the unsuitableness for their inspection of many which are contained in the common collections of his works. That the full benefit of a carefully-selected series may be realized, it is our intention to re-publish in a separate form the plates which have appeared in the 'Penny Magazine,' with about half as many more additional cuts, and the text enlarged. In stating this intention it is proper to add that those who desire to obtain a complete edition of Hogarth's works, are now offered such an opportunity of doing so as can never again recur. Mr. Baldwin, who possesses the original plates, and the signature of Hogarth himself, intends to publish the impressions from them in periodical numbers, and on terms which will render Hogarth's autograph works more generally accessible than they have ever yet been.

The principle by which our own selection has been regulated was explained in the Number with which we commenced the series. The taste of Hogarth's time—or rather the taste necessarily connected with the measure of the illustration and refinement which had then been attained—admitted a more naked display of vice for the purposes of correction, than can at this more advanced stage be tolerated. We only now require to have indicated that which it was formerly considered necessary to display openly and fully. We do not adopt the common alternatives of stigmatizing the taste of Hogarth's time as gross and vicious, or that of the present time as false and affected. We believe each condition of taste to be natural and proper in its place and time, being true and suitable concomitants of different states of intellectual and external civilisation.

Hogarth was right in presenting his age with the ailments which its health and strong appetite required; but the differences of habit and taste which have since then resulted from a great advance in general refinement, rendered it imperative on us to select from the mass of his works only those which could not now be considered offensive to a female or injurious to a child. This consideration has operated to the exclusion of all the

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* Friar Pine,* according to Nicholas.
plates in the 'Harlot's Progress,' and some of those in the 'Rake's Progress,' and 'Marriage-a-la-Mode,' notwithstanding the instructive tendency of the stories which they respectively tell, and the truth with which they are told. We were also limited by the absolute necessity of rendering the 'Penny Magazine,' as varied as possible; and this circumstance prevented us giving some unexceptionable plates in the 'Rake's Progress' and 'Marriage-a-la-Mode,' which will appear in the separate publication.

There are also some plates, of much general interest and use, which it was necessary to exclude on account of several details of real and gratuitous indecency which they contain. That Hogarth, considered in his general character, can be justly charged with indecency, we are fully prepared to deny; but that instances of this fault do sometimes occur, it is useless to dispute, and to explain or extenuate them is not our present duty. Of this matter Mr. Steevens (inNichols's edition of Hogarth) has, in our opinion, taken a view rather exaggerated and unjust; and we are disposed to give the artist the full benefit of the statement which Mr. Cunningham makes in reply, in his 'Lives of the most eminent British Painters, Sculptors and Architects.' He truly observes, that faults of this description 'are few and inconsiderable in regard to so voluminous an artist, and they are such as naturally presented themselves in works which had a higher aim, as a picture of vice mingles with the sermon which brands and crushes it. Indeed it is wonderful that these blemishes are so few and trivial. In grappling with folly and in combating with crimes, he was compelled to reveal the nature of that which he proposed to satirize; he was obliged to set up sin in its high place before he could
crown it with infamy." We are not sure, however, that in this passage, which is perfectly true in its general application, Mr. Cunningham distinguishes between circumstances of indecency gratuitously introduced, which Steevens has particularly in view, and those displays of naked truth which we mentioned in the preceding paragraph, and to which Steevens makes no objection.

Other plates have been omitted on the ground that, although they inculcate their moral with great force, the disgust, distress, or horror with which the details must be regarded more than counterbalance any good effect they are calculated to produce. This, for instance, is the case with the series called 'The Stages of Cruelty.' Mr. Charles Lamb's opinion of this work has already been quoted, to which we may now add that of Mr. Cunningham:

"I wish it had never been painted. There is indeed great skill in the grouping, and profound knowledge of character; but the whole effect is gross, savage, and revolting. A savage boy grows into a savage man, and concludes a career of cruelty and outrage by an atrocious murder, for which he is hanged and dissected. The commencement is painful; and the conclusion can scarcely be looked upon save by men practised in surgery or the shambles."

We are confident, however, that the number of plates to which none of the above objections are applicable, and which we have had great satisfaction in transferring to our pages, will enable our readers to realize a very desirable acquaintance with one of the greatest painters this country has ever produced. The series will be found to include nearly the whole of the 'Industry and Idleness,' all the 'Election' series, some plates from 'Marriage-a-la-Mode' and the 'Rake's Progress,' the companion-pieces of 'Gin Lane' and 'Beer Street,' besides a considerable number of cuts after Hogarth's best miscellaneous pieces.

In the Number in which we commenced our series of engravings after Hogarth, the opportunity was taken of furnishing a general estimate of his powers and his style of art. It does not appear desirable that, in this concluding portion, we should resume the subject. There was, however, one point which was but slightly touched upon on the former occasion, and which seems to require to be more largely noticed; especially as all the plates in Mr. Malcolm's Number are to be of a description particularly calculated to call attention towards it. As there is a sense in which Hogarth must be regarded as a caricaturist, it is desirable that we should be able to estimate the rank to which he is entitled in that character. Mr. James Peller Malcolm, who devoted much of his attention to the elucidation of the history of caricaturing, has given an estimate of our artist, in which we so entirely concur, that we think it preferable to quote the statement of this most competent authority, rather than occupy the space we might allot to the subject with remarks of our own. The following is therefore an abridgment of the detailed estimate which Mr. Malcolm has given in his 'Historical Sketch of the Art of Caricaturing.'

Previously to the time of Hogarth, caricaturists had, with some exceptions, "indulged a propensity to render the objects of their satire odious to the world, not because they were eminently vicious or immoral in private life, but because their conduct was calculated to incite political situations under the government." That it might frequently be deserved we cannot pretend to deny; yet it is evident that party spleen too often suggested a degree of severity which belongs only to crimes of the deepest dye.

"Hogarth was the man destined to counter the powers of the pencil and graver into rods of correction for vice; and although we must not represent him as a wholly guiltless of making an ill use of his talents, it may be safely asserted that his graphic precepts of virtue and propriety very far outweigh his errors, originating from pique or private resentment. The scenes which attended Hogarth's labours as a moral caricaturist, both in his native country and every part of Europe, might serve as an useful lesson to future artists, and induce them to select their subjects from the fruitful sources of folly and misconduct rather than the acts of any set of ministers or their adherents."

Unfortunately for the caricaturist, he often puts it in the power of the sated politician to laugh at the senseless distortions of his fancy, tortured to express something altogether inexpressible. Let us compare the detestable idea of Sir Robert Walpole tearing gold from the bowels of an infant, with Hogarth's emblematical print of the South Sea scheme of 1720, and make inferences from each: the former will appear the offspring of unguarded malicious, and the latter a well-intended attempt to check a phrenzy which threatened the nation with ruin."

"If we take a general view of his productions, it will be found that he seldom indulged in caricature beyond the limits which nature assigns when she thinks it be capricious; and it was from this prudent restraint upon his genius that he derived much of the approbation he obtained. Such was his discernment, that he had only to observe how the passions operated upon muscles and outlines rather deranged when the mind was placid, and his memory was so powerful that he transferred them with the correctness of portraits; and in delineating the faces of the vulgar as he found them in the streets of London, he has merely given us the fruitful sources of folly and misconduct rather than the least caricature. All his larger productions furnish instances of this fact; some of which I shall mention, and occasionally point out where he has deviated into distortion."

The observations which follow on a considerable number of Hogarth's principal works extend to too great a length for us to transcribe. We shall therefore merely select, and combine in one statement, those passages in Mr. Malcom's 'Oratorio of Judith' which have been included in our series. This will also serve the purpose of a concluding summary in bringing these cuts anew to the recollection of our readers.

Reviewing the plates with the intention indicated in the last quotation, Mr. Malcolm observes, that 'The Oratorio of Judith' cannot perhaps be cited as an illustration of either of the points to which he had adverted, nor can we safely pronounce that overstraining muscles have been given to the singers when we reflect that 'Manchester' or 'Morning musicals' mouths exhibited during Lent at Covent Garden Theatre. 'The Engaged Musician' seems to have been produced from a selection of portraits made from blind musicians, ballad singers, and dustmen. The first of these itinerants, though an object of compassion, has its counterparts in London at this very day; and much of the singular and ludicrous effect in the muscles of each face, arises not from any exaggeration in the artist, but from the effort to blow through a small pipe, and of extending the mouth to sing, or to roar "Dust ho!" After remarking that the print entitled 'Characters and Caricatures' is sufficient to demonstrate that Hogarth was excelled by some of his successors in the art of mere personal caricature, Mr. Malcolm proceeds to observe, that our artist was far more successful in this line when he drew without censoring
his genius, as in 'The Gate of Calais,' where we have genuine caricatures of national characteristics of face; while 'Gin Lane' furnishes dreadful marks of his power of representation in brutal inelegancy.

Our author is of opinion that, if a modern engraver had undertaken to satirize a politician, we should have been presented with a countenance scarcely human attached to a body seeming to act from impulses not common to our nature. Hogarth, with greater propriety, has represented an old man, of plain, homely features, eagerly reading a newspaper by the light of a candle which he has seized; and, bringing the flame in contact with the brim of his hat, burns a hole through it, unconscious of his situation.

The 'Industry and Idleness' series abounds with every species of horrible expression. The scenes which illustrate idleness and its consequences are derived from sources scarcely within the knowledge of the strictly virtuous, who can barely comprehend to what extent vice may operate in deranging and brutalizing the human countenance. Indeed, it is scarcely possible to delineate the aberrations which cruelty, avarice, and drunkenness cause from symmetry and perfection.

Among the instances in which Hogarth has excelled in exciting risibility by touches of whim and humour, without having resorted to more exaggeration than satire demands, the picture of the 'Levee,' in the 'Rake's Progress,' may be mentioned. It presents a curious group, composed of a fencing-master and dancing-master, an author, and other characters; all of whom are delineated with delicate touches of irony, and employ themselves in rehearsing their different professions during the Rake's perusal of a challenge which has been brought to him by a furious, blustering, weather-beaten officer. The same observation may, in general, be applied to the picture of 'Chairs of Members after an Election.' This does, however, contain traits of pleasantry rather misapplied, although they must create a smile, even in those who disapprove. The idea of seating a chimney-sweeper on the wall of a church-yard in the act of accommodating a skull with a pair of spectacles, cannot be approved, although it is impossible to contemplate the countenance of the sooty brat without a grin. The same contraction of the muscles must follow a view of the member as he falls from his chair in the presence of the fainting lady; and yet such a fall must inevitably produce a fracture, dreadful bruises, or even death. The same censure is applicable to the monkey discharging a gun which points to the head of the sweep, and theresher and wooden-legged seaman about to main each other with a flail and monstrous club. Yet it must be admitted that all these occurrences were such as might happen on such an occasion.

We feel unwilling to close the series without making room for the following strongly-drawn character of Hogarth as an artist, from the Illustrations of Mr. John Ireland—a writer who seems to us to have entered into the mind and spirit of his original more fully than any of the other editors who have furnished the public with comments and illustrations. The essay of Charles Lamb must, however, be always regarded as the truest and finest exposition of Hogarth's genius.

"Were the character of Hogarth considered by a connoisseur, he would probably assert that this man could not be a painter, for he had never travelled to Rome;—could not be a judge of art, for he had spoken irreverently of the ancients—gave his figures neither dignity nor grace—was erroneous in his distribution of light and shade, and inattentive to the painter's balance,—that his grouping was inartificial and his engraving coarse.

"To traverse continents in search of antique paintings, explore caverns for mutilated sculpture, and measure the proportions of a statue with mathematical precision, was not the boast of William Hogarth. The Temple of Nature was his academy, and his topography the map of the human mind. Disdaining to copy or translate, he left the superior class of beings, that people the canvass of Poussin and Michael Angelo, to their admirers; selected his images from his own country, and gave them with a verity, energy and variety of character, ever appropriate and invariably original. Considering his peculiar powers, it is fortunate for his fame that he was a native of Britain. In Switzerland the scenery is romantic—the rocks are stupendous; in Italy the models of art are elevated and majestic—the ruins of ancient Greece still continue a school of architecture and proportion; but in England, and England only, we have any variety of character that separates man from man. To these he resorted, and rarely attempted to heighten nature by either ideal or elevated beauty; for although he had the eye, he had not the wing of an eagle; when he attempted to soar, particles of his native clay clung to his pinions, and retarded his flight.

"I do not know in what class to place his pictured stories. They are too much crowded with little incidents for the dignity of history; for tragedy, are too comic; yet have a termination which forbids us to call them comedies. Being selected from life, they present to us the absurdities, crimes, punishments, and vicissitudes of man: to-day, basking in the bright beams of prosperity; to-morrow, sunk in the gloom of comfortless despair. Be it recorded to his honour that their invariable tendency is to the promotion of virtue, and the diffusion of such a spirit as tends to make men industrious, humane, and happy.

"It would be scarcely judicious to omit adding to this a few sentences from the warm and discriminating praise which Horace Walpole has bestowed upon the works of Hogarth, his account of whom thus commences:—"Having despatched the herd of our painters in oil, I reserved to a class by himself, that great and origina genius, Hogarth; considering him rather as a writer of comedy with a pencil than as a painter. * * *

Hogarth had no model to follow and improve upon. He created his art, and used colours instead of language. His place is between the Italians, whom we may consider as epic poets and tragedians, and the Flemish painters, who are as writers of farce and editors of burlesque nature. They are the Tom Browns of the mob. Hogarth resembles Butler; but his subjects are more universal; and, amidst all his pleasantry, he observes the true end of comedy—reformation; there is always a moral in his pictures. Sometimes he rose to tragedy, not in the catastrophe of kings and heroes, but in marking how vice conducts, insensibly and incidentally, to misery and shame. He warns against encouraging cruelty and idleness in young minds, and discerns how the different vices of the great and the vulgar lead by various paths to the same unhappiness.

"Hogarth obtained high praise from many of his own distinguished contemporaries. Somerville, the author of the 'Clace,' dedicates his 'Hobbinol' to him as "a greater master in the burlesque than Homer in the epic." In this dedication, he says:—"In the end you have some advantage of your poetical brethren, that you paint with the eye. Yet remember, Sir, that we give speech and motion, and a greater variety to our figures. Your province is the town; leave me a small outside in the country, and I shall be content. In this, at least, let us both agree, to make vice and folly the object of our ridicule, and we cannot fail to be of some service to mankind."

The artist obtained a much finer and appropriate
compliment from Fielding, who in his preface to "Joseph Andrews," says—"He who should call the ingenious Hogarth a burlesque painter would in my opinion do him very little honour; for sure it is much easier, much less the subject of admiration, to paint a man with a nose or any other feature of a preposterous size, or to expose him in some absurd or monstrous attitude, than to express the affections of men on canvas. It hath been thought a vast commendation of a painter to say his figures seem to breathe; but surely it is a much nobler and greater applause that they appear to think."

We may also introduce here the well-turned epitaph, written by Garrick, which was inscribed upon the artist's tomb at Chiswick:

"Farewell, great painter of mankind!
Who reached the noblest point of art;
Whose pictured morals charm the mind
And, through the eye, correct the heart.
If Genius fire thee, reader, stay;
If Nature touch thee, drop a tear;
If neither move thee, turn away,
For Hogarth's honoured dust lies here."

The following shorter but superior epitaph was offered by Dr. Johnson:

"The hand of him here torpid lies,
That drew the essential form of grace;
Here closed in death the attentive eyes,
That saw the manners in the face."

[The Laughing Audience.]
ANCIENT ROMAN TEMPLE AT EVORA.

This temple is the most beautiful remain of ancient architecture to be found in Portugal, and one of the finest and best preserved specimens that exist in any part of Europe. The city of Êvora, in which it stands, is the capital of the fine province of Alentejo. It is a place of great antiquity, and from its advantageous situation has probably been occupied as a town by all the successive races of men that have inhabited or conquered this part of the peninsula. According to Spanish and Portuguese antiquaries it was first built, by the Celts nearly 800 years before the Christian era, but of course no positive belief is to be given to assertions which are supported by no positive proof. Pliny and other Roman writers agree in thinking that it had been inhabited by the Gauls, Phænicians, and Persians in very remote times. That extraordinary man Quintus Sertorius, who, proscribed by Sylla, and, flying from his tyranny, nearly succeeded in establishing a great and separate republic in Spain and Portugal, took Evora about eighty years before Christ, fortified it in the Roman manner, and adorned it with many public edifices. Its next conqueror was Julius Cæsar, who further enlarged it, made it a principal town, and gave it the name of Liberitas Julia. It continued, however, to be commonly called Eburum by the Romans, of which name the modern Portuguese denomination is only a slight corruption. It was taken by the conquering Moors in A.D. 715, and retaken from them in 1166 by the Portuguese Christians under the command of the celebrated Giraldo, "O cavalheiro sin medo" (The Knight without fear), whose person is still represented in the city arms, riding on horseback with a naked sword in one hand, and the heads of a Moorish man and woman in the other. Since that time it has been a frequent residence of the Portuguese sovereigns, and John III. bestowed some repairs on its Roman aqueduct and other ancient structures in the course of the sixteenth century.

Evora is beautifully situated on an eminence which is nearly covered with orange and olive groves, vineyards, and orchards, while at the foot of the hill the country is laid out in corn-fields, and the middle distance varied with old and solemn-looking cork-woods. The city contains about 20,000 inhabitants, and is the seat of an archbishop. It formerly contained a prison and tribunal of the Inquisition, but we are happy to say that even as far back as 1788 when Mr. Murphy travelled in Portugal, the offices of the Inquisitors and Familiars had become mere sinecures, and that the establishment has long been wholly suppressed. There was also a Jesuit college at Evora, but that, too, was suppressed at the expulsion of the order.

The first object that attracts the attention of the traveller on arriving at Evora, is the ancient temple
represented in our engraving; and which, from some inscriptions discovered, appears to have been dedicated to the goddess Diana.

The front of this temple is what is called an Hexastyle, i.e., it has six columns. The columns, of the delicate ornamental Corinthian order, are three feet four inches in diameter, and have suffered little from time and weather, or the violence of man. The entablature is entirely destroyed, except part of the first facia of the architrave. The sharp pinnacles by which it is crowned, and which give the upper part of the temple the appearance of an Eastern fortification, are an addition made by the Moors, who could never adapt their beautiful but altogether different style of architecture to the style of the Greeks and Romans. The rest of the edifice is almost in its original condition, and in a wonderful state of preservation, considering that in all probability eighteen centuries have passed since it was built by the Romans. The material of the building is not marble, but fine hard granite.

Antiquaries, who like to make every thing as old as they can, have attributed the erection of this temple to Quintus Sertorius, and as Roman architecture was not equal in his time to so elegant a work, they have supposed he employed Greeks upon it. Perhaps a more reasonable supposition would be, that the temple was built about a century later, under the Roman emperors, when the arts were in a very advanced state.

The Portuguese have been rather deficient in taste with respect to this chaste and delicate temple: they have converted the interior into a slaughter-house for cattle to supply the butchers’ shops of Evora.

A POOR STUDENT’S LITERARY WAYS AND MEANS.

[From a Correspondent.]

The insertion of the paper entitled ‘A Little Knowledge’ in the ‘Penny Magazine’ encourages its writer to think that there are some other facts in his personal history which the readers of that publication might not consider uninteresting. The ‘pursuit of knowledge under difficulties’ of some kind or other will never be without illustrations; but I am always delighted to think that the cheap publications which now pervade the land to its remotest corners, and which, either by loan or purchase, are accessible to all, together with the establishment of libraries and reading-societies for the poor, must soon operate in obviating, even to the poorest, that particular class of difficulties which were formerly the most serious, and which required the most arduous exertions to surmount. I have had peculiar difficulties; but at present I shall limit my statement to those which did not result from any peculiarity in my circumstances, but were such as, in some degree or other, impeded the progress of all those in the humblest classes of life who sought to walk in the ways of knowledge, but which may now be numbered among the things which are past, but not yet forgotten. The peculiarity in my circumstances—my deafness—it is only requisite that I should first mention, for the sake of showing that one of the principal avenues of knowledge and enjoyment being closed, books necessarily became to me of much greater importance than to others not similarly circumstanced; and passing by the struggles which, in mere childhood, attended the possession of a halfpenny or penny, when fruits, “sweet-stuff,” and gingerbread sometimes made a powerful stand against the claims of little books and pictures;—omitting also the history of the measures which, at a later period, I adopted against the peace of my neighbours while they had in their possession a single book which had not been lent to me; I will begin my little statement when the books of my neighbours had been exhausted—when halfpennies and pennies had become scarce, and could only be obtained by my own exertions,—and when, at the same time, my mind had outgrown the sort of aliment which single pence could then obtain. I shall then, in this paper, state the measures to which I resorted in order to raise funds for the purchase of books; and, in a future paper, explain the difficulties which I was experienced in the disposal of the pence thus acquired.

At the port of Plymouth most of the merchant-vessels receive and discharge their cargoes in a basin called “Sutton Pool,” a great part of the bottom of which is left dry at low water. This bottom, however, consists generally of soft black mire, which is, in some places, of such depth as to expose to considerable danger the boys who are, or were, accustomed to go down, at low water, into the pool, and wade about in search of bits of rope-yarn or old iron, which had been thrown from the vessels or left by the tide. Experienced boys, who knew the unsafe places of the bottom, and were acquainted with the effects of the returning tide in the pool, might pursue this employment with safety and confidence; but beginners were in much jeopardy of getting bogged in the mud, or of being cut off by the returning tide at a distance from the points of egress.

Hogs are perhaps not more fond of being in the mud than boys are; and hence this employment was frequently followed as much from love of it as from the desire of gain; otherwise it might have been felt rather an unpleasant business to grope about for hours, above the knees in mire, for the chance of earning a penny or three-halfpence. If my memory does not fail me, rope-yarn then brought one-halfpenny per pound, and iron a penny for three pounds. I have known experienced boys sometimes get as much, in this manner, as three-pence in one day; but the average was much below this: and I am bound to acknowledge that, in my own instance, my weekly gains never exceeded four-pence, and never but once amounted to that sum. This was one of my earliest resources; but by the time that I had acquired some experience in the employment, and was beginning to render it more productive than it had been, an accident drew my attention from it, and gave me leisure to think of other ways and means. I one day trod upon a broken bottle, which was concealed in the mire, and my foot received so deep a wound that I was kept within doors by it for several weeks.

During the interval, I was led to consider whether I might not turn to some gainful account the remains of a fourpenny box of water-colours, which had previously been seldom employed, except for the purpose of colouring the prints which were contained in the few little books I then possessed. I determined to attempt to draw some fine pictures, and to sell them at the price of one halfpenny or a penny each. What an amusing bright idea did I consider this! I was astonished that an occupation so much more promising and congenial than that of seeking rope-yarn and old iron in the mud of Sutton Pool had never occurred to me before. I laid out the two-pence I then possessed in the purchase of some paper, and immediately devoted myself with the utmost ardour to the business of raising a respectable stock in trade. I had never before at an interval between the actions of drawing and selling the result in the present instance did not furnish any very remarkable specimens of art.—I only attempted the human bust, houses, and flowers. I never, that I recollect, produced a single full-length figure;—my drawings were in the style of the common-engraved portraits in oval. The countenances were, in general, purposely made more or less grotesque by modifications of the nose, mouth, and chin; but they agreed, in being all of them profitable.
and in all looking the same way. Houses, or rather cottages, I found to be much more difficult, because it was desirable to introduce trees, bushes, birds, and other circumstances to render the scene picturesque and interesting; and it was difficult to proportion the different details to each other. I have a distinct impression that I was particularly unfortunate in my birds, which were in general large enough to bow to the dust the twigs, bushes, or flowers on which they seemed to rest. But it was necessary to make them look the same. As to my flowers, it could not escape notice, and their The innovation was startling, and drew a degree of impression that I was particularly unfortunate in my havingsucha standing during the fair for the sale of my pictures. The time was short, and I laboured hard to provide an adequate supply of goods for the occasion. I then carried my intention into effect.

In the innovation was startling, and drew a degree of attention to the stall and its master, which was in the highest degree annoying to myself personally. But I faced it out; and the result furnished me with a larger sum of money than I had ever before possessed as the fruit of my own spontaneous exertions.

The limits which are usually allotted to a single article in the 'Penny Magazine' will only allow me to mention one more of the resources which my anoxious desire for the means of purchasing books led me to adopt. My box of water-colours furnished the means employed on this as well as on the former occasion. I was struck, in the course of my perambulations, by the very unseenly appearance of the labels in windows which conveyed to the public the information contained in the sentences,—"Rooms to Let,"—" Lodgings for Single Men,"—"Mangling done here."—" Plain Work done here."—" Cream and Milk sold here,"—&c. &c. I could not but think that the persons who had such labels in their windows, badly spelt and meanly written, would willingly give a penny or halfpenny to have them correctly there.

I had completed as many drawings as would have sufficed to make some display, I discovered a very unlucky oversight in my speculation. I had pictures to display; but how was I to display them? The attention of the children who lived in the court, who carried the news into the streets, generally outside their doors. This was the extent of my ambition; for I did not even in thought, aspire to the dignity of being framed. The boyish distinction that might thus be acquired among my compers was, however, a perfectly secondary object that which I wanted was money!

When I had completed as many drawings as would have sufficed to make some display, I discovered a very unlucky oversight in my speculation. I had pictures to display; but how was I to display them? The room which my parents occupied did not front the street; but the window looked into a court, and was visible only to the few poor persons who had apartments in the court. There was no remedy, however, and I hung them up in the window. They soon attracted the attention of the children who lived in the court, and they soon at-tracted the attention of the children who lived in the court, and thought they could lay out their halfpence to more advantage, I cannot tell; but so it was, that my customers were discouragingly few. Indeed, after the novelty of the thing had subsided, both children and grown people passed the pictured window with perfect unconcern. Halfpennies dropped in now and then, and I felt it difficult to express the delight with which I received them, not merely on account of the advantages they enabled me to obtain, but because I knew that they had been well earned—and earned, too, by my own process. I think that, taking one week with another, my average weekly income from this source was about two-pence halfpenny. There was one week in which I got as much as eight-pence, but that was only on the following extraordinary occasion:

During the fair at Plymouth, it is customary for impressionists to give public notice of the way in which they are employed, in the streets, generally outside their doors. This standing consists of a small table, over which a napkin is nailed against the wall, and to this the various articles which appertain to a doll's wardrobe are fastened with pins, and thus exposed for sale, while the table itself is spread with smart pin-cushions and other matters which do not easily admit of being pinned to the napkin. Behind these "standings" the girls sit on stools, like so many little Patiences on monuments, waiting for customers. The idea occurred to me of having such a standing during the fair for the sale of my pictures. The time was short, and I laboured hard to provide an adequate supply of goods for the occasion. I then carried my intention into effect. The innovation was startling, and drew a degree of attention to the stall and its master, which was in the highest degree annoying to myself personally. But I faced it out; and the result furnished me with a larger sum of money than I had ever before possessed as the fruit of my own spontaneous exertions.

The limits which are usually allotted to a single article in the 'Penny Magazine' will only allow me to mention one more of the resources which my anxious desire for the means of purchasing books led me to adopt. My box of water-colours furnished the means employed on this as well as on the former occasion. I was struck, in the course of my perambulations, by the very unseenly appearance of the labels in windows which conveyed to the public the information contained in the sentences,—"Rooms to Let,"—" Lodgings for Single Men,"—"Mangling done here."—" Plain Work done here."—" Cream and Milk sold here,"—&c. &c. I could not but think that the persons who had such labels in their windows, badly spelt and meanly written, would willingly give a penny or halfpenny to have them correctly there.
PRUDHOE CASTLE.

The castle called "Prudhoe," formerly spelt "Prud- how," and more anciently "Prudhow," is situated in the county of Northumberland, on the south side of, and near the river Tyne, about eight miles from Newcastle: its name is descriptive of its situation on a command or proud eminence.

We have no distinct information concerning the origin of this castle, the earliest accounts in which it is mentioned describing it as already existing. Grose, however, fixes the date of its foundation somewhere about the year 627, and considers that it was rebuilt about the year 1060. These are the dates he gives in his Index, without explaining on what authority they rest. Camden thinks that the place is the Protolitia of the Romans, which was the station of the first cohort of the Batavi.

Subsequently to the Conquest, the castle fell into the possession of the family of the Umfravilles, who came into this country with the Conqueror. Robert de Umfraville, commonly called "Robert with the Beard," was the lordship of Redesdale, to be held by the service of doing the king's arms among the Barons three years after. In consequence of which his castle and lands were given to Hugh de Baliol. In the next reign he obtained the restitution of this property; and at his death was succeeded by his son Gilbert, who is styled by our old chroniclers, "The famous baron, the flower and keeper of the northern parts of England." His son Gilbert was made Earl of Angus of Scotland, in right of his wife, and under that title was summoned to Parliament in the 25th of Edward I. It is remarkable that the lawyers of the time refused to acknowledge him as an Earl, because Angus was not in the English dominions; but they submitted when they saw the King's writ summoning him by that name. His grandson, the fourth Gilbert, presented a petition to the King and Parliament in the 25th of Edward III., in which he stated that he and his ancestors, time out of mind, used to pay to the King a rent of a hundred marks a year, and were entitled to the custody of the castle of Redesdale, to be kept in his prison of Harbottle Castle; but this castle having become ruined in the Scots wars, he solicited for permission to keep his prisoners in Prudhoe Castle until Harbottle Castle should be repaired. The king having satisfied himself that the fact was correctly stated, and that the condition of Harbottle Castle was not owing to neglect, granted permission that such prisoners should, for a period of ten years, be kept in Prudhoe Castle.

This earl died without issue; but a son who died before him had been married to a daughter of Henry, the second Lord Percy of Alnwick; and it seems to have been in consequence of the settlement made at this marriage that the castle and barony of Prudhoe afterwards came into the Percy family. After the death of the earl, his widow Maude remained possessed of the property till her death, after which, Henry Percy, the third Duke of Northumberland, the heir by the former settlement, and also, as it seems, the second husband of the countess, came into full possession of the castle and barony*, which have descended to the present Duke of Northumberland with no other interruptions than such as have been caused by attainders in different reigns.

The first loss of the property by attainder took place very soon after its acquisition. The Earl of Northumberland, who has just been mentioned, who was the father of Henry Hotspur, which Shakespeare has made so familiar to us. Their rebellion against Henry IV. occasioned the forfeiture of the property, which the king gave to his son John, Duke of Bedford, after whose death the Percies got it back again. The subsequent interruptions which their possession of the property received have no circumstances of sufficient interest connected with them to require recapitulation. The last member of the noble family to which the castle belonged seems to have used it as a residence, was Henry Percy, the brother of Thomas, Earl of Northumberland, who is described as having been its inmate in the year 1557. Yet it hardly then have been wholly habitable; for an account of the date of 1596, which Grose has given at length in the Addenda to his "Antiquities of England and Wales," describes the castle as being then old and ruinous, deserted and cut off, and in form not unlike unto a shield hanging with one point upward, situated upon a high most of earth, with ditches in some places, all

* Grose and Hutchinson differ as to the time and occasion of the Percies acquiring the property, and of the property being entrusted to Grose, whose information was from documents in the possession of the Duke of Northumberland; the other adds no authority for his statement.
seemingly wrought with man's hands. The site is calculated to contain, with a garden-plot and the banks, three acres. Within this site, but without the walls, was an elder chapel, which had been very fair and covered with slate. The entrance to the castle was on the south side, where there were two gates, "the uttermost now in decay." The other was "a tower, all massy work on both sides to the top of the vault; above the vault is the chapel, and above the chapel a chamber, which is called the wardrobe. It is covered with lead, but in great ruin, both of lead and timber; it is in length ten yards, and in breadth six yards, or thereabouts."

Instead of pursuing this old account, we shall draw from Hutchinson a description of the ruins as they appeared at a comparatively recent period, afterwards mentioning the alterations which have since taken place.

The castle of Prudhoe stands on the summit of a steep promontory, which communicates with the adjoin-
The entrance to the castle is from the south, and on tiers of low chambers, singular in their form and height: the plain which intervenes between the castle and the river; this wall is at intervals defended by square bastions. The entrance to the castle is from the south; and, on approaching the structure, which is reared from the heights still makes a very noble and formidable appearance. The narrow neck of land leading to the entrance was formerly cut through by a deep ditch, over which a drawbridge gave access to the outward gate. This gate was originally defended by an outwork and a tower, as appears by their ruins. The superstructure of the outer gate is a lofty embattled square tower, about sixty feet high, now so mantled with ivy that the windows, loop-holes, and apertures are almost wholly concealed. To the right, the outward wall extended to some distance, terminated by a turret, the wall of which is embattled, and there the landscape is closed by a fine grove of stately trees. The outer wall to the left, from the inner gateway, extends to a considerable distance without any turret or bastion, over which several interior buildings, and among them the remains of a chapel, are discovered in all the confusion of ruin. Above all this rises a square tower, the ancient keep of the fortress, which overlooks the valley with commanding grandeur. It is twenty-five yards high, and eighteen in breadth, without ornaments or windows, but having a square exploratory tower at the south-west corner. The wall, still extending to the left, is, at its angle, defended by a square bastion with open loopholes; it then turns northward, and is terminated by a broken circular tower, situated on the brink of the cliff.

The first gate admits to a covered way, about thirty paces in length, which leads to the inner gate, from which a sally-port opens on each side. The second gateway is formed by a circular arch, above which rises a high tower, the windows in which show that it consisted of three tiers of apartments. The roof of the gateway is arched in semicircles, with an aperture in the centre, from whence those in the upper chamber might annoy an enemy who had forced the gate.

The inner gate the visitor enters an open area, which is now so blocked up with a farm-yard and tenements that it is easy to obtain an idea of its original magnitude. It appears, however, that an open area had surrounded the great tower, which does not show any means of communication with the outworks, but seems to have stood apart on an eminence in the centre.

The outward wall was defended on the angle to the south-west by a large square bastion, with loop-holes; and to the north-west by a circular tower containing several tiers of low chambers, singular in their form and height: the inhabitants could not stand erect in them at the time of the visit. In several places steps ascend from the area through the wall, which is broad enough to have allowed the armed men of the garrison to pass each other on it, protected by a parapet. This is the substance of the description given by Hutchinson*. Since his time, day has made some alterations in the condition and appearance of the ruin. Part of the main tower has fallen down; but the Duke of Northumberland, being anxious to preserve as long as possible the remains of this very old baronial castle, caused the further progress of decay to be arrested by the repair of those parts which were in the most dilapidated condition. His intentions in this respect appear to have been judiciously and carefully executed.

REMARKS ON THE RELATION BETWEEN EDUCATION AND CRIME.

In the opinion of Dr. Lieber, the best test we possess, by which to estimate the effect of education in preventing crime, is by ascertaining the degree of education which every convict has obtained. If we should find, that, in a country in which few individuals grow up without some school instruction, an immense majority of convicts are men who have not received a fair school education,—if thus ignorance almost always accompanies crime,—and if at the same time it is easy to account for the connexion between the two, on general and simple grounds, drawn from the nature of our mind and of human society in general, we are surely authorized to conclude that there actually does exist a necessary connexion between the two, and that by diffusing knowledge of a moral and scientific character, we may hope for a decrease of crime. Dr. Lieber does not seem to state very clearly the nature of that necessary connexion between ignorance and crime of which he speaks; but it is, in truth, nothing more than this, that the mind must be filled with something; and that if we omit to fill it with something of a good or negative character, it cannot remain altogether vacant, but will fill itself with something or other—perhaps with good, but more probably with rubbish, garbage, or things positively evil.

When Dr. Lieber first saw the statement to which allusion has been made, he addressed a series of queries to the wardens of the principal penitentiaries, with the view of learning the state of the convicts with regard to education. He found that there was no ward or superintendent of any penitentiary of note who did not consider want of education and ignorance as the most active agents in producing crime; and he states the following as the general conclusions in which his inquiries have resulted:

1. Deficient education, early loss of parents, and consequent neglect, are some of the most fruitful sources of crime.
2. That few convicts have ever learned a regular trade, and if they were apprenticed to any business they have abandoned it before the time had lawfully expired.
3. That school education is, with most convicts, very defective or entirely wanting.
4. That intemperance, which is very often the cause of bad education, is a most appalling source of crime.
5. That prevailing intemperance, and by promoting education, we are authorized to believe that a considerable diminution of crime would be effected.

The answers given by some of the superintendents of state prisons to the queries of Dr. Lieber are printed in the Appendix; and from them we have made the following extracts:

The first is from Mr. Wiltse, Agent of Sing-Sing State Prison. He prefaced the required return by the following observations:

"Whatever may be the fact in other countries, there can be little doubt that education and early application to some kind of business would have a powerful tendency to decrease crime. From my long intimacy with criminals, I have found that a large proportion of the more vicious may be traced to the formation of bad habits in early life, and from a total neglect, on the part of their parents or guardians, in giving them education and in teaching their attention to some regular systematic business. You observe, in the following return, that only fifty prisoners out of 842 have received anything like an educat;

There are at present 842 prisoners;
170 prisoners cannot read nor write
34 have never been at any kind of school.
### Russian Villages

Among the circumstances by which we are assisted in the endeavour to estimate the social condition of a people, there are not many which, taken singly, are more instructive than a view of their habits and the accommodations which they afford. In this view of the subject, the dwellings of some distant nations have already been described in the "Penny Magazine," and for the same purpose we now present our readers with the following account of the houses in Russia. In this account, the imperial palaces and the mansions of the great will engage less of our attention than the cottages of the peasantry and the houses of the middle classes; because the differences by which the Russians are distinguished from other nations will, of course, not be so distinctly marked in the former as in the latter.

The writer's impression with regard to Russian villages, and the cottages of which they are composed, was much less favourable when he actually saw them than that which his present recollections convey. The reason is, that, in the first instance, he was fresh from England, and Russian villages certainly suffered very much in the only comparison he was then able to make. But, since then, his acquaintance with the villages of Mohammedan Asia has inclined him to regard those of Russia with greater favour than before; for they gain more in this comparison than they lose in the other. This is perhaps one instance out of many in which a person's estimate of a people or a country becomes more just in proportion as his sphere of observation is enlarged.

**A Russian village generally consists of one long and broad street, at the end of which is the church.** The

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<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
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<tbody>
<tr>
<td>Excessively Intemperate</td>
<td>258</td>
</tr>
<tr>
<td>Moderately Intemperate</td>
<td>245</td>
</tr>
<tr>
<td>Intemperate</td>
<td>503</td>
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<tr>
<td>Temperate Drinker</td>
<td>159</td>
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<tr>
<td>Total Abstinent</td>
<td>8</td>
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</table>

### The Convicts

There is no convict here who, before his conviction, could read and write, and who was of temperate habits and followed a regular trade.

<table>
<thead>
<tr>
<th>Convicts who could read and write, and were temperate</th>
<th>2 in 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Of those who could read, write, and follow a trade</td>
<td>2 in 100</td>
</tr>
<tr>
<td>who had never married</td>
<td>4 in 100</td>
</tr>
<tr>
<td>who were married and followed a trade</td>
<td>4 in 100</td>
</tr>
<tr>
<td>who were married, followed a trade, and were temperate</td>
<td>0</td>
</tr>
<tr>
<td>who acknowledged themselves to have been habitual drunkards</td>
<td>75 in 100</td>
</tr>
<tr>
<td>not natives of Connecticut</td>
<td>40 in 100</td>
</tr>
<tr>
<td>deprived of their parents before they were ten years old</td>
<td>32 in 100</td>
</tr>
<tr>
<td>deprived of their parents before they were fifteen years old</td>
<td>14 in 100</td>
</tr>
<tr>
<td>those belonging to the middle class</td>
<td>25 in 100</td>
</tr>
</tbody>
</table>

In conclusion, Mr. Pilsbury explains the temporary circumstances which, some years ago, operated in causing that increase of convicts in the state prison which led the French commissioners and English gentlemen to conclude that there had been a corresponding increase of crime. He states that both crime and convictions are decidedly on the decrease in that state; and as an instance mentions that, since January, 1834 (he wrote in September), there had been a diminution of at least twenty in the number of convicts. The difference in the increase of crimes in Connecticut seems to be about as far as it would be were a foreigner to infer the increase of crime in London from the increased number of trials and convictions which, under the new law, are likely to take place at the Old Bailey.
cottages and the church are entirely constructed with wood, and even the street is frequently laid with the trunks of trees. Nothing can therefore be more perfectly wooden than a Russian village. This is true also of the large majority of the towns, though, in a few of the most considerable, brick is coming into use. Dr. Lyell, in his curious 'Essay on the Origin and Progress of Architecture in Russia,' mentions that the architects of the ancient Russian times, in place of saying, to build a town, say, to cut a town, as we say, to cut a beam; as probably it cost the peasants less trouble to erect their humble habitations than to go to the forest, fell the timber, and transport it to its destined place.

The wood is employed in these erections with a prodigality calculated, in the first instance, to amaze a stranger who is aware of the comparative economy with which timber is employed in most other countries. The timbers are not divided into boards, but, being harked and divided into requisite lengths, are laid upon one another, morticed together at the various angles, and the interstices filled with moss and clay. This use of wood is quite as much a matter of choice as necessity. There is a very decided preference among the Russians for it as a building material, and the use of it is not at all confined to the inferior classes of society; although the nobility and gentry in good circumstances, except when they are building in the primitive and wild sale manner we have just mentioned. The affection for wooden houses has lingered much longer among the superior classes than their imitations of other countries and their fondness for display might have prepared a stranger to expect. It is even stated by Storche that, about thirty-five years ago, it was not unusual for people of good fortune, even at Moscow, to build a wooden dwelling for their own particular use adjoining to their brick mansion, thus compromising the difference between state and convenience. There is, in fact, a very general impression, even among the nobility, that houses of wood are much more healthful than those of brick or stone, an impression which they are perhaps not much in the wrong, particularly in such a climate as that of Russia. It is certain that such houses are warmer, which is a consideration of much importance in so cold a climate as that of Russia. Besides, of comparatively small cost, are easily and speedily erected, and, from the simplicity of their construction, admit of being readily altered. Even when of a superior description, they also admit of being transported from one place to another. Dr. Clarke has the following anecdote on this point:—

"They speak of moving a house in this part of the world as a very trifling undertaking. When Sir Charles Gage, who was sent from Petersburg to preside over the government of Lagan, paid a visit to a gentleman about twenty-seven miles distant from the establishment. Finding him excellently lodged in a well-furnished, handsome, and very convenient house, 'I wish,' said he, 'I could have such a building erected for me at Lagan! ' His host replied, 'If you admire my house it is at your service, exactly as you see it; and I engage to place it for you at Lagan in the course of the week. ' A bargain was concluded between them; the house was moved; and Sir Charles, who informed us of the fact, resided in it when we were in the country."

A Russian cottage of the common sort is generally of a form nearly square, consisting only of a ground floor, with a steep roof covered with thatch or with shingles. The gable end is towards the street, and the roof projects green over the eaves. The light is admitted through two or three apertures in the walls, which may be closed occasionally with shutters. Sometimes, however, there is a small window of glass, or of bladder, oiled linen, or paper. There are no chimneys, but the smoke finds its way through the apertures in the walls in the best manner it can. The peasants seem to have a great aversion to chimneys. Dr. Liell mentions a Russian gentleman who caused the cottages at one of his villages to be furnished with them, but they were all demolished the following year during his absence. One-fourth of the single room which compasses the interior, is occupied by an oven, which not only serves to warm the house and to cook victuals, but the top serves as a sleeping-place. The family is too large to find sleeping accommodation on the top of the oven, a number of boards are joined together so as to form a great shelf, which is fixed on a level with this top to accommodate the remainder.

The furniture of these rooms consists of benches placed against the walls, a table, dishes of pottery and wood, and some iron utensils. The most showy article in the room is what is called the Bogh. This is generally the representation of some sacred person, and not unfrequently is intended to be an image of the Deity himself. In size and splendour it varies with circumstances, but the figure, as well as the frame which contains it, is always as resplendent with tinsel and bright colours as the owner can afford to make it. We do not know whether Dr. Clarke is right in saying that there is not a room in the empire without such a representation, but we certainly cannot recollect having ever seen one that did not suggest the idea of some deified saint, observing one or more of these representations. Lamps are continually kept burning before them; and every one who enters the room before attended to anything else, makes obeisance to the Bogh by taking off his hat, and bowing profoundly three times, crossing himself rapidly between each bow. These representations, and the ceremonies performed before them, are continually brought under the notice of a stranger, both within and without, that it is quite impossible to avoid the mention of them in noticing Russian habitations and modes of life. The cottages, which will come under a stranger's observation in travelling between Petersburg and Moscow, will be found in many villages to correspond with this description; but in general the best built villages in the empire occur on this road, and the traveller would be mistaken in drawing any general inference from the anecdotes relating to them. The wealthier and the greater proportion of villages will be found of a superior order to those we have described. They are larger and higher, have more than one room in the interior, and are more neat externally and more convenient within. A good cottage of this description is certainly a picturesque object, particularly while new. When old they are rather unsightly, as the wood is never plastered or painted, and it acquires a dingy and chalky look, particularly when damp, in cold weather.

On advancing towards the south of European Russia, wood becomes comparatively scarcer, and the wholesale use of timber in building, which had previously been displayed, is then impracticable. The walls of the cottages are then built with mud and faced with boards, or, as more frequently happens, the sides are of wicker-work plastered over. The fronts of these cottages are often ornamented with neat carvings, and the gables painted with representations of flowers. In general form and arrangement these cottages do not materially differ from those which have been already described. In the Ukraine, the village habitations stand detached within wattle enclosed enclosures; and the walls being whitewashed, the villages have, taken on the whole, an appearance which reminds an Englishman more strongly of his own country than anything which he has seen or will see in the Russian empire.
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THE ORNITHORHYNCHUS PARADOXUS OR WATER-MOLE.

Ornithorhynchus Paradoxus.

Among the strange and interesting productions of that little-explored country, Australia, not one is so anomalous, so wonderful, such a stumbling-block to the naturalist, as the *Ornithorhynchus platypus*, or, as it is termed by the colonists, the *water-mole*. Its first discovery created the utmost surprise; nor has the feeling much abated. The *ornithorhynchus* is essentially aquatic in its habits, frequenting the more tranquil or currentless portions of the rivers, in the banks of which it excavates its burrow to a considerable depth. If we examine the animal we shall see how well it is adapted for such a mode of life. The total length of the adult *ornithorhynchus* is about one foot six or seven inches; the body is long, reminding one not only in shape but in colour of the otter. It is covered with a double coat of fur, like aquatic mammals in general: the outer vest consists of long, fine glossy hair, thickly set, which in some individuals assumes a crisped appearance; beneath this, close to the skin, is a layer of short soft fur, forming an almost water-proof wadding.

The tail, which is broad and flattened, terminates abruptly, and is covered above with longer and coarser hairs than those of the body; the under surface of the tail, however, is almost destitute of covering;—at least the hairs are short and thinly set.

The limbs are remarkable for their strength and shortness; the anterior pair especially are very muscular, and the feet well adapted for burrowing, notwithstanding their being largely webbed. The toes are five in number, and terminate in strong blunt claws, capable of scratching the earth with great facility; the web which intervenes between the toes is of a tough leathery consistence, and from its extending beyond the claws might seem to be an impediment in the way of these instruments being fairly and effectually used. It would appear, however, that being loose it falls back, (being perhaps voluntarily retained so,) while the creature is engaged in its labors task of burrowing, so as not to interfere with the due application of the claws. The advantage of this broad web in an aquatic animal, or one that spends so great a portion of its existence in the water, is very apparent. The hind feet are smaller than the anterior, but also webbed, though the membrane does not extend beyond the roots of the claws, which are sharp and longer than those of the fore-feet. On the hind leg of the male there is, as its peculiar characteristic, a strong sharp spur, the use of which does not appear to be very easy of explanation. It is certainly not used as a weapon of offence; nor are the scratches made by it, during the struggles of the animal, on the hands of those who endeavour to hold it, attended with the slightest ill
consequence. Formerly this spur was supposed to be a poisoned weapon, by which dangerous, if not fatal wounds were inflicted. This is most certainly not the case; it appears that the mistake arose from the misapplication of English words or expressions by the aborigines.

The most singular part of the ornithorhynchus, however, is the head; at least as regards the external configuration of the animal. Instead of terminating in a snout, as in other mammals, it is continued into a beak resembling that of a duck, being broad, compressed, and rounded at the tip; the mandibles of which this beak consists are covered with a cartilaginous or leathery membrane—the outside of the upper mandible being greyish black—the palate flesh-colour; the under mandible is flesh-colour within, and whitish externally.

The edges of both are soft, and the lower, which is shorter and narrower than the upper, has its sides internally channelled with grooves like those of a duck, but larger and wider apart. At the base of the beak a loose leathery flap projects from each mandible, and may perhaps form a protection to the eyes, while the animal is engaged in seeking for food with the beak plunged deep in the mud. True teeth there are none; there are, however in each mandible, on either side, two horny appendages without roots,—one tuberculous, and at the base of the mandible fairly within the mouth,—the other forming a long narrow ridge on the mandible itself. The tongue is short and thick, and covered with papillae. The eyes are small but bright; and the orifice of the ears is capable of being closed or opened at pleasure. The flesh of this strange animal, though rank and fishy, is eaten by the aborigines, to whom nothing indeed is unacceptable.

The question, whether the ornithorhynchus is viviparous, or oviparous, is not yet settled; one thing is certain, if the young are produced alive, they are at least excluded from eggs-hatched, as in many of the snakes, while yet actual dissection has shown there is no young part of the habitations. The whole extent of the burrow, from the entrance to the termination, I found by actual measurement to be twenty feet. Yet no heaps of earth near the burrow were observed by Mr. Bennett, nor does he know, as he says, "how, in the progress of excavation, the animal disposes of the loose mould?" perhaps it carries it to a distance, he goes on to observe, as the mason-wasp and carpenter-bee.

Arriving at Lansdown Park, Mr. Bennett observes, "Here I availed myself of the vicinities of some ponds (also inhabited by these animals), to give it a little recreation. On opening the box it was lying in a corner contrived into a very small compass, and fast asleep. I tied a very long cord to its hind-leg, and brought it to the house. It roused itself, and made a little noise also accompanied its exertion to escape. The burrow from which this individual was taken, and put into the box, on the bed of a serpentine course, approaching nearer the surface of the earth towards its termination, at which part the nest is situated. This is sufficiently large to accommodate the old animal and its young. No nest had yet been made in the termination of this burrow, for that appears to be formed about the time of bringing forth the young, and consists merely of dry grass, weeds, &c., strewn over the floor of this part of the habitation. The whole extent of the burrow, from the entrance to the termination, I found by actual measurement to be twenty feet. Yet heaps of earth near the burrow were observed by Mr. Bennett, nor does he know, as he says, "how, in the progress of excavation, the animal disposes of the loose mould?" perhaps it carries it to a distance, he goes on to observe, as the mason-wasp and carpenter-bee.

The burrow from which this individual was taken, "ran up the bank in a serpentine course, approaching nearer the surface of the earth towards its termination, at which part the nest is situated. This is sufficiently large to accommodate the old and its young. No nest had yet been made in the termination of the burrow, for that appears to be formed about the time of bringing forth the young, and consists merely of dry grass, weeds, &c., strewn over the floor of this part of the habitation. The whole extent of the burrow, from the entrance to the termination, I found by actual measurement to be twenty feet. Yet heaps of earth near the burrow were observed by Mr. Bennett, nor does he know, as he says, "how, in the progress of excavation, the animal disposes of the loose mould?" perhaps it carries it to a distance, he goes on to observe, as the mason-wasp and carpenter-bee.
box,—from which it escaped one night and was not again to be discovered. December appears to be the month in which the females bring forth their young;—this fact was asserted by the natives, and confirmed by the experience of Mr. Bennett, who procured from a burrow on the banks of the Marrambidgee river, on the 8th of that month, three young ones, one inch and seven-eighths in length, nearly naked, and which could not have long been alive.

On the 28th of December Mr. Bennett visited a noble sheet of water, called Koroa, formed by the Wollondilly river, on the banks of which the burrow of an ornithorhynchus was discovered. In opening it, "the aborigines used their hard pointed sticks, and although the ground was firm, they succeeded as quickly as we could have done with our spades." The method of laying open the burrow was by making holes upon it, four or five feet apart, a stick being passed up the burrow as the work proceeded, in order to ascertain its direction. From this burrow he procured two full-furred young ones, a male and female, beautifully sleek and delicate, most probably having never left the burrow. They lived in captivity about five weeks: their liveliness, their frolics, and gambols affording a constant source of interest. One evening both the animals came out about dusk,—went as usual and ate good from the sauce,—and then commenced playing with one another like two puppies, attacking with their mandibles and raising the fore-paws against each other. In the struggle one would get thrust down, and, at the moment when the spectator would expect it to rise again and renew the combat, it would commence scratching itself, its antagonist looking on and waiting for the sport to be renewed. When running, they are extremely animated,—their little eyes glinten, and the orifices of their ears dilate and contract with rapidity; if taken into the hands at this time for examination, they struggle violently to escape, and their loose integuments render it difficult to retain them. They were found to sleep in various positions,—mostly rolled up like a hedgehog, into a ball, the tail being wrapped over the bill and head,—sometimes in an extended attitude. The impressions of sleep and activity were very irregular, but the dusk of evening in most cases called forth all their energies. During the night they were generally active: night or evening we suspect to be the favourite period in which the ornithorhynchus seeks its food, wanders along the bank, constructs its burrow, and gambols with its mate.

With regard to the nourishment of the young all we shall here say is, that there is every reason to believe the newly-born offspring receive their sustenance in the same manner as in other examples among the marsupials. Two large mammary secretes a milky fluid in great abundance, which exudes through a number of small tubes in an areola or bare circular space on each side of the abdomen. *Milliken (milk) come all same as from cow," said a native to Mr. Bennett, who states that milk, and afterwards insects mixed with mud, form the diet of the young: "they first have "miliken (milk)," then make pasta and eat bread," &c. as a native expressed himself when asked the question.

A POOR STUDENT'S LITERARY EXPENDITURE.

[From a Correspondent.]

The circumstances related in 'A Poor Student's Literary Ways and Means,' as well as those to which I have still to request attention, would want much of the interest which ought to belong to them if they were understood as more than points of personal history. I have no personal feeling to gratify in seeking to have these circumstances recorded in the 'Penny Magazine;' but I think they will not be without interest or utility if understood as illustrating some of the difficulties which a very poor boy has to surmount in acquiring the means of knowledge. So much of those difficulties—consisting in the want of money—as the former paper illustrated, refers to a state of things still present to many; but the illustrations I have now to offer of the difficulties which attended the advantageous disposal of a few pence for the purpose of acquiring information, refer, as I am most happy to know, to a state of things no longer existing.

When a boy was in circumstances which rendered such contrivance necessary as those related in the former paper, it will easily be imagined that he must have found great difficulty in allowing his pence to accumulate to an amount sufficient for the purchase of the books which he required.

When my desires extended beyond the books which single pence or halfpence could obtain, they ascended, in the first instance, to books about three-pence in price. About the year 1816, the only works at that price that presented higher claims than those of nursery-tales, were certain rather closely-printed tracts, in paper-covers, which generally contained either abstracts or stippled engravings of popular fictions, and sometimes tales founded on the plays of Shakspeare and other early dramatic authors. These little books, taken altogether, formed the best and cheapest bargain which a book-purchaser could, in those days, make for three-pence: and it would be difficult to describe the anxiety with which I watched the very slow ascent of my finances to the required sum, and the eagerness with which I hastened to the book-shop when the three-pence was completed. The haste with which I disposed of my coppers on these occasions proceeded not merely from my earnest desire to possess the book, but also from the fear lest the pressure of my external wants should tempt me to some other application of my hoarded pence; which, as I knew from some occasional experience of the sort, I should afterwards bitterly regret. When I had the money, I was never long in deciding on the particular book which should be purchased; for my mind was so wistful and impatient that, with my little eyes glistening, and the puppet character of my will, I would put on the puppet-shaped glasses made me. That was the only opportunity which might offer of securing stronger and better food. I seemed to discern such an opportunity when one of those itinerant book-venders who carry about from house to house publications in numbers, called with his portfolio at the room my parents occupied. This was immediately after the large profit which had made him bring out some pictures in the street during the fair; and I was busily occupied with my water-colours in replenishing my exhausted stock. The man, who was a very civil person, was not deterred by the humble appearance of the apartment and its occupant from displaying his stores before me, when he perceived that I was quite willing to inspect them. Oh! how my heart was delighted by the display of magnificence and variety which this man's portfolio contained. There were various bibles, various histories, various poems. There was John Bunyan's 'Pilgrim;' 'Robinson Crusoe;' 'The Arabian Nights;' 'Drelincourt on Death;' 'Hervey's Meditations;' 'Pamela, or Virtue Rewarded;' 'The History of Henry, Earl of..."
Moreland, and many more that I do not now remember, and could not here enumerate if I did. The feelings of high excitement with which I viewed these works, and their illustrative engravings, were soon sobered by the reflection that all the enjoyment, and the useful knowledge, which might be derived from these books and from others with which the world abounded, was shut out from me. The effect to me was the same as that of a rich feast spread out before the eyes of a man famishing with hunger, but forbidden to partake. But might I indeed not partake? I conceived a vehement passion for a history of the French Revolution, the first number of which was decorated with a gorgeous coloured portrait of the Emperor Napoleon mounted on a white charger. I would have given eight-pence for it; but, as I hardly hoped this, I closed with the proposal; because I happened just at that time to be the possessor of a shilling, and was then in sanguine expectation that my new undertakings would at least produce the required weekly sixpence.

Before the fortnight, at the termination of which I was to receive the second number, had expired, I saw much cause to wish myself clear of the engagement into which I had entered. No previous reading had prepared me to be interested in the rather dry details about parliaments and "beds of justice," which the first number of this history comprehended: I also discovered that every number would not contain one of those fine plates which had formed so great an attraction in the first number. I learned that these plates would be few and far between; and as the letter-press was in large type and loosely printed, I could not but think it a hard bargain to go on paying a shilling for it without the pictures,—particularly as one of those three-penny books which I have before mentioned contained a greater quantity of reading than those stately but thin folio numbers, on which I was now to exhaust my resources. A stronger objection than either of these was, however, that I had not sufficient money to meet the demand, my speculations not having been crowned with such bright results as I had anticipated. Under these circumstances, I ardently wished that the man might forget to call; but, as I hardly hoped this, I prepared a plain written statement of my difficulties to submit to his perusal when he should come. He did not fail to come; and I was exceedingly confused, feeling that I had placed myself in rather an awkward position. He read my paper and looked to consecrate my best exertions, I exult beyond measure. He was not, however, angry, as I had feared that he would be. He suggested that if I could not go on, the best thing would be to let him have back again the number I had taken, in order that the copy to which it belonged might not be spoiled; and that he would give me eight-pence for it. I agreed to this, and was accordingly paid, with the added satisfaction that I did not regret the foundation of this debt, and that I had not let it pass without action. The good-nature of this man, and the interest his portfolio excited in my mind, has given him a permanent place in my recollections. At intervals of years, I have continued to meet him in the streets of Plymouth, with his portfolio under his arm, and on such occasions his nod and smile of recognition have always been most cordial.

I wish it to be borne in mind that, at the time to which this statement refers, books thus published in considerable numbers were scarce, and would have to be examined above all others; as the thing in which appeared small in the subdivisions, was regarded as a whole—caused them to be considered as articles of luxury, and as marks of relatively good circumstances; and bindings of mottled and highly-gilt calf-skin were bestowed upon them to render them tasty articles of furniture, too good to be used. And being thus smart ornamental articles, they were usually the first to be sent to the pawnbroker's on occasional emergencies, and in a few weeks had to be redeemed. To bring this home, let us see how I might now employ a weekly sixpence, which in those times would only have furnished me with about thirty-two loosely-printed octavo pages, sixteen of quarto, or eight of folio, being a portion of a work to be completed in from thirty to a hundred numbers, and perhaps containing a cut in every fourth number. The same sum would now enable me to obtain regularly the "Penny Magazine," one number; the "Penny Cyclopædia," two numbers; the "Saturday Magazine," one number; and "Chambers's Edinburgh Journal," one number; leaving me besides an overplus of a weekly halfpenny, which at the end of the month would more than enable me to obtain "Chambers's Information for the People." Thus for my weekly sixpence I should have five distinct publications, containing a large body of interesting information, and comprehending about eight times the quantity of printed matter which my sixpence would formerly have purchased. Besides this, instead of one engraving for every third or fourth sixpence which I expended, I should now have from eight to twelve neat and instructive cuts included with my printed matter; and at the end of the year I should be the possessor of six large volumes, containing altogether upwards of 2000 closely-printed pages, and comprehending from 400 to 500 engravings.

After this, it scarcely seems necessary that I should say any more to show that one of the most serious difficulties with which I was beset, has been of poor boys have had to contend in seeking to improve the mind and to acquire information, can scarcely be now said to exist. Great as my own difficulties were in winning an honest penny, I found it far more difficult to obtain an opportunity of expending that penny in a satisfactory manner. Interested as I am most deeply in the fair and improvement of that great body of which I am myself but a particle, and to whose service I desire to consecrate my best exertions, I exult beyond measure in the change which has taken place for the better within my own time, and in the other and greater changes which I see before me. None but those who have known something of such struggles and difficulties as I have described, can well imagine the strong emotion which I sometimes experience as I view with amazement the numerous cheap publications of the day, do now and ever must henceforth offer advantages the want of which formed so serious an obstacle to my own progress in the early part of my career.
The name of this old Flemish mansion is intimately associated with the field of Waterloo; and though an interval of twenty years has somewhat mellowed the interest which the narrative of that eventful battle inspires, it cannot be read without the exciting recollection that on the issue of that day hung, probably, the fate or rather the repose of Europe.

The château (i.e. country seat, one of those continental residences which unite in them something of the natures of a castle and a farmhouse) was the residence of a Belgic gentleman. It stands on a little eminence near the main road leading from Brussels to Nivelles. The buildings consisted of an old tower and a chapel, and a number of offices, partly surrounded by a farm-yard. The garden was enclosed by a high and strong wall; round the garden was a wood or orchard, which was enclosed by a thick hedge concealing the wall. The position of the place was of importance in the plan on
Circumstantial details of the Battle of Waterloo.

The importance of Hougoumont was appreciated Buonaparte as well as the Duke of Wellington. If the château could have been carried, and at the same time the French had occupied with artillery the high road leading to Nivelles, it would have enabled them to push forward to the very centre of the British line, and might have materially influenced the success of the day. The battle of the 18th began therefore by the attack on Hougoumont. Three divisions, each consisting of 10,000 men, moved on to the assault.

The first division, commanded by Jerome Bonaparte, reached the place about half-past eleven o'clock, and advanced to the attack with great impetuosity. After a short but violent struggle, in which an immense number were slain, they retired. The second division, commanded by General Foy, instantly renewed the combat, and assailed the place with terrible fury. So tremendous was the onset, that the Nassau troops, who had been stationed in the grove of Hougoumont, abandoned their post, and the château itself must have been carried, but for the stubborn and desperate courage of that detachment of the Guards to whom the defence was intrusted. "A French officer," says Sir Walter Scott, "followed by a few men, actually forced his way into the court-yard of the château, but all these were bayoneted. Colonel Macdonnell, the brother of our Highland chief Gennaway, was obliged to fight hand to hand among the assailants, and was indebted to personal strength no less than courage for his success in the perilous duty of shutting the gates of the court-yard against the enemy."

Napoleon himself says (Historical Memoirs) "While every thing was preparing for this decisive attack (the grand assault which he meditated), Prince Jerome's division on the left commenced a fire of musketry at the wood of Hougoumont. The action soon became very warm, the enemy having unmasked nearly forty pieces of artillery. General Reille advanced the battery of artillery of his second division, and the Emperor sent an order to General Kellerman to advance his twelve pieces of light artillery: the cannonade was now extremely brisk. Prince Jerome carried the wood of Hougoumont several times, but as often it was renounced in consequence of the attack of a division of the English Guards, the Nassau troops on the right being supported by the Guards on the left. The division of General Foy supported Jerome's division; prodigies of valour were performed on both sides; the English Guards covered the wood and the avenues of the castle with their dead, but not withstanding these vicissitudes, which occupied a great part of the day, the whole of the wood remained in the possession of the French; but the castle, in which some hundreds of intrepid English troops defended themselves, opposed an invincible resistance. The Emperor ordered it to be attacked by a battery of eight howitzers, which set fire to the barns and roofs; this soon rendered the French masters of that position."

But the French were not, at any period of the day, masters of this position. "Had it been lost," remarks a lady, who was a near observer of the agitating scenes of the month of June, and visited the spot a few days after the battle, "the victory to the French would scarcely have been doubtful." This, of course, is very questionable; yet still the post was of great importance, and it was defended with a bravery commensurate with the perilous duty of shutting the French army.

During the night of the 17th, (which, it will be remembered, was stormy and wet) the troops were busy preparing for the approaching contest by perforating the walls, making loop-holes for the fire of musketry, and by erecting scaffolding for the purpose of firing from the top.

The division of General Foy alone and advanced 10 the assault with great impetuosity. About one o'clock, six companies of the Guards under Colonel Hepburn drove back Foy's division with immense loss, again occupied the wood, and reinforced the little garrison in the château. "This was a tremendous encounter. Men fought hand to hand with a sort of savage fury. After this repulse, the ardour of the assailants somewhat slackened; but at no period of the day was the attempt to gain possession of Hougoumont abandoned. The attack on it lasted from half-past eleven in the morning until eight at night, about which time occurred Napoleon's last grand effort,—the onset of the Imperial Guards,—the memorable charge of the British troops,—and the final rout of the French army.

The loss of the French in attacking Hougoumont was enormous. The division of General Foy alone lost about 3000 men; and the total loss is estimated at above 10,000 in killed and wounded. The British Guards lost, in killed and wounded, in the defense of Hougoumont, nearly 900 men, of whom 28 were officers; the foreign troops, Nassau and Brunswickers, about 100.

"Hougoumont," says Sir Walter Scott, "(a name bestowed by, I believe, a mistake of our great commander, but which will certainly supersede the more proper one of Château-Goumont) is the only place of consideration which was totally destroyed. The shattered and blackened ruins of this little château remain among the wreck of its garden; while the fruit-trees, half torn down, half fastened to the walls, gave some idea of the Dutch neatness with which it had been kept, the storm of war approached it. The garden-wall being secured by a strong high hedge, it is supposed the French continued the attack for some time before they were aware of the great strength of their defences." "Its broken walls," adds the lady from whose work we have already quoted, "and falling roofs presented a most melancholy spectacle; not melancholy merely from its being a pile of ruins, but because this vestiges it presented of that tremendous and recent warfare by which those ruins had been caused. Its huge blackened beams had fallen in every direction upon the crumbling heaps of stone and plaster, which were intermixed with broken pieces of the marble flag, the carved cornices, and the gilded mirrors that once ornamented it."

A countryman, with his wife and children, inhabited a miserable shed among these deserted ruins. This unfortunate family had only fled from the spot on the morning of the battle. Their little dwelling had been burnt, and all their property had perished in the flames. ** It is a remarkable circumstance that amidst this scene of destruction, and surrounded on all sides by the shattered walls and smoking piles of this ruined castle, the fire沒有 spread to the château stood uninjured. Its preservation appeared to these simple peasants an unquestionable miracle; and we felt more inclined to respect than to wonder at the superstitious veneration with which they regarded it." Sir John Sinclair remarks that the tower was burnt, and that the fire penetrated to the chapel. "The guide," says he, "pointed out to me **Circumstantial details of the Battle of Waterloo.
The facilities for intemperance which are so abundant in our own: no gin-shops exhibit their splendour in the midst of the ruin and wretchedness they occasion; nor do any beer-shops stand always ready with open doors to receive those who require more diluted and less reprobated stimulants than those which gin-shops offer.

Here, then, we have just the opportunity we could desire to see the operation of some legal restrictions as so many persons in this country wish to see adopted. It is particularly desirable that this matter should be properly stated, because the example of the Moslems has been expressly held up to our imitation. In the report of a speech recently delivered at Liverpool by a gentleman who is entitled to our respect and our best thanks for the ability and zeal with which he has pleaded to promote temperate habits among the people, we find the following passage:—

"He became a land traveller. He passed through Egypt, Palestine, Mesopotamia, and Arabia, and ultimately settled in India, where he lived six years. In the course of these journeys he passed twice over-land to India, and twice back. It occupied him three years. The distance he travelled could not have been less than 30,000 miles. He visited the populous metropolitan cities of Cairo, Damascus, Aleppo, Ispahan, some of them containing more inhabitants than London; and the number of people he saw could not have been less than 3,000,000; but in all the time occupied in travelling 30,000 miles, he had not seen twenty drunken persons. To these countries the remarks he had made respecting the European nations would apply with tenfold force. The Europeans had at least Christianity for the basis of their religion, and they had something like political freedom; but these people were Mohammedans,—they were subject to uncontrolled despotism,—their women slaves, absolutely and entirely slaves; and yet, notwithstanding their gross and miserable inferiority in religion, in political rights, and in social and domestic life, they were still our superiors in this matter of sobriety. When he landed at Portsmouth, he had not spent three months, not to say three years; he had not gone thirty yards, not to say 39,000 miles; he had not seen 300 people, not to say 3,000,000, when he saw fifty drunken persons."

This would certainly leave us to infer that the strong legal restrictions of the Mohammedan law have been attended with complete effect; and it is not to be denied that the historical part of the statement is in its literal signification quite accurate. One may traverse the streets and bazaars of that country together without encountering a single drunken person; but any inference from this circumstance in favour of the sobriety of the people is entirely at variance with the impression which a very slight knowledge of their real character and actual habits will convey. The truth of the matter is, that the severity of the law, and the certain punishment that attends the open breach of it, makes drunkenness a secret sin, and consequently gives to the streets that sober and decorous appearance by which a stranger is, for a time, liable to be deceived into the belief that the inhabitants are a most temperate people. This would be a very erroneous impression; and a more careful view will make it manifest that while inebriety is at least as common as in England, it is followed by consequences quite as injurious to the body and estate, and is attended with greater penalties.

The sets of Mohammedan Asia may be comprehended in two classes. The first are those persons...
who are so far intimidated by the spiritual and temporal denunciations against transgressors, that they dare not mention it. Now, as it regards the Moslems, we must say that in respect to the employment of intoxicating drinks, or solids, there is no such thing as "temperance" among them. There are but two classes, abstinent persons and intemperate persons. This requires to be explained.

A very large number of persons, both in Turkey and Persia, overcome the scruples of conscience and the dread of shame, which leads others to abstain altogether, or makes them content with opium, or leads them to seek the sanction of a physician: they indulge freely in wine and in arrack, or rakie, a strong spirit distilled from the skins of grapes, figs, &c. When the simple has once been overcome, they omit no opportunity of indulging in their potations, and they do so to an extent which would astonish even the hard drinkers of England—an extent only limited by absolute inability to drink more, or by the exhaustion of their supply. The reason of the excess to which they carry the matter when they drink at all, is very obvious. The restrictions under which they labour preclude them from moderation. They know that with the first sip they have transgressed their law, and have rendered themselves amenable to all the penalties of such transgression. In such a case as this the barrier is everything: that being broken through, they plunge into the most appalling excess, in the conviction that, to use their own phrase, "there is as much sin in a glass as in a flagon." The same compromise with which the Moslem is familiar to our ears in an English phrase, "as well be hanged for a sheep as a lamb." We are persuaded that this will everywhere be more or less the result in proportion as the barrier is more or less distinctly defined. If we distinctly mark the barrier, there will be on one side of it a large body defying a law which its own severity has made impotent; and when, as in this instance, we so narrow the boundary between permitted and forbidden things, that with one light and easy step the Rubicon is overpassed, we so far afford facilities to sin and crime; for nothing can be more true than that a man who has once been led to the loss of his self-respect, or has in any one instance passed the line which separates those who transgress the law from those who are obedient to it, is brought into a state in which there is danger that his transgressions will not be limited to that offence in which he has originally sinned. It therefore behoves us to be in the highest degree careful that we do not draw too fine a line between that which we allow and that which we prohibit. There would on this score be some danger in the pledge of the tea-totalers in temperance societies if that pledge were not voluntary.

On the other side of the barrier—under a severely restrictive system,—will be a large number of persons who, like the opium-eaters in the East, will, either from necessity, or from the desire to stand well in the world, abstain only in the name of religion, or from the fear of transgression. These two classes—those who transgress both the letter and spirit of the law, and those who transgress the spirit but observe the letter,—constitute together a mass of intemperance under the severely restrictive system of Mohammedan Asia, fully equal, at the least, to that which in this country it is hoped that restrictions will diminish. We do not hope this; but we do hope that the same good work already operated in diminishing intemperance will continue their operation, until drunkenness becomes a vice known only among thieves and vagabonds.

* * *The Office of the Society for the Diffusion of Useful Knowledge in 29, Lincoln's Inn Fields,
LONDON.—CHARLES KNIGHT, 29 LUDDITUDE STREET.
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Roman Aqueduct and Castellum at Evora, in Portugal.
We recently gave our readers a view and a short description of the beautiful Temple of Diana at Evora, and we now present them with some more interesting antiquities which exist at the same place.

Our engraving represents a portion of the fine old Roman aqueduct, terminating towards the town with a circular castellum. These castella or castles answered more than one purpose. In the long water-courses and numerous aqueducts that supplied ancient Rome, they were erected at certain distances from each other as lodging places for soldiers, who were charged with the protection and guard of the important works; and hence, in all probability, they derived their military name. Some of them were occupied by masons and builders constantly at hand to keep the aqueducts in repair, while others again merely served as fountains or conduits where the water could be procured and drawn off by means of pipes and cocks. In this latter sense, the old grey-stone building that used to be seen some years ago in the Pentonville fields near to White Conduit House, which place of entertainment took its name from it, was once a castellum, or, as we call it, a conduit, a term that equally implied an aqueduct or the pipe or cock at which water was drawn off. The tower at Evora is also a castellum of this sort. In the interior of it there is a reservoir to hold part of the water conveyed across the country, and from these places water is sent to the town. The water is conveyed on the spot, whilst other tubes carry water to the town under ground convey the fluid to different fountains and cisterns within the town. In too many instances in Spain, Portugal, Italy, Dalmatia, and other countries where the ancient Romans left almost imperishable evidences of their sway, in the stupendous buildings they erected, works of similar public utility have been suffered to go to decay and become useless; but here both aqueduct and castellum are well preserved, and as useful as ever; and the modern inhabitants of Evora still drink the wholesome water that was brought to the place by art and industry some eighteen hundred years ago. The aqueduct is built of stone mixed with hard marble-like mortar or cement. The castellum is most neatly constructed of brick, and coated over with the almost imperishable Roman stucco. These ancient bricks are altogether different from ours. They are flat like paving-tiles, seldom more than two inches thick, and as hard and as thoroughly baked as the solid clayey substance called terra-cotta. They are laid down horizontally, or on their flat sides, and the cement or mortar placed between them binds them together with wonderful strength and compactness. Walls and even vaulted roofs composed of these materials are frequently found in the most perfect state of preservation, when the parts of the same or some contiguous ancient edifices that were built of stone are mouldering away or in ruins. The fragility, the perishableness which attaches to most of our modern brick buildings has nothing in common with the ancient Roman walls of brick, to the quality of which, in a country where stone and marble are scarce, our builders and architects would do well to turn their attention. The walls of the castellum at Evora are as perfect as if they were built yesterday, and indeed much stronger, for the cement hardens with time.

The plan of this building, which will be better understood from our engraving than from words, is circular; its greatest circumference, not embracing the surrounding columns, is thirty-six feet. The columns, which are eight in number, are of the Ionick order, and the intercolumniation there is a niche: and a door in one of these niches gives access to the re- voir of water and the interior of the building. The second story of the Castellum is decorated with Ionic pilasters, between which are apertures to admit light and air. The top of the building is covered with a hemispherical dome.

There is another and more modern object at Evora which generally attracts the traveller's notice, and which is considered by many of the natives as far more curious than their Roman antiquities. When Mr. Murphy was there about half a century ago, and busily employed in making drawings of the temple and aqueduct, he was asked whether he had seen that wonder of Portugal, the human-bone or charnel-house in the Franciscan Monastery. On replying that he had not, his interlocutor, with the pride of a Cicero, said, "Well then, Mr. Stranger, you have seen nothing! so come along with me." Murphy went; and after passing through the body of the Franciscan church, was ushered into a gloomy, horrible vault, over the arch of which he read the following somewhat startling inscription:

"We whose bones are here are expecting your bones."

This dismal apartment is about sixty feet long and thirty-six wide. On each side of the nave are four large, broad piers, and all the eight piers are completely covered over with grinning skulls and human bones, which are fastened upon them with a hard and rough stucco. Such exhibitions of the miserable remains of mortality are repugnant to our feelings; and the fact is as true as I can say, that those who may not in deed witness them, yet both the head and the heart are affected. There is nothing more terrible than the noise of bone grinding on bone, the bones that are always moving, the bones that are always crumbling and changing shape; and the groans and moans of those who are tormented there. But the most remarkable circumstance is, that, in this vault of flesh-eating, the bones of every species of animal are found, from the human to the wild ass, to the ape, to the dog, to the cat, to the bat, to the spider, to the fly, to the worm. It is thus in the most literal sense that the bones are here expecting the bones of Mr. Murphy. The place is an excellent, most well-kept, and interesting object, and should be seen. The corpse of a lion, a provoking show, has been placed over the door, and a large monster of a skeleton was the object of curiosity when the boys were at Lisbon. Whether by the means of such places the human spirit is thus resolved to a cheap and ready stimulant, when anything in excess is at hand, or whether it is not permitted, I am not prepared in the present circumstances to determine.

Evora is about eighty English miles from Lisbon, lying a little to the south of the high road from that capital to Badajoz and Madrid. Besides several Roman remains, some interesting Celtic ruins and ruins are found in the neighbourhood of this ancient city.

WINE.

[From a Correspondent.]

VARIOUS causes concur in producing that tendency to excess in drink, which is unfortunately so prevalent. Among them may, perhaps, be reckoned the labourious and close application, in some form or other, of almost all classes in this country, whether directly engaged in business or not; the gradual extinction of what may be called " the amusements of the people;" then the nature of our climate, unfavourable to off-door relaxation; the scanty supply of cheap fruit, except for a short season in summer, &c. &c. It is by no means meant to be insinuated that industry is an evil, or that popular amusements and the like are unmixed good, but merely (to use a comparison) that the bow long drawn to the head of the shaft is too liable to relax itself violently in the opposite direction. Ancient spirit is thus resorted to as a cheap and ready stimulant, when anything in the shape of indulgence is permitted. A comparatively small quantity of such liquor soon affects the head—perhaps the drinker sat down without any intention of being guilty of excess, but self-command being gone, drunkenness, with all its distressing consequences, ensues, and eventually those coarse stimulants are found to amount to a higher price, in time and money, than even choice wines.

Going a step higher, and looking round among that class which consumes Spanish and Portuguese wine (as they are called), though the scenes of " Gin Lane" may not indeed be witnessed, yet both the head and the health are too often affected. The reason is obvious. A few glasses only of those wines (as they come to us) from the quantity of brandy contained in them, produce an unhallowed excitement, which leads to injurious consequences. It is manifest that temperance societies, however excellent, do not reach the seat of the evil. Akin to them in principle, a counteracting measure may be re-
commended as apparently of much importance, though hitherto almost wholly neglected by the friends of national sobriety. This measure is,—the substitution of a light, cheap, and pleasant beverage for the odious drinks so common in this country. People of all classes will consume fermented liquor of some kind. Everywhere drinking, of one description or other, is now associated with fooleries, porters, and parades; and generally. No valid reason, indeed, can be produced against the use of a jug of wine any more than against making a hearty meal on roast beef. Each admits equally of abuse, as well as every other bounty of Providence, and both must be reckoned in the class of luxuries, not in that of necessaries. The overloading of the stomach, or the intoxication of the brain, are the evils to be deprecated, not the moderately allotted to keep under intoxication, and on the same liberal use. It is even desirable, for obvious reasons, that the enjoyment of wholesome and pleasant drink, in moderation, should be extended to all classes of society. There can be no impropriety in referring on this occasion to the many passages of Scripture in which the use of wine is spoken of with approbation, while its abuse is reprobated. Our nation having, from various causes (the want of brandy wines, the price of wine in France, a principal one,) been almost forced into the use of liquors which contain much alcohol, a small quantity of any of them affects the head (as above indicated), and thus persons become inebriated without being aware of their danger. It is quite unfair to say, that we are resolved to get drunk on something, and to contrast us with other nations in this respect. Livy and various other writers describe the Gauls, the ancestors of the modern French, as being much given to intoxication; as eagerly buying wine of the Italians at any price within their reach,—not excepting that of selling their children in order to procure the beastly gratification. This was before the wine was cultivated in France. The Italian dealers most probably brought heady wines, with a view to take advantage of the drunken moments of their customers. The French of our day, having at hand a light beverage procured from their own vineyards, are, and their nation long has been, eminent for sobriety. The progress of civilization, it is true, must not be lost sight of in the account, yet the uncounteracted tendency of the people is not the less observable. The South Sea Islanders, again, notwithstanding their exquisite climate, and many other advantages, fall into shameful intoxication which, for domestic use, is never given. A man has spent much time in the wine countries of Europe must have observed that intoxication is very rare there, and at the same time that the inhabitants consume a good deal of wine. These two conditions are perfectly compatible. The wine drunk in those districts is indeed "wine,—not the "liquid fire" sent to us from Spain, Portugal, and Madeira. The Spaniards and Portuguese, nations proverbial for sobriety, would not themselves touch the wine prepared by them for the English market,—a preparation adapted to a factitious taste. Since, then, it is neither possible nor desirable wholly to dispense with fermented liquors, it becomes an object of no slight importance to place before consumers of all classes, or before as many as possible, a beverage at once palatable, light and cheap,—a pleasing but safe stimulant. Such a beverage, in the present state of the market, might be expected to be awaited with interest and surprise. Numerous districts in Europe are both able and of course very willing to supply us with palatable and wholesome wines of low price. These could be sold in England at a rate not beyond the means of the mechanic, and at the same time remunerating to the several dealers,—a rate much below what is too often now bestowed on gin and other vile liquors. A few enterprising wine-merchants, unshackled by the routine and prejudices of trade, might, by a personal examination of the wine countries, introduce to their countrymen an excellent and cheap beverage, and, at the same time, open for themselves a lucrative branch of commerce. The enterprise—the first exertion only—is wanting, and the persevering merchant would truly earn for himself a civic crown. Bottling would probably not be necessary. The wine might be kept for use by the retailer in small casks, and drawn off at once for the consumer like beer. The practice of mixing wine with cold water (as is usual in wine countries) would in time be adopted. It may be said that such wine would not bear the sea voyage: this is altogether untrue, as the experience of many a private importer and trader proves. We have had ships, not the richest, which would derive much benefit from this commerce, since light wines for them would thus be obtained cheaper and in greater variety. The present uniform duty is not, however, an insurmountable obstacle. As the subject seems well entitled to the attention of our rulers, government might materially forward the end in view by adopting a graduated scale of duties on wine; and should the measure be properly followed up, there can be no doubt that such a change would ere long take place. A uniform duty of 5d. per gallon is a great check to the introduction of cheap wines for general consumption. Merchants, under the operation of such a fiscal regulation, naturally enough confine themselves to importing the highest-priced and most noted wines. An ad valorem scale is no doubt attended with inconvenience to the consumer, but the desired end renders it well worth while to encounter this, or even a greater, difficulty. There is also another consideration of no small weight. An extension of the wine trade would lead, inevitably and as a thing of course, to a corresponding introduction of our manufactures into the wine countries. This latter object, confessed by all to be so desirable, would be much more readily attained by taking in our commoner wines than by all the commercial treaties ever devised.
The use of spirits otherwise than medicinally is of comparatively recent introduction. When something less heavy than wine was looked for, in the progress of wealth, and its concomitants, the rum of our colonies and the brandy and Hollands so readily smuggled over the Channel from the continent, afforded too ready a resource. French wines required too much room for extensive smuggling; and a perverse policy excluded them in the regular way of commerce. Our own distilleries, too, soon completed the mischief.

It may be said that small liquors is a much abused beverage as it is a beverage. Taken with manner habitually by all classes, and especially by the laborious, it is very salutary, and this is its proper use; but it is not a holiday drink, and when used on such occasions too often stupifies and becomes the cause of as much intoxication as gin itself. Its effects are almost precisely the reverse of those of tea, and this is a pretty good test. In short, in England it has been tried as a preventive of intoxication and found wanting. Tea and coffee, too, be it remembered, though both most excellent in their way, cannot well be used cold, nor without the additions of milk or sugar, or both. Wine requires no addition, or none beyond cold water. It is worth while to quote here the opinions of a man of great practical wisdom in all such matters,—the late Mr. Jefferson, President of the United States. "I am persuaded, that were the duty on cheap wines put on the table, the nation would drink more there with their dinner; it will increase the large field of those who use wine, to the expulsion of whiskey. The introduction of a very cheap wine (St. George) into my neighbourhood, within two years past, has quadrupled in that time the number of those who keep wine, and will ere long increase them tenfold. This would be a great gain to the treasury and to the sobriety of our country."—Jefferson's Mem., &c., vol. iv., p. 78. Again, "I rejoice as a moralist at the prospect of a reduction of the duties on wine by our national legislature. It is an error to view a tax on that liquor as merely a tax on the rich. It is a prohibition of its use to the middling class of our citizens, and a condemnation of them to the poison of whiskey, which is desolating their houses. No nation is drunker where wine is cheap; and none soberer where the dearness of wine is an ardent spirit. It is, in truth, the only antidote to the bane of whiskey. Fix but the duty at the rate of other merchandise, and we can drink wine here, as cheap as we do grog; and who will not prefer it? Its extended use will carry health and comfort to a much enlarged circle. Every one in easy circumstances will prefer it to the poison to which they are now driven by their government. And the treasury itself will find that a penny a piece from a dozen is more than a groat from a single one. This reformation, however, will require time. Our merchants know nothing of the infinite variety of cheap and good wines to be had in Europe; and particularly in France, Italy, and the Grecian Islands."—Ibid. p. 329.

Perhaps the government of a country cannot more effectually discharge its high duties than by a careful attention to such matters; since, according to the way in which they are treated, they become the germ of so much good or evil to all classes. Akin to the same subject is that of relaxations, or amusements generally for the working-class, and that next to them. The abridgment of these things may be carried too far, and probably has been so in this country and in the United States. We reproach the French and some other nations with their luxury, their fondness for convivial institutions. Their meetings, however, are ever accompanied by courteous manners and sobriety,—our own by coarseness, and too frequently by intoxication.

DIEPPE.

DIEPPE is a sea-port town of France, situated between two rocky mountains, at the mouth of the river Arques, which empties itself into the British Channel. The ancient division of France into provinces, Dieppe belonged to Normandy; but the more recent division into departments renders it one of the towns of the Lower Seine, and the principal place of a district of its own name. It is distant 90 miles N.W. from Paris, and 140 miles S.S.E. from London.

The town is not very ancient, and originated with the rockymountains, at the mouth of the Arques, which afforded an advantageous situation for the prosecution of their employment. It began to figure in history towards the end of the twelfth century, it having been destroyed and its vessels burnt, in the year 1196, by Philip Augustus, during the quarrels between him and Richard Cœur de Lion. The houses seem, however, to have been soon rebuilt, and the other disasters repaired. Previously to the reign of Charles VII., Dieppe, with the rest of Normandy, remained in the possession of the English; but, in the year 1433, it was taken by the French; and although, about nine years after, Talbot besieged it with powerful artillery, his attempts to retake it were rendered abortive by Dunois, who threw himself into the place, and was speedily succoured by the Dauphin, son of Charles VII. In the fourteenth century Dieppe had not attained its present importance. It chiefly depended on its commerce; and at a later period, under Francis I., it possessed an immense maritime commerce. Ango, the principal of its privateering chiefs, covered the sea with his vessels, and sent armed squadrons, at his own expense, to chastise the powers which had insulted his flag, and treated with their ambassadors as an equal. Some of the most remarkable commercial enterprises of these times emanated from Dieppe. In 1633 the English fitted out an expedition to the coasts of Africa, where they afterwards built forts and established a considerable trade. France also owed to them its first establishments in Canada, and the foundation of Quebec; and they have the honour of numerous geographical discoveries which we cannot here enumerate. The prosperity of Dieppe underwent a serious interruption in 1604, when it was reduced to ashes by an English squadron, which threw himself into the town, fed by an aqueduct, which is cut in the rock to the extent of three miles. The town itself is, upon the whole, handsome and well built. The streets, which are wide and straight, are for the most part composed of good and uniform houses, which are generally built with bricks, covered with tiles, and furnished with balconies. The high street, which is more than a mile in length, is particularly worthy of notice. Nevertheless the general effect of the town is of an unspeakable to an English eye. The fronts of the houses are dingy, and the windows disfigured with clothes hung out to dry. The streets, too, are indifferently paved, and are cleaned by gutters which run down the middle of each, covered with mud leading to the houses. But these are circumstances not at all peculiar to Dieppe, and are only calculated to strike an Englishman on his first arrival in the country.

The town has two suburbs, one of which,
called Le Paulet, is inhabited principally by fishermen and sailors. The principal ecclesiastical structure is the parish church of St. James, one of those which escaped the bombardment of 1694; it is a fine edifice surmounted by a tower, from which the coast of England can be seen distinctly. There are two other parish churches and a place of worship for Protestants. The place contains two hospitals, a communal college, with a library of 3000 volumes, a navigation school, a theatre, barracks for infantry, &c. Dieppe has a good stone bridge of seven arches: there are several small squares, and the ramparts afford a very excellent promenade. The castle of Dieppe is situated to the west of the town; it occupies a strong and picturesque situation, commanding at the same time the town, the valley, and the sea. Its high walls are flanked with towers and bastions; but it is, taken altogether, an irregular and badly-fortified structure. The harbour is at the opposite or eastern end of the town: it is formed by the mouth of the Arque, and though tolerably commodious, is narrow, not being fitted to contain more than 300 vessels of from 60 to 400 tons burden. It is in the form of a semi-circle, and has a depth of eighteen feet at high water, and is furnished with two very fine mole of strong brick-work, about half a mile in length.
A very excellent establishment of sea-baths was formed at Dieppe in the year 1822. It consists of two distinct parts; the first is an erection upon the beach destined to receive the bathers, forming a gallery about 100 yards in length, decorated at each end with elegant pavilions. The tents placed upon the sands, and the huts and shelter-tents, are the other portion of the establishment. The other part consists of a hotel, in which are lodgings particularly appropriated to the strangers who frequent the baths and who increase in number every year. In the town, opposite the theatre, there is another establishment, containing hot, cold, and shower baths, of both sea and soft water. This establishment also contains a large ball-room, a fine coffee-room, and a reading-room. There are not, in any country, many towns better provided than Dieppe in facilities for bathing; the importance of which to health and comfort has been hitherto so overlooked in this country.

The jutilities and maritime commerce of Dieppe suffered greatly during the last war between this country and France; but a revival has since taken place, though we have no materials estimating to what extent. A great deal of copper's work is done in Dieppe, barrels being made of Oak and lead, and copper during the salting season: there are sugar-refineries, rope-manufactories, and yards for building merchant-vessels. But the principal manufactures of the place are in ivory and lace. The laces, of very superior workmanship and reasonable prices, which are manufactured at Dieppe from ivory, horn, and bone, and which have always been considerably in demand, furnish employment to a rather large section of the population. The manufacture of lace is less considerable now than in former times, although the establishment of a school for the manufacture has given activity to this branch of employment. The following particulars relate to the manufacture as it existed previously to the French Revolution; but they are still, we believe, applicable in details though not in extent. In 1788 the manufacture afforded employment to about 4000 married and unmarried females and children, chiefly the wives and daughters of fisher-men, and its annual produce was about £15,000. The merchants sold the thread to the women, and paid them for the lace according to its value, which differed from sevenpence-halfpenny to fifteen or sixteen shillings a yard. Common lace consumed, of course, more thread than the fine bone-lace. Thus a yard of fifteen-penny lace would contain ninepennyworth of thread, while a yard of eight or nine shilling lace contained no more than threepennyworth of thread. The inferior workmanship of the lace was deemed more liable than the former to threepennyworth of thread. The inferior workpeople could earn about threepence or fourpence a day at this employment, while the more skilful might get from sixpence to a shilling a day. Small sums of these were sent; but this was fifty years ago, and in France, where the people can live on less money than here. It is its fisheries, however, which afford to Dieppe the most important branch of its trade. As it is the nearest sea-port to Paris, and is most advantageously situated for fishing on the coast, it is the natural depot of the principal part of its daily fishery. This circumstance gives great activity to this branch of employment, which occupies a large number of men and vessels. The principal fisheries of Dieppe are those of the herring, whiting, and mackerel. The fish intended for the Paris market are sent off, as soon as landed, in light carts, which travel night and day. In time of peace, there are regular packets between Dieppe and Brightling—a distance of sixty-six miles. This road is the most direct of all the routes between London and Paris, and is eighty-seven miles shorter than that by Dover and Calais. In summer, the packets pass almost daily; but, in winter, the inferiority of the harbours on both sides of the channel renders them less frequent than from Southampton to Havre.

The population of Dieppe is commonly estimated at 20,000; but the most recent authority, the 'France Pittoresque,' gives it only 17,079. The town has been the birth-place of several distinguished men, among whom the Dictionnaire Geographique', and upon which Mr. J. P. Perceval, who discovered the thoracis ductus, to which his name has been given; and Bruzen de la Martiniere, the author of 'Le Grand Dictionnaire Geographique.'

MINERAL KINGDOM.—SECTION XXXIX.

SILVER (continued).

The richest silver mine at present worked in Mexico is that of Veta Grande, four miles north of Zacatecas, on the table land, at an elevation of 6000 feet above the level of the sea. There is one great vein from eighty to ninety feet thick, in different places, but which separates in others into three and four branches. It traverses transition strata; consisting of clay-slate, grauwacke, and limestone, resting on the variety of granite called syenite, and covered occasionally by porphyry. The ores are chiefly native silver and ammonial silver, and yield on an average 34 ounces of pure metal in the quintal. It produced in 1832 160,000 troy lbs. of silver. Humboldt gives a statement founded on official documents of the produce of the mines of Mexico from 1690 to 1803, which shows that they had been consistently on the increase during that period; in the first ten years of it the average annual value of the gold and silver obtained was only 92,000l., but in the last ten years it was 4,560,000l., of which nineteen-twentieths were silver. This increase was owing to a combination of many favourable circumstances; the discovery of new mines, the increased numbers and intelligence of the population, the extension of commercial intercourse with other nations, and the reduction in the price of quicksilver,—an article of indispensable necessity in order to separate the precious metals entirely from the other mineral substances with which they are combined. He reckons that the average annual amount during the first ten years of the present century was less short of 5,000,000l. sterling; the quantity of pure silver actually produced in that time being 1,440,550 troy lbs. In treating of the agriculture of Mexico, Humboldt estimates the total annual value of the produce of the land at 29,000,000l. of piastres, equivalent to about 6,344,000l. sterling; so that the whole produce of the mines, considerable as it is, and upon which, according to a vulgar prejudice, the prosperity of the country is supposed to depend, is a fourth less than the culture of the surface produces.

But it must not be supposed, from this statement of the abundance of the precious metals, that mining adventures in Mexico are universally lucrative or even profitable; on the contrary, nineteen-twentieths of the mines afford together only about one-twelfth part of the gross produce. The three districts of Guanaxaut, Catorce, and Zacatecas alone furnished more than for half; and the vein of Guanaxaut more than a fourth of all the silver. The sums lost by individuals in unfortunate speculations have been immense; on the other hand, there are instances of individuals who got the great prizes in the mining lottery, suddenly acquiring enormous wealth. The proprietors of the mines of Valenciana in the district of Guanaxaut, became in a few years the richest people in Mexico for the produce of silver, for a period of time; from 50,000l. to 120,000l. per annum. The Count de Begla drew in twelve years from the mine of Biscuits, in the Real del Monte, above 1,000,000l. sterling; the mine of Padre Flores in the Real Catorce yielded 320,000l. clear profit the first year it was worked. The mine of Veta Grande, above-mentioned, yielded on an average of
the three years' ending December, 1831, 150,000 troy lbs. of silver, and netted to the proprietors 176,000l., or a profit of 183 per cent. on the capital invested. In the year 1532 the silver produced was 150,000 troy, and the profits were 196,000l.; in 1833 it was considerably less, but the silver regained its equal, again augmented, so that there was every appearance that it would turn out nearly as great as that of 1832.

South America.—When Pizarro landed in Peru in 1527, he found silver mines worked in several of the provinces, and the metal in very general use. "There are now mines in Peru along the whole range of the Andes, from Caxamarca to the confines of the desert of Atacama; but the richest, those of Pasco, in the eleventh degree of latitude, which have been worked since the year 1630. Here, as well as in other situations in Peru, the greatest part of the silver is obtained from the ore called paros. To form a just idea of the enormous quantity of silver in some of these mountains, it is only necessary to state, that in the mines of Pasco the ore has been worked without interruption since the beginning of the seventeenth century; and that in two years they yielded 800 lbs. of silver, while most of the mines do not exceed fifteen fathoms in depth. The stratum of limestone in which the ore is contained lies exposed at the surface over an area of three miles by a mile and a half. The mines of Chota are also very productive. They are situated in a mountain of Guayacay, which, prior to the year 1803, 41,477 troy lbs. of silver annually. In the district of Arica, on the very borders of the Pacific, at Huantajaya, there are mines of silver which are celebrated on account of the very large masses of pure solid silver sometimes found there, one of which weighed 800 lbs. The most renowned of all the silver mines of South America are those of Potosi in Upper Peru. There is a mountain of Huaynapotosi, composed of clay-slate covered by porphyry, and rising to the height of 16,000 feet above the sea, the town of Potosi itself being 2700 feet below the summit."—("Penny Cyclopedia,' Art. ANDES.) According to Herrera the silver was discovered in 1545 by an Indian hunter, who in pulling up a shrub, observed filaments of pure silver about the roots. On examination the mass was found to be enormous, and a very great part of the population was thereby drawn to the spot and employed in extracting the metal. A city soon sprung up, though in a district of unusual sterility. The produce at first was comparatively small, from the ignorance of the miners: but after they found out the method of extracting the silver from the ore by the process of amalgamation, which was brought to Peru from Mexico in 1537, it rapidly increased. It is estimated that the average annual produce from 1556 to 1578 was not less than a sum equal to 440,000l. In the next twenty-one years it fell off, the annual amount being only 260,000l. It continued to yield a comparatively small produce from its former state, for in the last fifteen years of the eighteenth century its average annual produce was only 116,600l. The political disturbances in the last twenty-five years have seriously injured this once opulent district. Captain Andrews, who visited it in 1826, says that, from a population of 130,000 at the commencement of the revolution, it had dwindled down to 11,000; that at one period there were 132 stamping mills for breaking silver, but that in 1824 only twelve were employed; and Sir Edward Temple, who visited Potosi about the same time, says that all the mines put together do not produce 123,400 troy lbs. of silver annually, or about 30,000l. in value. There are silver mines in the province of La Paz, in the ancient viceroyalty of Buenos Ayres, which yielded at the time Humboldt wrote, nearly 800,000l. annually. Silver is found in Colombia, but the mines are in general not very productive. There are veins of silver in several parts of Columbia, but no mines have yet been found sufficiently productive to pay the expense of working them.

With regard to the future prospects of the mines of South America and Mexico, Humboldt, at the time he published his valuable work on that country, was of opinion that they had by no means attained their maximum productive. That as the chain of the Andes, including their continuation into Mexico, is so extensive, and the ore of the precious metals are so generally diffused in them, there must be many places which have escaped the searches of the miners; and there are, besides, several mining grounds that are as yet worked but a little way below the surface. The most productive mines were discovered two centuries and a half after the Spaniards got possession of the country. The system of mining operations is, besides, radically defective in every branch; and if the same skill and economy were introduced, as are practised in the best mining districts of Europe, the increase of produce from that cause alone would be immense.

MACHINE DE MARLY.

"The heroes of poetry are represented as obtaining the assistance of the gods in the performance of their great achievements, but Louis the Great, alone, and without the aid of fiction, was able to force a great river like the Seine to quit its natural boundaries, and to rise over the summit of a mountain, for the supply of one of his palaces." Such is the flourish with which Belidor, one of the most eminent mechanicians of the early part of the last century, introduces a description of the Machine de Marly. It was a very great construction, and thedraughtsman, with his peculiar eye for size and great complication, which carried to Versailles a quantity of water, equal to about the twentieth part of that supplied to London by the New River Company. Much of the praise bestowed by Belidor may be, without doubt, attributed to the excessive adulation which it was then the fashion to pour out upon Louis XIV., to whose patronage the Machine de Marly owed its existence, but much also was given to the machine itself, which although it is now called "a monument of magnificence and ignorance," and would be surpassed in efficiency by one of our large steam-engines, was probably in its day a first-rate effort of power, and might have been, as Belidor says it was, "the admiration of all Europe."

This machine is, or rather was, situated upon the Seine, about twelve miles from Paris, close by a little village called La Chaussee, within a pleasant walk of the town of St. Germain. It was erected, in the year 1682, by a mechanic named Rannequin, a native of Liége. It took up the whole width of the river, completely stopping all navigation in that part of its course, and compelling the adoption of a canal, which was subsequently cut for the passage of barges.

A very elaborate and accurate account of this machine is given by Belidor, which would be quite unintelligible without the aid of the plates which accompany
his work. A general idea may be gained from the following description:—The whole breadth of the river is divided by piles into fourteen distinct water-courses. In each of these divisions there was a large water-wheel, much like those of the old London Bridge water-works, which may be remembered by many of our readers. Cranks attached to each of these wheels gave motion either to a set of chains, or to forcing pumps. By six cranks out of the fourteen sixty-four such pumps were driven, and the great force of the water forced the river through several large iron-pipes up the side of a hill which comes down nearly close upon the bank of the river, and rises to a perpendicular height of about 500 feet, at a distance of three-quarters of a mile. But these sixty-four pumps did not send the water to the top of the hill at once, as might be imagined: the engineer, either distrusting the strength of his pipes, or ignorant of the theory of mechanics, was satisfied with propelling the water at first to a height of only 160 feet, and to a distance of 200 yards from the river, where it flowed into a reservoir dug in the side of the hill, sufficiently large to contain it until sent forwards still further. Here eighty forcing pumps performed the same operation on the water in the reservoir, sending it 500 yards further to a perpendicular height of 350 feet, to be again driven by eighty other pumps as much higher, and to a still greater distance, to the top of a tower built upon the summit of the hill, whence it begins its descent to the place of its destination. The working of these pumps on the side of the hill constitutes the most unscientific portion of the machine. Instead of being placed below, near the power which sets them in motion, they are moved by a long succession of iron rods and chains, which are conveyed up the ascent of the hill at a distance of almost 1000 yards. The manner in which all this is done may be understood by conceiving a man working a pump at 1000 yards from the place where he stands: in order to be able to push and pull the pump-handle, he has some hundreds of iron-rods jointed together, and connected at the further end with the handle. When he pulls the end of the rod next him he of course pulls the whole line of rods, and works the pump; when he pushes back again, the line of bars may be retained in a straight position, by rods connected at one end with the joints of the bars, and fastened at the other to a rail fixed in the top of the tower. In this manner he works the pump, but he has also some hundredweight of iron to move at each motion of the pump; and when, as in the case of the Machine de Marly, the shafts are conveyed up the side of a hill, he has all that weight of iron to push up at every rise of the pump-handle. When the writer witnessed the action of the machine about twenty years ago, the sound was like that of a number of waggons loaded with bars of iron, running down a hill with axles never greased. The clanking and clanking must have convinced the most ignorant about it. That is not the question:—what is the best hydraulic machine? When the writer witnessed the action of the machine, the sound was like that of a number of waggons loaded with bars of iron, running down a hill with axles never greased. The clanking and clanking must have convinced the most ignorant person that the expenditure of power was enormously beyond what was required for the purpose effected. It has been estimated that 95 per cent. of the power used is employed in moving those unwieldy shafts. Such is the manner in which the water is raised to the brow of the hill, and to the summit of the tower on which it is erected upon it, at the commencement of a row of sixteen arches, or aqueducts, which begins to descend. This is by far the most beautiful feature of the whole work: from its conspicuous situation and fine effect it forms a prominent part of the landscape as seen from St. Germains, and the pleasant villages in its neighbourhood. The beauty of this aqueduct is more to be admired than its utility; for a continuation of the water-pipes to the actual summit, which lies back at a short distance from the brow of the hill, as seen from the river, would have carried the water to the required height without any additional expenditure of power: whereas, by the present costly aqueduct, the water rises to the top of the towers only to flow to the summit of the hill. The first cost of the Machine de Marly was about 8,000,000 livres, or more than 300,000$, and its annual expense, including working, superintendance, and repairs, about 80,000 livres. Taking the mean produce of the machine to be 36,000 gallons per hour, the water is delivered at a cost of about one farthing per 100 gallons, without taking into the account the cost of its erection; but if we include the interest of that sum at five per cent., the cost of the water will be three-halfpence for that quantity. The evil of working the pumps with shafts and chains at such great distances from the power acting upon them, was seen within a few years after the machine was completed; and in 1738 an attempt was made by Mr. Camus to raise the water to the top of the tower by a single lift. The attempt succeeded but partially, and the machine was much strained by the extraordinary effort, chiefly because only a small portion of its powers were used, namely, only that part of it intended to throw the water into the first reservoir; the other parts of the machine, which moved the shafts and chain abovementioned, not being applicable for the purpose. But even this comparatively small force raised the water to the foot of the tower, and thus demonstrated the practicability of completing the work at one expense, if the other parts of the machine should be adapted accordingly. Nothing more, however, was done for nearly forty years, and the machine proceeded as before. In 1775, another trial of the power of the machine was made, but this time it was only to raise the water to the second reservoir; this succeeded, and a plentiful supply of water reached the reservoir. It was now hoped that the first reservoir at least would be dispensed with; but many of the old pipes bust from the undue strain upon them, and financial difficulties impeded their renewal, and the old plan was once more resorted to. The machine at last fell into decay, and was replaced by a steam-engine of sixty-four horse-power, the finest work in existence, according to Soy, who relates the following anecdote on the subject:— Versailles being on the point of wanting water, Napoleon sent for the chief engineer and some learned members of the Institute, and inquired of them what was the best hydraulic machine? 'Sire, that depends on circumstances.' 'That is not the question:—what is the best hydraulic machine?' 'But, Sire, if Nature supplies the moving power——' 'That is not my question:—what is the best hydraulic machine?' 'Sire, taking the question abstrusely, the steam-engine.' 'Make me a steam-engine, and let us hear no more about it.' The machine was made at an expense of 2,500,000 francs (about 100,000£), and it consumes 610 lbs. of coal per hour. We must add to this anecdote of Soy that, although the power was changed, the old pipes, reservoirs, shafts, and chains, remain in all their imperfections. The only improvement that we are aware of, is that the pipes, which some years ago, formed an unsightly object above the ground, are now concealed by being sunk some inches beneath the surface, and such parts as have decayed are renewed or repaired.
The Lynxes form a small section in the very extensive genus felis, or cat tribe of animals, in which they are principally distinguished by the length of the fur, the shortness of the tail, and by the brushes of hair with which their ears are furnished. There are several varieties in this species, distinguished from one another by differences in the size of the animal, in the length and colour of the fur, and in the length of the tail and of the brushes of hair which decorate the ears. Some of the circumstances of difference appear to be merely the result of climate. Thus, as it regards the fur, which is in general much esteemed, as an article of commerce, for its warmth and softness, it is observed to be lighter in colour, and more distinctly spotted, the nearer the habitat of the animal is to the north. Others, again, are smaller, have less fur, and show the dark colour more distinctly. It also appears that the fur of the same animal differs very much in different seasons of the year. In this, as in other species of animals, varieties seem to have been unnecessarily multiplied by a reference to mere accidental or unessential circumstances; and one of the first effects which may be anticipated from a more diffused knowledge of the principles by which observations in natural history should be regulated, will be to diminish rather than to enlarge the number of the varieties which many species of animals have been supposed to contain.

The lynx is about the size of a moderately large dog, measuring about two feet and a half from the head to the commencement of the tail, which is about six inches long, being shorter than the thighs. The height to the withers is from sixteen to eighteen inches. The legs and feet are very thick and strong; and the eyes, which are proverbially piercing, are of a pale yellow colour. The long and soft fur is generally of a bright red colour, marked on the back and limbs with blackish-brown spots; three lines of black spots on the cheeks join a large black oblique band on each side of the neck under the ear; the fur of these parts is longer than elsewhere, and forms a kind of lateral beard. The forehead and top of the head are dotted with black; and on the top of the neck there are four lines of the same colour, the middlemost of which is broken and interrupted. The dark spots form two oblique bands on the shoulders, and transverse bands on the fore-legs. The feet are yellow and without spots, but the tarsus of the hind-feet has a brown band. The outsides of the ears are black at the base and tip, and ashy in the middle. The tail, which is yellowish-white underneath, is tipped and ringed with black. The fur inclines to white on the throat, breast, and belly, and the eyes are surrounded with white. This description must be understood to apply generally to the common lynx, and even in this there are considerable departures from this general standard. Some have the spots only of a little deeper red than the ground colour, and in
The lynx was formerly spread over the Old World. It was common in France, and has only disappeared from Germany at a comparatively recent period. It is still found in the north of Europe, and even in Portugal and Spain. Cuvier describes one that was killed within a few leagues of Lisbon, and M. Bory de St. Vincent mentions that he frequently met with them in the central and southern mountains of Spain. They then appear to have been a good deal smaller than now, and their colours are remarkably vivid. It is very common in the forests of northern Asia, and in the Caucasus. That which inhabits the more southern parts of Asia, and is found in Africa, is a rather distinct variety called caracal, a contraction of the Turkish name kara, black, and kulack, ear. It is chiefly distinguished by its uniform vinous red colour, by its ears, which are black both without and within, and by a longer tail than any other lynx possesses. America is known to have two, or perhaps three, varieties of the lynx. The first is that which, after Buffon, is called the Canada lynx. Its colour is grey, its tail is longer than that of the common lynx, and the hairs on the ears are shorter. Some individuals have the fur so thick and long, especially on the paws, that they have a very different appearance from the European lynx; the identity of which with this species is asserted by some naturalists and disputed by others. It is found in great abundance in the districts about Hudson's Bay, from whence from 7000 to 9000 skins are yearly exported. It is a timid creature, and makes but slight resistance when brought to bay by the hunter; for though, like the cat, it spits and erects the hair on its back, it is easily destroyed with a slender stick. The other variety (felis rufa) which is found in the United States, is smaller than the one just mentioned. It has the form and distribution of spots of our European variety; but the ground colour is grey; its spots are more numerous, deeper on the back, and paler on the sides and limbs.

In their manners and habits of life the varieties differ little from one another; but the following observations will be understood as more especially applying to the common lynx.

The physiognomy of the lynx is rather gentle than savage. Alluding to ancient fables, Buffon remarks, "Our lynx is not able to see through walls, but it is quite true that he has very brilliant eyes, with a mild look and an agreeable and cheerful air." The animal may be considered much less ferocious than most others of the genus to which it belongs. It has the soft stealthy walk of the cat, and leaps or bounds in the same manner. It lives by hunting, and often follows to the tops of the highest trees the wild cats, martins, ermines, squirrels, &c., which form its customary prey. It also watches the approach of deer, goats, hares, and other animals, and as they pass, drops down upon them from the branches of trees, which they commonly do in order to obtain food; it is mentioned that it frequently digs under the doors to gain admission to the sheep-folds. When urged by hunger, it has been known to prey even on its own species. It is passionately fond of blood, and when it has secured its prey is said frequently to suck the blood from the throat, and then leave the carcase otherwise untouched, to go in search of another victim. It perhaps arose from this, that the lynx has been said, in old fables, to have the least memory of any animal—a statement quite contrary to the other very extraordinary particulars concerning it which for a long period formed a part of the popular belief, and are still prevalent amongst ill-informed people. It is said that when the lynx devours any part of a goat or sheep after having sucked the blood, the brain, the liver and the intestines are the portions which it prefers. The caracal, which is a native of warmer climates than those in which the common lynx is found, presents some peculiarities in its mode of obtaining food, which it may be here desirable to state. It appears that although its disposition is considerably more ferocious than that of the common lynx, it does not like the trouble of taking its own prey, but, when opportunities offer, follows the lion, and feasts on the remains of his meal. Like the lynx, it is said to be provided with a stalk to reflect the lion to the prey of which it afterwards partakes, and it has hence been called the "lion's guide or purveyor." It is said to approach very near to the lion with considerable boldness, which is accounted for by the consciousness of security from the anger of the lordly beast which it derives from the facility with which it can escape up the trees where the lion cannot follow. It is observed, however, that the caracal studiously shuns the panther, as that animal is equally well adapted for climbing with itself. These circumstances do not perhaps denote any inherent difference of habits between the caracal and the common lynx, but may have resulted from the accident of the existence of the former in the same countries with the lion. The absence of the lion from the countries inhabited by the lynx necessarily precludes the latter from the advantage enjoyed by the caracal. We mention this because it is useful to remember that when similar animals have, in different climates, different manners of life, it is not necessary to infer a corresponding difference of properties or dispositions, unless we find that there are no external circumstances which adequately account for such differences as actually appear.

The sight of the lynx is certainly very quick, and it sees its prey at a great distance. Among the thousand marvellous stories which the old naturalists relate, and which the ignorant and credulous have been willing to believe, one was, that the lynx could see through opaque bodies; and another, that its urine was converted into precious stones. There was a time, not very remote, when, in mentioning such old fables, it would have been necessary to have said something to disprove them; but we are thankful and happy that at the present time this is perfectly unnecessary.

The howl of the common lynx has a considerable resemblance to that of the wolf. When assailed, it is by no means so passive as the lynx of Canada. When attacked by a dog, it lies down on its back, and strikes so desperately with its claws, that it frequently compels the assailant to withdraw. This is true also of the caracal; and Dr. Charleton mentions one that killed a hound, and tore it instantly in pieces, notwithstanding that it made a most vigorous defence. The lynx is, in general, exceedingly ferocious in a state of captivity; it frequently expresses its malignity by a kind of snarling scream, and is seldom or perhaps never tamed. In the East the caracal is sometimes partially tamed, when taken young and reared in the same countries with the lion. The absence of the lynx from the countries inhabited by the caracal necessarily precludes the latter from the advantage enjoyed by the caracal. We mention this because it is useful to remember that when similar animals have, in different climates, different manners of life, it is not necessary to infer a corresponding difference of properties or dispositions, unless we find that there are no external circumstances which adequately account for such differences as actually appear.

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Some naturalists have taken the trouble to inquire which variety of the lynx the ancient writers had in view in their various descriptions, and in the fables to which we have alluded. We quite concur in the view that the author of "The Fables" took one of its writers. After mentioning the fables in question, he says:—"This lynx is a fabulous animal, as well as all the properties attributed to it. This imaginary lynx has no resemblance to the true lynx except in the name. It does not there-
BURIALS IN RUSSIA.

This belongs to a class of subjects which the writer of this article can never approach without becoming conscious of the extent to which travelling among various and dissimilar nations has enlarged his sympathies for all mankind. He was not long in learning that the best and most beautiful feelings of our nature are not limited to place. So far as he has had opportunities of observing, they are nearly equally strong in all places; and, to his mind, those persons are greatly mistaken who imagine that in the differences of external observance they are able to trace analogous differences in the feelings which such observances are intended to indicate,—not considering that the observance is no part of the feeling itself, but is a variously ornamented trapping or covering to a feeling which is the same in the heart's core of all people. This view does not allow us to consider funeral ceremonies and customs as other than external indications of habits or modes of thinking. They teach us in what point of view a people regard death; but they do not teach us in what point of view they regard the dead. When we think on the matter, this distinction seems clear enough; but, unhappily, we do not think—we act and judge too much on mere impressions; and our impressions are of course mistaken if it were not so, we should be no more surprised to discover that all the generations of man are similar in the better feelings of their nature, than we should be to find that their physical organs are in all places the same. As it was in Russian churchyards that the writer was first led to view this matter aright, these observations do not seem to him unfruitfully introduced in this place.

On reviewing the funeral observances of the Russians, it does not appear to us that they are exposed to the charge of treating their dead with disrespect. Should any of the details we have to furnish, however, appear to warrant this imputation, we would recommend to consideration a sentence on this subject in Tooke's excellent book on Russia:—"The dead are sincerely and long lamented by their relations and friends; but, from a natural repugnance to the idea of interment, they take no part in the ceremony of interment, the attendance is unintermitted, the processions are intended to indicate,—not considering the abridgment, from Rae Wilson.

On the day of interment, the body is attended to the church by priests, who bear crosses and lighted tapers, and chant hymns all the way. Other persons in the procession also carry tapers, which, indeed, make a great display in all the ceremonies of the Russian Church. The details vary with the circumstances of the deceased. Black clothes, for mourning, are only worn among the upper classes, the lower classes generally wearing their ordinary dresses. If the deceased was in good circumstances, the corpse is sometimes attended by a group of singing-boys, one of whom

*To guard against any inference as to the rank of the deceased, it is necessary to mention that stars, crosses, medals, &c. are about as common in Russia as watch-chains in England.
bears a gilt case, containing an image of the Virgin Mary. The persons who attend the funeral always walk, whatever be the distance; while the body is either borne on men's shoulders or taken in a sort of car drawn by horses. Sometimes as many as six horses are employed. The horses are covered with black cloths, and the positions and drivers on the box are bareheaded. The coffin is still without the lid, being only covered with a pall.

At the church, a short service for the dead is read by the principal priest present. Part of the service consists of chanting, which sometimes is very impressive, though it consists only of a constant repetition of the words "Ghospodipomilui!" or, "Lord have mercy upon us." After this, the priest reads over the corpse a form of absolution, which is so turned as to be in fact a prayer that the deceased may be absorbed from all his offences, on the assumption that he repented of them before death. A copy of this prayer is then deposited in the coffin with the body. Until of late years, this document has been described as a passport entitling the bearer to be admitted into Paradise; and many are the sneers in our older travellers against this absurdity. The archbishop Platon took an opportunity, at the funeral of Prince Muszintz, of this matter to Dr. Clarke:-"This is what all you foreigners call the passport; and you relate, in absurd tales of miracles performed in vindication of Dr. Lyall confirms this statement, and gives a copy of the document employed on such occasions, with an English translation. It must be allowed, however, that thus to place a paper in the coffin after it had been solemnly read over the corpse by a priest, was well calculated to give to strangers, unacquainted with the language, the impression which had so long been entertained. This paper is not given to those who perish by the accident of birth, or at the hands of assassins.

After this, the priests, the friends of the deceased, and his domestics, if he had any, walk round the coffin and kiss the corpse. The lid of the coffin is then fastened down, and the body taken away to the place of interment. The concluding ceremonies are sometimes reserved until the corpse arrives at the grave.

At the beginning of the year a feast for the dead is annually held. The surviving relatives then visit the graves of their deceased friends, on which they lay some victuals, and then bear mass, in payment for which the priest is entitled to the victuals left on the graves. Sorrow, however, does not limit itself to stated times and formal occasions. The writer had frequent occasion to observe, sometimes solitary mourners, and at other times family groups, including the white-bearded grandsire at one extreme of life, and the infant in arms—kept quiet by the awfulness of sorrow—at the other, gathered around some grave in a village churchyard. The graves in smoothness are only distinguished by rough unhewn stones set on end, one at the head and another at the foot of the grave, which thus conveys no information to a stranger, unless he conjectures the age or stature of the deceased from the distance between the head and foot-stones. But there are those at hand to whom these stones—on which "the unlettered muse" has not even inscribed a name and age to supply the place of "elegy and fame"—are full of significance, and are not liable to be wrongly read.

The reader may not be displeased to see an extract, on the subject of Russian Funerals, from Giles Fletcher, as given in ' Purchas his Pilgrimes':—

"In winter time, when all is covered with snow, and the ground so hard frozen as that no spade or pickaxe can enter, their manner is not to bury their dead, but to keep their bodies (so many as die all the time) in a house in the suburbs or out-parts of the town, which they call Bohsedem [Bogodiadon, according to Tooke], that is 'God's House,' where the dead bodies are piled up together like bibles on a wood-stack, as hard with the frost as very stone, till the spring time come and resolveth the frost—at what time every man taketh his dead friend, and committeth him to the ground." According to Tooke, only profligates, such as came to a miserable end, and perished without the sacrament, were at a subsequent period dealt with in this manner; and when he wrote, at the end of the last century, more consideration was shewn even to such persons.

ACCOUNT OF THE IMPOSITION OF GARNETS ON A STRAW.

[Abridged from 'Criminal Trials', Vol. II., containing an ac-

At the execution of Oldcorne and Garnet, the most absurd tales of miracles performed in vindication of their innocence and in honour of their martyrdom, were industriously circulated by the Jesuits in England and in foreign countries. But among these absurd illustrations of the superstition and credulity of the times, the miracle which was most insisted upon as a supernatural confirmation of the Jesuit's innocence and martyrdom, was the story of Father Garnet's straw. It is related at great length, and with all the detail and circumstances by Eudæmon Joannes, by Father More, and by almost all the earlier historians of the English mission (of the Jesuits). The original fabricator of this miracle was supposed to be one John Wilkinson, a young Catholic, who, at the time of Garnet's trial and execution, was about to pass over into France, to commence his studies in foreign countries. Some time after his arrival there, Wilkinson was attacked by a severe illness, from which there was no hope of recovery. A person, at the time of Garnet's trial and execution, was about to pass over into France, to commence his studies in foreign countries. Some time after his arrival there, Wilkinson was attacked by a severe illness, from which there was no hope of recovery. A person, at the time of Garnet's trial and execution, was about to pass over into France, to commence his studies in foreign countries. Some time after his arrival there, Wilkinson was attacked by a severe illness, from which there was no hope of recovery. A person, at the time of Garnet's trial and execution, was about to pass over into France, to commence his studies in foreign countries. Some time after his arrival there, Wilkinson was attacked by a severe illness, from which there was no hope of recovery.
In process of time, the success of the imposture encouraged those who contrived it, or who had an interest in upholding it, to add considerably to the miracle as it was at first promulgated. Wilkinson and the first observers of the prodigy merely represented that the appearance of a face was shown on so diminutive a scale, upon the husk or sheath of a single grain, as scarcely to be visible unless specifically pointed out. The annexed representation accurately describes the miracle as it was at first displayed.

But a much more imposing image appeared upon the middle part of the straw, both surrounded with rays of glory; the head of the principal figure, which represented Garnet, was encircled with a martyr's crown, and the face of a cherub appeared in the midst of his beard. In this improved state of the miracle, the story was circulated in England, and excited the most profound and universal attention; and thus depicted, the miraculous straw became generally known throughout the Christian world. The following sketch, which exactly describes the prodigy in its improved state, is taken from the frontispiece to the 'Apology of Eudæmon-Joannes':—

Such, however, was the extent to which this ridiculous fable was believed, and so great was the scandal which it occasioned among the Protestants, that Archbishop Bancroft was commissioned by the Privy Council to call before him such persons as had been most active in propagating it, and, if possible, to detect and punish the impostors.

The Archbishop commenced the inquiry in November, 1606, and a great number of persons were examined; but as Wilkinson, who was supposed to be the chief impostor, was abroad, and as the inquiry completely exposed the wound, though the hand that effected it remained undiscovered, no proceedings seem to have been taken to punish the parties concerned in it. It appeared upon this inquiry, that "Mrs. N., the matron of singular Catholic piety," mentioned with so much parade in the declaration made by Wilkinson at St. Omers, was the wife of one Hugh Griffiths, a tailor, with whom Wilkinson lodged; and the "noble person, her intimate acquaintance," who was supposed to have first seen the face of Garnet in the straw, turned out to be a footman named Laithwaite, in the service of a lady of quality. Griffiths and Laithwaite were separately examined by the Archbishop, and varied materially in their accounts of the transaction. The tailor, in his first examination on the 27th of November, stated that "Wilkinson had brought home the straw from Garnet's execution, and given it to him, and that he had delivered it to his wife, charging her to take great care of it, and to enclose it in something which might prevent the spots of blood upon it from becoming effaced. He further stated that his wife, with the assistance of Wilkinson, enclosed it in a glass bottle. He at first said that this was done about nine or ten days after Garnet's execution; but in a subsequent examination he corrected himself, saying that, upon consideration, he recollected that it was done on the very day on which the execution took place; but that, as Wilkinson lodged in the house for seven weeks afterwards, he might have subsequently had it in his possession. At the time of the enclosure of the straw in the bottle, and for some time afterwards, he said that nothing was seen of it. Griffiths then went on to depose, "that about the 18th of September, nearly five months after Garnet's death, he was looking attentively at the ear of straw (which he gives no reason for not having done before, except that he had not leisure), and thought he perceived a face depicted on it, which he immediately pointed out to his wife and one Thomas Laithwaite, then present." Laithwaite was then examined, who contradicted Griffiths materially, insomuch as he claimed for himself the honour of having made the first discovery, which was indeed originally ascribed to him by Wilkinson. "I was one day sitting," says Laithwaite, "by the fire in Griffiths's house, and looking intently at the straw, when I thought I saw a man's head upon it. The day was dark and cloudy, so that, as I sat in the inner part of the room, the appearance was not very distinct; for which reason I took it to the window, where I discerned the face beyond all doubt. Mrs. Griffiths wondered why I examined the bottle so industriously; upon which I pointed out the face to her, and afterwards to her husband and to Wilkinson. It was visible to all three of them, and all of them declared that they had never seen it before." Previously to the institution of this inquiry, the straw had been withdrawn or destroyed; but several persons were examined by the Archbishop of Canterbury who had repeatedly seen it, and were therefore fully capable of describing it. Among these one Robert Barnes, a gentleman of Cambridgeshire, declared, "that the straw having..."
been shewn to him by Griffiths's wife, he had discarded
of it to several persons when walking in St. Paul's, and
told them at the time, as his real opinion was, that it
seemed to him a thing of no moment; that he saw
nothing in the straw but what any painter could readily
have drawn there; that he considered it so little like a
miracle, that he never asked the woman how it was
done. "The face," he said, "seemed to him to be
described by a hair or some very slender instrument;
and that, upon the whole, he saw nothing whatever
wonderful in the thing, except that it was possible to
draw a man's face so distinctly upon so very small a
space." A painter, named Francis Bowen, who had
been shewn the straw by Garnet's devoted friend, Amee
Vaux, was also examined by the Archishop. He
made a drawing of the straw from recollection, upon
the margin of the paper which contained his examina-
tion, a copy of which drawing was published in Dr.
Abbot's Antologia, from which work the above illustra-
tion of it is engraved. Bowen said* "he believed
that beyond all doubt a skilful artist might depict upon
a straw a human countenance quite as artificially as
that which he had seen, and more so; and therefore
that he believed it quite possible for an impostor
have fabricated the pretended miracle." With respect
to the exaggeration of the miracle after this period, the
testimony of Griffiths himself, given in his first exami-
nation, is sufficiently conclusive. "As far as I could
discover," said he, "the face in the straw was no more
like Garnet than it was like any other man with a long
beard; and truly, I think, that no one can assert that
the face was like Garnet, on account of its small size;
and if any man saith that the head was surrounded
with a light or rays, he saith that which is untrue.

Many other persons were examined, but no distinct
evidence could be obtained as to the immediate author
of the imposture. It was quite clear, however, that
the face might have been described on the straw by
Wilkinson, or under his direction, during the interval
of many weeks which occurred between the time of
Garnet's death and the discovery of the pretended
miracle in the tailor's house. At all events, the in-
quiry had the desired effect of checking the progress
of the popular delusion in England; and upon this
the Privy Council took no further proceedings against
any of the parties, wisely considering that the whole
story was far too ridiculous to form the subject of
serious prosecution and punishment.

FOUNTAINS.

The very small number of fountains in London has
been mentioned by many writers as a matter of great
regret, as they considered that such erections dis-
tributed through a large town not only form great or-
naments to it, but constitute important additions to
the public convenience. We think there has been a little
exaggeration in the statement of the advantages we
might expect from the establishment of fountains. No
one can dispute that a handsome fountain is a most
pleasing ornament wherever it be placed; and on that
score we should be glad to see fountains become more
common than they are; but when we come to consider
it as a question of necessity, we cannot but see that
there is no city in the world which has so little oc-
casion for fountains as our great metropolis. It is
probably owing to the fact that London has more
than any other metropolis city, and that the results of
civilization that fountains have diminished in num-
ber. In Asia, in Italy, Spain and France, fountains
are in great abundance in every city, and as ornaments
they are often of great interest and beauty; but, con-
sidered philosophically, and with a view to their public
uses, they are but graceful modes of obtaining an end
which the united operation of climate and civilization
has rendered unnecessary to ourselves. In warm
climates fountains are indispensable, on account of the
actual coolness they diffuse around, and still more from
the refreshing sense of coolness which the sight of
water always produces. But in London the question is
not such as to render this necessary; and during the
warm months coolness and comfort in this respect are,eyond all comparison, more effectually promoted in
London by the regular watering of the streets, than
it would be if it contained within itself all the fountains
of other European cities.

But the purposes for which fountains are the most
indispensable in the countries mentioned are, that they
may be sources of water for the inhabitants and used
for domestic uses. They are obliged either to go or
send to the nearest fountain, which may be several
distances distant, for the water they need; or else to
purchase it of the people who make it a trade to carry
it from the fountains through the city for sale. But
there is not in Europe a city supplied with water in
this manner, in which that necessary article is so cheap
as in London, even though the average cost of pro-
motion is much lower. However, it would be still worse if there were no fountains, and the
people were obliged to fetch water from the streams
and rivers. They could not dispense with their
fountains. But we have dispensed with them, because we
have managed to obtain our supplies of water more
conveniently and cheaply. To our minds, the fountain
system, as most magnificently displayed, cannot for a
moment compete for admiration with that stupendous
system of metallic pipes by which a stream of water is
carrying through every street and lane, and into every
house of this vast city. This is one of the real wonders
of the world. It would be interesting to trace the
history of this subject, but we can only just touch
on it now. It seems that for a long period water was
conveyed to fountains or conduits in the streets;
and was from thence distributed to the private dwellings
by water carriers. These public fountains of course
decayed as the system of conveying water into the
houses by pipes became extended. We shall confine
ourselves to two illustrations of the mode of supplying
London with water in former times.

In the reign of Henry VI. the increased population
of London rendered it necessary to open fresh supplies
of water, and various bosses and conduits were erected
in different parts. But the supply being still inade-
quate, the citizens obtained from the Abbot of West
minster, in the year 1429, the perpetual grant of a
fountain in the manor of Paddington, together with
the right to break up the ground for laying their pipes
for an annual rent of two pounds of pepper. When
this grant was afterwards confirmed by the king, he
likewise gave authority to the city magistrates to break
up any public road or ground belonging to himself or
any other person—to purchase 200 fouders of lead
for their pipes, &c., and to press into their service plumers,
men, and other workmen. This was the way in which
public undertakings were encouraged in those
days.

Rolle, in his Meditations on the Burning of Lon-
don, has a meditation on the Spooling of the City
Conduits, which supplies some curious particulars
concerning the supply of water at the period of the
Great Fire. We quote the following as we find it
given in Brayley's Middlesex.

"The water of the rivers, by veins and arteries, some great and
some small, placed up and down all parts of the body, ministereth blood and nourishment to every part thereof,
so was that wholesome water, which was as necessary for the good of London as blood is for the life and
health of the body, conveyed by pipes, wooden and
metallic, as by veins, into all parts of that famous city.

Exam..N., Nov. 27, 1666.
If water were, as we may call it, the blood of London, there were its several conduits as it were the liver and spleen of that city (which are reckoned as the fountains of blood in human bodies); for that the great trunks of veins conveying blood about the body, as great roots fixed in the earth, shooting out their branches divers and sundry ways: but, alas! how were these livers inflamed, and how unfit have they since been to do their wonted office? They were lovely streams indeed, which did refresh that noble city, one of which was always at work, pouring out itself when the rest lay still. Methinks these little conduits of London stood like so many little but strong forts, to confront and give check to that great enemy fire, if any occasion should be. There methinks the water was, as it were, intrenched and ingarrisoned. The several pipes and vehicles of water that were within these conduits, all of them charged with water, till by the turning of the cocks they were discharged again, were so many soldiers within the forts, with their musketry charged, ready to keep and defend those places. And look how enemies are wont to deal with those castles, which they take to be impregnable, and despair of ever taking by storm; that is to attempt the starving of them by a close siege—so went the fire to work with those little castles of stone, which were not easy for it to burn down (witness their standing to this day;) spoiled them, or almost spoiled them it hath for the present, by cutting off those supplies of water which had wont to flow to them, melting those leaden channels in which it had been conveyed, and thereby, as it were, starving those garrisons which they could not take by storm.

As if the fire had been angry with the poor old tankard-bearers, both men and women, for propagating that element which was contrary to it, and carrying it upon their shoulders as it were in state and triumph, it hath even destroyed their trade, and threatened to make them perish by fire who had wont to live by water.

We need not refer farther than to the capital of a neighbouring kingdom for an illustration of the inconveniences attending the use of fountains and public conduits for the purpose of supplying water to the inhabitants. The abundance of the fountains at Rome stillmore the old foundations. It is one of the largest and finest

Rome has an ample supply of good water; for the reverse is really the truth. The author of 'Rome in the Nineteenth Century,' has devoted an entire letter to the fountains of that city. Speaking of them generally, he says: "Nothing strikes a stranger with more just admiration on his arrival at the capital of the world, than the immense number of fountains which pour forth their unceasing flow of waters on every side. It is a luxury, the full enjoyment of which cannot be felt but in such a climate as this; and those only who have known that delicious moment, when the blaze of the summer day fades at last in the golden clouds of evening, can understand the voluptuous delight with which, in its hushed hour of stillness and repose, you listen to the music of their dashing murmur, and rest beneath their freshness." We are afterwards informed, however, that the fountains of Rome are generally deficient in that greatest of beauties—the beauty of simplicity; and in conclusion the writer thus sums up his opinions concerning them: "On the whole, I admire with fond admiration, the fountains of Rome; not that as fountains I think them beautiful; but that falling water in an ample quantity must be beautiful in a climate like this, where its sound, even in winter, is so sweet to the senses. I love to repose my fancy upon the three noble cascades that are poured forth at the Fontana Paolina; the copious streams which burst from the rocks of the fountain of Trevi, and those silver fountains that throw high in air their glittering showers within the grand colonnade of St. Peter's. These are beautiful; but for all the ugly statues of monsters and men, sea-horses and dragons, prophets and lions, and fishes and gods, I hold them in utter abhorrence, as well as the clumsy and hideous buildings erected above them."

The principal fountains ornament the several piazzas of the city. We shall only here specify those of Bernini. The most admired, although not the most considerable of these, is in the Piazza Barberini, and is that which our wood-cutter represents. It exhibits a Triton seated upon four dolphins, and throwing up water from a large shell. Another of his fountains, called the Barcaccia, or boat, is in the Piazza di Spagna. It has been both praised and dispraised more than it deserves; but it is certainly an inferior performance to that already mentioned, which is an interesting work, although it exhibits sufficient exemplification of that corruption which the taste of the artist had already undergone at the time it was executed. But the principal fountain of Bernini is that in the Strada Navona, the model of which won him the favour of Innocent X. Opinions concerning it are quite in the extreme. Martyn roundly declares that it is "the most magnificent fountain in the world." Coxé, who, with many others, seems disposed to consider the fountain of Trevi as the principal of those in Rome, yet explains that although Bernini's fountain has not so copious a supply of water as the other, it is "much more nobly decorated." It consists of a rock, having a small artificial cascade-grotto containing a principal river in each quarter of the world, namely, the Danube, the Nile, the Ganges, and the La Plata. From four caverns in the rock issue an equal number of cascades, with a copious flow of water; and the summit is crowned by an Egyptian obelisk about fifty-five feet high, exclusive of the basement.

The piazza in which this fountain is situated was anciently the Circus Agonalis, the form of which is still preserved in consequence of the houses being built on the old foundations, and one of the largest and finest squares in Rome. It was in ancient times used for chariot-racing, boxing, and wrestling; one of the principal markets of the city is now held in it, particularly on Wednesdays. Every Saturday and Sunday in August this square is inundated with water from the foun-
tain, that the people may refresh themselves by riding or walking about in it, which they do in great numbers. Formerly this diversion of padding in the water used to be protracted throughout the night, accompanied by music and refreshments; but in consequence of the disorders which sometimes arose, the water has now for many years been regularly drawn off at dusk.

Bernini, from whose designs these fountains were executed, has been called by some the modern Michael Angelo, because he united the knowledge and practice of painting, statuary, and architecture. His skill in each of these branches was very considerable; but it was in the last branch that he excelled, and to which he is chiefly indebted for his reputation. He was born at Naples in 1598, and from his earliest years manifested a great capacity for the fine arts, having, at the age of eight years, executed a head in marble, which, under such circumstances, was considered a most extraordinary performance. His Apollo and Daphne, executed at the age of eighteen, raised just expectation that he would rival the best productions of ancient Greece. This expectation was not fulfilled. At this time his style was in its purest state, and had less of the peculiar manner which it afterwards acquired. It is said that when the artist surveyed this group in his old age he allowed that he had really made very little progress since the period at which it was executed. Late in life, he confessed that, in endeavouring to remove from his mind the restraint of rules, and all imitation of the antique and of nature, he fell into a faulty manner;—that he mistook facility of execution for the inspiration of genius, and that in endeavouring to heighten the expression of grace he became affected, and encumbered beauty with superfluous ornament. Before, however, he arrived at these just conclusions, the influence of his name produced many imitators of his style; and adequate judges consider that his merit, great as it was, was operated unfavourably for the advancement of art. Among his works, about this time, it may interest our readers to know that he made a bust of Charles I. When his reputation reached England, that king was anxious to have his bust done by so eminent an artist, and sent him three portraits, by Vandyke, of himself in different positions. By this means Bernini was enabled to make an excellent likeness, with which the king was so delighted that he drew from his finger a diamond-ring worth 6000 crowns, and sent it to Bernini as a decoration for the hand which could achieve such work.

Bernini died in the year 1680, after having, during a long life, acquired an unusual portion of wealth and honour.

[Fountain of the Prince of Palestine, by Bernini.]
THE INNS OF COURT.
We have no direct evidence as to the precise period when the Inns of Court were established. But their origin is undoubtedly to be referred to the time when the courts were settled at Westminster. Magna Charta provides, that "common pleas are not to follow the king's court, but are to be held in some certain place;" a provision which was carried into effect by Henry III., who confirmed the Great Charter wrung from the hands of his predecessor. The Court of Common Pleas was then stationed at Westminster, and thus, as Dugdale remarks, "those who studied the laws, knowing better where to fix themselves, would associate together." The contents about the common law, and the civil and canon law, were also instrumental in strengthening the foundations of these establishments.

In the rude and simple state of society which existed during the Saxon heptarchy, the clergy were the only lawyers, as they were the sole depositories of whatever knowledge and learning were then cultivated. The people resorted to them for advice and direction; and such of them as were the most expert in their application, of the unwritten rules, decisions, &c., of the law, obtained the cases that came before them, were, of course, esteemed the best lawyers of the time. Edward the Confessor caused a digest to be made of the various laws, customs, and decisions peculiar to the Saxons, Danes, &c.; and this digest he made applicable to all England: from which circumstance arose, it is said, the title of "common law." This body of law was revised by William the Conqueror, who added some of his Norman institutions, and made the amended code the law of the land.

On the revival of literature in Europe, the Roman, or civil law, and the Romish, or canon law, were much cultivated. The one was the law of pagan, the other the law of ecclesiastical Rome. Under William the Conqueror and his successors, numbers of foreign ecclesiastics flocked into England. These brought with them their predilection for the civil and canon laws, and associated them with divinity in their schools. The native nobles of England looked on with jealousy and alarm at the innovations which were attempted to be made. Two parties thus arose: the nobility patronised the common law as that which had descended to them from their forefathers, and which had their prejudices enlisted in its favour; the clergy excluded it from the universities, and endeavoured to substitute new systems of jurisprudence, in which the former was the establishing of schools where laymen might study the common law, which were favourably regarded by the nobility and assisted by their benefactions. The clergy, however, for a long period engrossed the honours of the legal profession: up to the reign of Henry III., the judges in the courts were ecclesiastical persons, and for a considerable time afterwards the officers of the Court of Chancery were all in holy orders.

The lawyers, also, did not look down on the houses of the retainers of the court. They were called Inns, "because the students studied there not only the laws, but all such other exercises as might make them the more serviceable to the king's court, such as dancing, singing, playing on musical instruments, and learning divinity on festival days." Sir George Buck, who describes himself as "Master of his Majesty's office of the Revels," in a description of the Inns of Court, which is appended to Stowe's "Survey of London," which is now lost but recently brought home in England, the houses of the greatest lords, both spiritual and temporal, of this kingdom (which they had here in London) were called Inns, as Oxford Inn, Warwick Inn, and Ely Inn, &c., which we now call Oxford House, Warwick House, and Ely House; and yet until this day, the houses of the French noblemen in Paris are called Hostels [Hotels], which cometh from the Latin word Hospitium, and is the same which Inn is in English." Malcolm does not understand how the term inn came to be given to the houses of noblemen and gentlemen, unless it was intended to convey an idea of plenty or hospitality. The word, however, was certainly applied to the mansions of noblemen, as well as to the houses appropriated to the reception of travellers, and the lodging-houses of the students of the law.

"Of the inns of court," says Sir John Fortescue, who was chief justice of the King's Bench, and flourished during the reigns of Henry VI. and Edward IV., "properly so called, there are four in number. In that which the 28th of March, 1281, confirmed, there are about 500 students. In these greater inns, a student cannot well be maintained under 28s. a year. And if he have a servant to wait upon him (as for the most part they have) the expense is proportionally more. For this reason the students are sons to persons of quality; those of an inferior rank not being able to bear the expense of maintaining and educating their children in this way. As to the merchants, they seldom care to lessen their stock in trade by being at such yearly expenses." In Fortescue's time there were about 2000 students in the several inns, all of whom were sēti nobiliōm, or gentlemen born. But as society advanced, and merchants grew wealthy, so as to care less about "lessening their stock in trade," the sons of untitled people began to study the law as an honorable profession. Upon this Sir George Buck indignantly remarks:—"Because that by ancient custom, and by old orders of court and chancery, all those who were admitted into these houses were, and ought to be, gentlemen, and that of three discents at the least, as Master Gerard Leigh affirmeth, therefore they which are now admitted are registered by the style and name of gentlemen. And yet, notwithstanding this, if they be not gentlemen, it is an error to think that the sons of graziers, farm men, merchants, tradesmen, and artificers can be made gentlemen by their admittance or matriculation in the Inns of Court; for no man can be made a gentleman but by his father. And be it spoken, with all revered reservation of duty, the king (who hath power to make esquires, knights, baronets, barons, viscounts, earls, marquises, and dukes,) cannot make a gentleman; for gentility is a matter of race and of blood, and of descent from gentil and noble parents and ancestors, which no kings can give to any but such as they beget.

King Edward I. especially appointed the lord-chief-justice of the common pleas and his fellow justices to provide and ordain certain attorneys and lawyers from every county, who were the most skilful and apt in the laws, to follow his court, and transact such affairs as required their services; and those thus selected were alone to have the privilege of practising. It is stated that Henry III. had previously taken theinitiative in granting certain privileges, by prohibiting any other schools from teaching law within the city of London; and that he also formed the members of each lodging house into a kind of corporation, and established a set of rules for their conduct. There is no sufficient authority for this latter statement; but it is certain, however, that the crown frequently interposed its authority for the regulation of the conduct and even the dress of the judges, and the judges, and the queen, "with the advice of her privy counsell, and the justices of her bench," used to issue orders to the benchers and the members of the inns for their order and reformation. The education, also, of the students, received the queen's attention. Ireland, in his "Picturesque Views," states that, In the 3rd Elizabeth it was ordered that every single reader should be at three motes in every term, and
in Michaelmas term at four mootes; and every bencher, not reader, at five mootes in every term, and in Michaelmas term at six, upon pain of forfeiting 5s. every moot. And here," he continues, "we shall endeavour to explain what is meant by mooting—a phrase, perhaps, not generally understood. The utter barristers, that is, those who had continued in the house five or six years, and had profited in the study of the law, had this degree of utter barrister conferred on them, and were called by the elders or benchers to plead, argue, and dispute some doubtful matter in the law before certain of the same benchers, in term time, or in the two principal times in the year of their learnings, which they call called vacation and vacation, and the same manner of argument or dispute was called mooting. Mootings were formerly pleaded or declared by the young learners in homely law French (as it is termed) on some doubtful matter or question in the law; they were afterwards rehearsed by two utter barristers in law English."

The mode of passing through an inn of court, in order to qualify for being called to the bar, is now a mere form, and to those unacquainted with the system, it will appear a very ludicrous form. It consists in being present in the hall of the particular inn to which the individual belongs at dinner during a certain number of days. Self interest and a laudable ambition inspire out interest in our studies; but the societies cannot impose the requisite number of terms at Oxford, Cambridge, and Dublin; and the barristers were anciently called apprentices in Scotland. In all the inns the student must keep twelve terms before he can be called. Irish students must keep eight in England, and nine in Dublin, and there is a ceremonials of nine exercises which all students must undergo, the object of which is to make the benchers acquainted with the persons of the students. In the Inner Temple this assumes the form of an examination, in order rather to learn how the student has spent his time than to ascertain his abilities and acquirements.

On the expiring of his terms, his age being more than twenty-one years, and his certificate on commencing his exercises having been approved, the student informs the steward of his inn of his intention, some days previous to the commencement of the term in which he wishes to be called, in order that the necessary preparations may be made. Having obtained the support of one of the benchers to his petition, which he addresses to the benchers at a special council, if he obtains their approbation he attends the benchers after dinner, the usual oaths are administered, and he is called to the bar. When this has taken place, new bonds are entered into for the payment of his dues under a penalty of 200l. and the expense, made up of various items, differs in the inns from about 66l. (the expense of being called in Gray's Inn) to 93l. (the expense in Lincoln's Inn). There are different degrees among the members of the inns. The barristers were anciently called apprentices of the law, from apprendre, to learn. Above them formerly were the ancients—this was a degree of precedence bestowed as a mark of honour upon barristers, though enjoyed as a right by the sons of judges. The serjeants are the highest degree at common law, as the doctors are in civil law. The Court of Common Pleas sits until lately, separate from the other societies. Serjeants-at-law are made by the king's writ, directed to the barristers upon whom the honour is conferred, commanding them to take upon them that degree by a certain day. Some of the serjeants are appointed
king's counsel, the two principal of whom are called his attorney and solicitor-general. The reader of the inn is a barrister appointed to deliver a lecture before the society on some point of law. In some of the inns the preacher is now called the reader of the inn. It is customary, when the inns are closed, for the members at their pleasure to call on their barrister members to precedence to such barristers as it deems worthy of the honour—a privilege which entitles them to the rank and pre-audience assigned in the patents.

The benches are elected out of barristers at the bar according to seniority. They govern and direct the society. Their power is discretionary, and cannot be questioned. They may reject an application for admission without even assigning a reason. They possess this power, however, only in common with all voluntary societies. There is no appeal from their decision. The twelve judges are visitors of the inns. It is their province to take cognizance of the conduct of the benchers to the members of the inns; so that, though a person never admitted has no appeal to the judges, the refusal of a call to a member may be subjected to the revision of the visitors. The privilege of conferring upon individuals the right of pleading is enjoyed by the inns only in consequence of the permission of the judges: they want the sanction of parliament.

An application for admission was tried in Michaelmas term, 1825, before the Court of King's Bench, in the case of Mr. Thomas Jonathan Wooler. Mr. Wooler applied in Michaelmas term, 1824, for admission as a member of Lincoln's Inn, but received, on the 27th of January following, an official communication of his rejection from the stewards, without any reason assigned. He then petitioned the benchers for a statement of the reasons of his rejection, and a hearing in his own behalf; and one of the benchers then reported that the case was sent to the twelve judges for redress. He was informed by the Lord Chief Justice of the Court of King's Bench, that the twelve judges had no power to interfere in the case. Mr. Wooler then applied for a mandamus—a prerogative writ used in all cases where the law has established no other mode of redress—on the ground, that if the judges had no jurisdiction in such cases, the powers of the benchers were both grievous and unconstitutional. The judges delivered their opinions seriatim, which coincided with the opinion formerly expressed by Lord Mansfield—that the society was a voluntary body, and therefore beyond the jurisdiction of the court—that no one had an inchoate right to admission, since the inns of court were not incorporations, but voluntary societies, enjoying the privilege of calling persons to the bar by the permission of the judges, and that unless in the case of a member refused a call to the bar, when, as visitors, they might revise the decision of the benchers, or, in case the system of exclusion was carried so far as not to call a sufficient number of persons to the bar to transact the public business conveniently, the twelve judges had no right to interfere with the conduct of the benchers.

The way in which the benchers have exercised their powers may be ascertained, in some degree, from a few facts to be found in the evidence taken before the Common Law Commissioners. It appears from the examination of Mr. Thomas Lane, steward of Lincoln's Inn, that the judges delivered their opinions seriatim, which coincided with the opinion formerly expressed by Lord Mansfield—that the society was a voluntary body, and therefore beyond the jurisdiction of the court—that no one had an inchoate right to admission, since the inns of court were not incorporations, but voluntary societies, enjoying the privilege of calling persons to the bar by the permission of the judges, and that unless in the case of a member refused a call to the bar, when, as visitors, they might revise the decision of the benchers, or, in case the system of exclusion was carried so far as not to call a sufficient number of persons to the bar to transact the public business conveniently, the twelve judges had no right to interfere with the conduct of the benchers.

There are four Inns of Court:—Lincoln's Inn, the Inner Temple, the Middle Temple, and Gray's Inn. There are eight Inns of Chancery attached to the Inns of Court:—viz., Fournival's and Thavie's to Lincoln's Inn; Clement's, Clifford's, and Lyon's Inns to the Inner Temple; the New Inn to the Middle Temple; and Harward's and Staple's to Gray's Inn.

The site now occupied by the building of the two societies of the Temple was once the property of two powerful and wealthy community of military monks, the Knights Templars—whence the name. The primary occupation of this order was to protect pilgrims in the Holy Land, on their way to visit the sepulchre at Jerusalem, and to conduct them safely back. Stowe states that the original knights, "having no certain habitation, Baldwin, King of Jerusalem, granted unto them a building-place in his palace by the Temple." Many noblemen in all parts of Europe became brethren of this order, and built temples in most of the cities and great towns. The London Temple was the chief house in England, in which they lived in great state, and frequently gave splendid entertainments to the monarch, the foreign ambassadors, and the nobility. So high was their reputation and power, that wealthy individuals who deemed their treasures insecure in other places used to deposit them in the Temple. The wealth and consequent power of this order led to its downfall. On the motion of Philip II. of Spain, the Knights Templars were condemned by a general council, and all their property confiscated. The Temple in London consequently reverted to the crown. Edward II. gave it to Thomas Earl of Lancaster, who forfeited it by rebellion; it passed into one or two other hands, and ultimately came into the possession of the Knights Hospitallers of St. John of Jerusalem, an order very similar to the suppressed order of the Templars, but who were then highly celebrated for their warlike achievements. It is supposed that they demised these premises, for a rent of 10l. per annum, to "a society of students of the common laws," who emigrated thither from Thavie's Inn. The new institution was exposed to the attacks of the insurgents under Wat Tyler, who destroyed and burnt the books and records of the society. Stowe says, that they "destroyed and plucked down the houses and lodgings of this Temple, took out of the church the books and vestments, and burned all but those of the order left by the deceased brothers, carried them into the streets, and burnt them; the house they spoiled for warth they bare Sir Robert Hales, Lord Prior of St. John's in Smithfield." This destruction of the records causes a portion of the early history of the Temple to rest on traditionary evidence. It is not known with accuracy when the students divided into the two societies of the Inner and Middle Temple. It is supposed to have been in the reign of Richard II., shortly after the insurrection of Wat Tyler, and so has been caused by the great increase of the
students, which rendered a division necessary and convenient. The two societies held the Temple from the Knights Hospitallers until the dissolution of monastic institutions in the reign of Henry VIII., when they held the crown; and their title to it was clearly secured by James I., who, by letters patent, dated at Westminster in the sixth year of his reign, granted the whole to Sir Julius Caesar, knight, then chancellor and under-treasurer of the King's Exchequer, and to the treasurer, benchers, and others of the house, and their successors, "for the use of learning and education of the professors and students of the laws of this realm," at a rent of 10l. from each society.

The buildings of the Temple reach from Fleet Street to the river, north and south, and from Lombard Street, Whitefriars, to Essex Street in the Strand, east and west. The access to these inns, with their squares, courts, and gardens, is by means of narrow mean gateways and lanes, branching off from the main streets, which a stranger might pass and repass without remarking that they led to such celebrated establishments. The Middle Temple Gate, the onlyrespectable entrance to the Temple, was constructed by Sir Christopher Wren, at the expense of the society, between the years 1684 and 1688, and is in Fleet Street, near to Temple Bar. On the spot where it stands, it is stated by Ireland that "there was formerly an ancient structure, which was erected by Sir Amias Paulet, in the reign of Henry VIII., on a very singular occasion. Fiddes relates, in his Life of Wolsey, that Sir Amias, about the year 1501, thought fit to put Wolsey, who was then parson of Lymington, in Hampshire, in the stocks. In 1515, Wolsey, bearing his honours thick upon him, and bearing too in mind the indignity offered to him by Sir Amias, sent for him to town, and commanded him not to quit it till he received further orders. In consequence of this injunction, as we are told by Hollingshed, he lodged five or six years over the gateway he had rebuilt, and to pacify the resentment of his eminence, adorned the front with the Cardinal's hat, badges, cognizances, and other devices."
The entrance to the Inner Temple from Fleet Street, by a heavy sculptured archway, erected in 1611. Of the Temple Church, the only remnant of the Temple as possessed by the Knights Templars, a description has been given in the 14th Number of the 'Penny Magazine,' to which the reader is referred. This venerable building has undergone a complete restoration and repair.

The Middle Temple Hall, which stands in Middle Temple Lane, is a fine structure. In it were held many of those revels and feastings which are so conspicuous in the annals of the society. About three years ago it was thoroughly repaired, and the entrance was rebuilt. This consists of a square tower, with smaller octagonal towers at the angles; the body of the work is built of red kiln bricks, the mouldings to the doors and windows being of Bath stone, as well as the basement and string courses. The building adjoining the Hall, constructed with yellow stocks and Bath stone, is, as well as the hall, designed in the Elizabethan style of architecture, and has a fine bold characteristic effect. This range of building, including the kitchen for the hall, is about 170 feet in length, and four stories in height. The façade may be said to be divided into four parts by three oriel windows, which occupy the second and third storeys, and are supported on corbelling or projecting blocks of stone moulded. The parapet walls of the building are finished with battlements.

The garden of the Inner Temple is of considerable extent, and has a spacious gravelled walk or terrace on the banks of the Thames. It forms a good promenade in summer, being then opened in the evenings to the public. Very extensive improvements have taken place in the Inner Temple within these two or three years. The Hall, originally founded in the reign of Edward III., rebuilt after the Great Fire in 1678, and which received a new entrance in 1816, is too small for its purposes. A library in the Gothic style of architecture has been erected, having one front towards the garden, and the other in the cloister-court, towards the chapel. The chambers, situated in what is called the King's Bench Walk, have been extended towards the river; the façade is in the Grecian style of architecture, and the effect of the building is simple in the extreme. Altogether, the improvements in the Middle and Inner Temples have been very extensive, and have given a modern air to a great portion of these establishments.

The civic boundary, Temple Bar, has given rise to the appellation of Inner and Middle Temple. The Inner Temple was so termed as being within the city, and Essex House, originally a part of the buildings, was formerly the Outer Temple, as lying outside the city. The Middle Temple of course was between. Shakspeare, in the First Part of Henry VI. (Act ii. scene 4), alludes to the gardens of the Temple, as the place where the badges of the houses of York and Lancaster, in their deadly feud,—the red and white roses,—were first selected by the leaders of each party. It is uncertain whether he had anything more than mere tradition for assigning such a locality.

Lincoln's Inn is situated on the west side of Chancery Lane, nearly in the centre of the metropolis, and, with its squares and garden, occupies a large space of ground. The name is derived from Henry Lacy, Earl of Lincoln, in whose possession the house was, and who, being favourably disposed towards a society of students of the common law, induced them to settle here. This is stated to have occurred in the reign of Edward I. or the beginning of the reign of Edward II. The house had been previously occupied by certain Dominican monks, who had removed to Blackfriars. Various additions were from time to time made to the original grant, but the common name of Lincoln's Inn was extended to all the society's possessions. The Register of the Inn records that "the hall was finished in the twenty-second Henry VII.; and, in the following year, they began to make bricks, and to contract with masons for the stone-work of another fabric, viz., the great gate-house tower, unto which Sir Thomas Lovell, formerly a member of this society, but then treasurer of the household to King Henry VII., was a good bene-
factor. The timber for this purpose was brought by water from Henley-upon-Thames.” The library was finished in the twenty-fourth Henry VII., "as may appear by the charge in sealing of it; but the work of the gate-tower went slowly enough on, for, till the the ninth of Henry VIII., when Sir Thomas Lovell gave more money to forward it, no mention is made of it." Two years afterwards, in 1530, the society made another payment for the gateway: all then in commons were taxed, and further order made for the speedy payment of monies, besides 40l., the sum allowed out of the treasury of the House for the perfecting of this structure, which was completed in the twelfth Henry VIII., the whole charge amounting to 1536. 10s. 8d.

The circular compartiments over the gateway, as represented in the wood-cut, contain in the centre the arms of England, encircled with the garter and its motto, “Honi soit qui mal y pense.” The arms on the dexter or right side, are those of Lacy, Earl of Lincoln, and on the sinister or left are those of Sir Thomas Lovell. On a label beneath is inscribed “Anno Dom. 1518.”

The Hall of Lincoln’s Inn—the most ancient portion of the establishment—is distinguished as being the place where the Lord Chancellor of England occasionally exercises his high functions. It was finished in the twenty-second year of the reign of Henry VIII. The interior is spacious and well-proportioned; it is sixty-two feet in length and thirty-two feet in breadth. Amongst its ornaments is the much-criticised historical painting of Hogarth, of ‘Paul before Felix.’ The admission was in Michaelmas Term, since it appears, from the records of the Inn, that he was made an acient on the 1st of November, 1576, an honour usually conferred on barristers, but bestowed on the sons of judges in consequence of their birth. In the garden of the Inn Bacon erected a summer-house on a small mount, which then commanded a view of Highgate and Hampstead, and all the adjacent country. In this garden the view and the prospect-house have vanished in the increase of London. The elm-trees on each side in the walk in the garden were planted by Bacon.

Of the eight inns of chancery a bare enumeration will suffice. Clement’s Inn derives its name probably from being situated near St. Clement’s church or well. It was an inn of chancery, or house where the students of the law had their residence in Edward the IV.’s time. Shakspeare has alluded to this inn in the words “Where the young men, of whom four were to study the common law, had their residence, and where the moneys were raised and taxed and mean buildings, encroachments on the fields.” Furnival’s and Thavie’s inns belong to Lincoln’s Inn. Furnival’s belonged to the Lords Furnival, a family extinct in the male line, as far back as the sixteenth of Richard II. It has been recently entirely rebuilt.

It was from Thavie’s Inn that the students emigrated who took possession of the Temple.
Of Staple Inn it is stated that the merchants who dealt in wool had their meetings there, whence it was termed Staple Hall. This and Baraard's belong to Gray's Inn.

It was ordered in the reign of Charles I. that the inns of Chancery shall hold their government subordinate to the benchers of the inns of court to which they belong.

The 'Law Student's Guide' says:—" Gentlemen are not now entered in the inns of Chancery with an intention of being called to the bar; for admission there could in no manner contribute to that purpose, as no allowance would be made from the funds of the inns of court. They are not now employed by solicitors and attorneys.

The Irish Inns of Court, or King's Inns as they are there termed, were established after the model of the English inns, on the establishment of courts of justice in Dublin. By an old statute, Irish students must keep eight terms in one of the English inns, as well as nine in the King's Inns, Dublin, before they can be called to the Irish bar. The original intention of this statute was to cultivate English habits and associations, as well as to enable them to observe the working of the laws in the courts at Westminster. It is complained of as a grievance. Irish students may keep terms in London and Dublin alternately, or in any other order they think proper. Gray's Inn is the resort of the generality of Irish students, it being by far the most convenient to them, not only on account of the facility of keeping terms there, but also that of admission, for they are not required at this inn to have their entrance document signed by two barristers, or to procure two housekeepers to enter into bond. It will suffice if any other student or member of the inn sign both. There is also no charge made for absent commons, as in Lincoln's Inn.

The expensive, and to us apparently trifling andchildish, revels and mummeries formerly exhibited in the inns of court by the grave practitioners of the law for the entertainment and amusement of the highest personages of the realm, are too conspicuous to be passed over in any account of these institutions. The toils of the law, and the dryness of study, were occasionally relieved by the vagaries of the "lord of misrule," while the feasting on festival days, and the exhibition of masques, if they diverted the minds of the students, must also have occasionally tried their pockets. In the reign of Edward IV. each of the four inns of court were, by a mandate from the King, required to furnish out four armed men for his guard, at the justs then held a Smithfield betwixt Wydevile, Lord Scales, and the bastard son of the Duke of Burgundy, and they had also to set up a scaffold to see the ceremony, the expenses being defrayed by a rate. Lincoln's Inn, at the coronation of Henry VIII., laid out 5l. in making of a hoghead of claret wine, price 20s. A splendid mummery was exhibited in the Temple, in the 4th of Elizabeth, in which the celebrated Leicester, the Lord Robert Dudley, was the principal actor. Of this mummery Gerard Leigh has given a grandiloquent account. He describes himself as having landed within half a league of London, after a long absence from his native country; when, drawing near the city, he "suddenly heard the shot of double cannons in so great a number, and so terrible, that it darkened the whole air; where with, although I was in my native country, yet stood I amazed, not knowing what it meant." Meeting an host of Cocks or Horses, where he there meditated nothing short of a flight from the country. On demanding the "cause of this great shot," he is informed that it is a "warning shot to the constable marshal of the Inner Temple to prepare for dinner." He then describes the mummery as he saw it, which appears to have pleased him vastly. Amongst the mummers, on these occasions, was generally a master of the game, part of whose business was to provide a piece of cruelty for the entertainment of the spectators. A fox and cat were brought into the hall, and were set upon by dogs. A fox-hunt in so confined a space, for instance, as the hall of the Inner Temple, is rather an unfavourable specimen of the taste of our ancestors "learned in the law." In the 11th of James I. the Society of Lincoln's Inn presented a masque before the king, on the marriage of his daughter to the Elector Palatine, which cost the sum of 1086l. 8s. 11d. Three months afterwards the benchers of the same inn agreed upon a taxation of 40s., every barrister 30s., those under seven years 20s., and every gentleman 13s. 4d. towards defraying the charge of a performance in honour of the Prince of Wales, afterwards Charles I. In the ninth year of Charles's reign, a grand masque was presented to that monarch by all the inns, the total expense of which was defrayed by Lincoln's Inn, and amounted to 24001., for which the fellows were all absolved.

In the steward's office of Lincoln's Inn, is the admission book, from 1671 to 1673, containing an account of a visit paid by Charles II. and his court. Sir Francis Gooderich being then reader of the Society, invited the King, Prince Rupert, and a number of the nobility, to dine in Lincoln's Inn Hall, which being accepted they were received in great state; "his majesty made his entrance through the garden, at the great gate opening into Chancery Lane, next to Holborn, where Mr. Reader and the rest of the benchers and associates waited his coming, and attended his majesty up to the tarras walke, next the field, and so through the garden, the trumpets and kettle-drums, from the leads over the highest bay window, in the middle of the garden building, sounding all the while." After dinner, when the monarch's heart was "merry with wine," he called for the admission book, and with his own hand entered his royal name therein," thus, in rather a summary manner, enrolling himself a member of the learned body. His example was followed by all his attendants, from Prince Rupert down to Killigrew the Jester, and Ireland remarks that if we may judge from the appearance of the writing, many of them, and particularly Killigrew, must have been "a little non compos mentis."

These revels were considered of great importance, nor is it to be wondered at, when we recollect that through the study of law was the prime, it was not the only branch of education intended to be taught at the inns of court. The students were to be fitted in all those accomplishments considered necessary to a king's court; and so they were taught dancing as well as law. The under barristers of Lincoln's Inn were, in the seventh of James I., put out of commons as an example, for the bar refused to dance on the Candlemas-day preceding. These dancings were allowed four times in the year; and an individual was yearly elected director of the times, and called Master of the Revels. Grand Christmasses were also celebrated, which were specially regulated: it was directed that the "King of Cockniessh should sit on Childermas Day, and have due service; and that he and all his officers should use honest manners and good order, without any waste or destruction making in wine, brawn, chely, or other vitals; and, moreover, that "Jack Straw and all his adherents should therefor be utterly banished, and the king of cockniessh, or his adherents, [who should] have pain to forfeit for every time five pounds, to be levied on every fellow happening to offend against this rule."

Many of the regulations as to dress are not a little amusing. The Templars, in the reign of Mary, were forbidden to wear any great bryches in their hose, made
after the Dutch, Spanish, or Almon fashion; or lawnde upon their capps, or cut doublets," upon pain of three shillings and fourpence forfeiture for the first default, and the second time to be expelled the house. In the same reign a member of Lincoln's Inn was fined five greats "for going in his study gown to Cheapside on Sunday at ten in the forenoon." Queen Elizabeth specially regulated the beards, ruffs, and curled hair of the students; but the beards could not be restrained, for the fashion of wearing them grew so prevalent, as to effect, at one time, a repeal of all orders touching them. A better regulation was made respecting swords and rapiers. The young students, though studying the law, were apt at times to manifest a little order-breaking turbulence when they "went upon town;" and it was ordered "that no fellow of this society [Lincoln's Inn] should bear any sword or buckler, or cause any to be borne after him into the town, nor should any rapiers be borne in this house by any of the society."

In Henry VIII.'s reign, a student was expelled from Lincoln's Inn for "taking away the light from the image of St. John, in the hall, and hanging, instead thereof, a horse's head, in despite of the saint." In the same reign, there was a window in Gray's Inn Chapel "wherein the image of St. Thomas à Becket was gloriously painted; which window Edward Hall, one of the readers of this house at that time, was ordered to take out, in consideration of the king's command, in the thirty-first of his reign, that all the images of Thomas à Becket, sometime Archbishop of Canterbury, should be obliterated."

The authorities which have been chiefly consulted in drawing up this account were Dugdale's 'Origines Juridicales,' Fortescue's 'De Laudibus Legum Angliae,' Buck's account of the Inns of Court, appended to Stowe, Ireland's 'Picturesque Views of the Inns of Court,' and the 'Law Student's Guide.'

[Statue of Lord Erskine, by Chantrey, in Lincoln's Inn Chapel.]
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THE TYROL.—INNSPRUCK.

The Tyrol is one of the most mountainous and picturesque countries in Europe. Its towering Alps, its glaciers, lakes, and waterfalls are as striking as those of Switzerland, while its ruined towers, perched like eagles' nests on the summit of lofty rocks, and its royal and baronial castles built during the middle ages, far exceed in number not only what are found in Switzerland but in any country of the same extent. There are the charms, too, of picturesque costume, and, among the peasantry, of a simplicity and primitiveness of manners, which would be sought for in vain in Switzerland except among the small mountain and pastoral cantons which do not lie on the traveller's route or the highway of Europe; and, though the Tyrol has been less fortunate than her neighbour in securing her independence and the blessings of a free and national government, the inspiring associations of patriotism and heroic courage are far from being wanting. Like the brave Swiss, the Tyroleans, few in number but bold in heart, have stood in their mountain-passes and driven back or destroyed hosts of foreign invaders; they have often sent forth the sacred voice of liberty over the land and the lakes that lie embosomed within it; and in our own days, when all the continent of Europe lay crouching before Buonaparte, the echoes of their sure rifles were heard ringing among the mountains, as, headed by Hofer, they maintained a most unequal and heroic struggle with the French and Bavarians. While, however, Switzerland is annually traversed by thousands of our tourists, the Tyrol, which may be called its next-door neighbour, is rarely visited by the traveller. The reasons for this are obvious enough, for Switzerland in good part lies on the great highway;—it is the road into Italy, and is very accessible on the side of France and Germany, whereas the Tyrol lies off the great route; it leads to nowhere, must be sought for itself, and is not particularly easy of access, seeing that the tourist must either make a circuit of part of Bavaria and cross the Bavarian Alps, or travel through the Grison valleys of the Engadine, where all accommodations are of the roughest description. Within these few years, however, the late Mr. Henry D. Inglis, Mr. Brockedon, and Monsieur Frederick Mercey, have travelled through parts of Tyrol and published their notions on the country. From the accounts of these gentlemen, and of some older writers both foreign and English, as M. De Serres, Doctor Clark, and the Baron Caspar Riesbeck, a witty Ger-
man, who visited the Tyrol in the year 1780, we will endeavour to draw up some information for our readers.

A glance at a good map will show the situation of this rugged country, which is divided into two unequal parts, or the German Tyrol, which leans on Bavaria and Austria, and the Italian Tyrol, which slopes down to the lakes and the fertile plains of Lombardy. Drawing in the country from east to west along the course of the river Inn, Botzen to the north, all the territory lying northward of this line will be the German Tyrol, and all south of it the Italian Tyrol. The German portion is the larger by nearly one-third, but the Italian is, in proportion to its extent, much more populous, and abounding in larger and better-built towns and villages. The character, habits, and appearance of the people in the two divisions differ very widely. The inhabitants of the German Tyrol are passionately fond of liberty, and retain unaltered much of the sternness, frankness, and simplicity of the old Germanic race. They are nearly all proprietors, and cultivate their own lands, and have thus a feeling of independence superior to what the mere hired labourer can experience. They preserve a national dress, primitive usages, and early hours. The inhabitants of the Lower or Italian Tyrol, on the other hand, are more patient of the Austrian yoke that weighs on the whole country; they for the most part cultivate the lands of others, and have been far less receptive of ancient manners and usages. Luxurious habits, late hours, and restraint are brought into the east of their territory, and their character in general has more of the suppleness and complaisance of the Italians than of the sternness and roughness of the Germans. A very considerable portion of the judges, commissaries of police, and civil employés of the Emperor of Austria, in Milan, and the other Veneto-Lombard cities, are natives of Lower Tyrol, and distinguished by their unsuspiciousness and subserviency to their employer.

The valley of the river Inn, which runs through the whole northern portion of the country, may be called the principal part of Upper or German Tyrol. It is entirely shut out from the Lower or Italian Tyrol by a lofty chain of mountains, the only road over which is by Mount Brenner, at an elevation of 6000 feet above the level of the sea. This valley of the Inn, counting its windings and turnings, is nearly a hundred miles long, but its greatest breadth is not much above eight miles, while in many parts, and for considerable distances, it is not above two or three miles broad. Impassable to the smallest city, a view of which is given in the engraving at the head of this article, is situated about midway in this valley.

The main territory of the Lower or Italian Tyrol is comprised in the valleys of the Eisach and the Aigde, on which rivers the principal towns of this southern division, as Botzen, Lavis, Trent (the capital), and Rovereto, are situated. Notwithstanding its forests, lakes, rocks, glaciers, and mountains covered with perpetual snow, the Tyrol is a tolerably well-peopled country. Roebeck says, that in his time (1780) it contained altogether about 300,000 souls or about one-twelfth of the Austrian government about 3,000,000 florins, (about 300,000.) The silver and copper-works at Schwaz, and the salt-works at Halle, in the same division of the country, yielded annually about 300,000 florins. He states the population of Innspruck, which he calls a fine city, at 14,000 souls.

In 1830, Mr. Mercey, who seems to have taken some pains in composing his statistical tables, gives 630,000 souls as the amount of the whole population of the Tyrol, being an increase of only 20,000 in half a century. But in the interval between 1780 and 1830 the country has been desolated by war, and the Tyrolleans, like the Swiss and Savoyards, are much given to emigration.

The stationary population of the city of Innspruck, independent of the garrison, does not at present exceed 12,000. But, though small, this metropolis of the Tyrol is a beautiful town, and contains many objects of great interest. The most remarkable of all these objects is the tomb or mausoleum of Maximilian I., in the cathedral-church of the Holy Cross. This vast monument with its accessories occupies a considerable part of the nave of the church. A tomb or sarcophagus of white and black marble, six feet high, and thirteen feet in length, surmounted by a bronze statue of the Emperor kneeling, and with the face turned towards the altar, stands in the midst of other dependent works of sculpture. The sarcophagus is partially inscribed with letters of gold, on a black marble ground; but the best of the work mainly liccd in a basso relief which cover the sides of the monument, and are sculptured in the finest Carrara marble, each compartment or tablet being divided from the other by a pilaster of jet-black marble. There are in all twenty-four tablets, which represent the principal events of Maximilian's life, such as his marriage at Ghent with the daughter of Charles the Rash, Duke of Burgundy,—his coronation, as King of the Romans, at Aix-la-Chapelle,—his combat with the Venetians,—his defeat of the Turks in Croatia,—his sieges, marches and treaties of peace. Around this magnificent tomb stand, as if to keep guard over the dust of the deceased monarch, twenty-eight statues, in bronze, of kings, queens, princes, princesses, and stalwart warriors clad in armour. These statues surpass the dimensions of common mortality, being nearly eight English feet high. They represent or typify (for some of them must be wholly imaginary as portraits) the beings of Maximilian's admiration or affection. Among them are Clovis the First, King of France; Theodoric, King of the Ostrogoths; King Arthur of England; the Crusader Godfrey of Bouillon, King of Jerusalem; several of the first counts of Hapsburg, the ancestors of Philip I. of Spain; and Leonora, Princess of Portugal.

All who have visited this remarkable tomb, particularly in the gloom and silence of evening, agree in describing it as a scene of ancient manners and usages. There are not only curious, but beautiful as works of art. The numerous figures are all represented in their appropriate costumes, and are well grouped, while the views of cities and castles are given with remarkable fidelity, being real landscapes in marble. With the exception of four by an inferior hand, all these tablets have been executed by Alexander Colin, a native of Malines, a city in Belgium, who completed the work somewhat about the middle of the sixteenth century. M. Mercey says, somewhat doubtfully, that the gigantic bronze figures of the tomb were cast in 1513. According to Mr. Inglis, one of them, (the statue of Theodoric) is marked with the date of 1513. A popular tradition asserts that the
The feeble and dispirited battalions of Austrian troops to co-operate with Hofer, did almost more harm than good, and Chasteler, their general, soon beat a retreat. After some successes obtained in the north of Italy by the Archduke John, the tide of fortune turned, the French were successful everywhere, and a second time took Vienna, the capital of the Austrian empire. Marshal Lefèvre entered the Tyrol with a strong French division, and drove the Bavarians out of the important town of Halle; and shortly afterwards, 20,000 peasants took Innsbruck, the capital, in spite of the obstinate defence of General Kinkel and Colonel Dittfurt, who disputed every inch of ground. Dittfurt, when dying of his wounds, asked what distinguished officer had led them on so well to battle. "No one," said the Tyroleans; "but we fought for our religion, the emperor, and our father-land!"

We cannot enter into the details of the numerous battles and skirmishes in which, though ill supported by the Austrians, Hofer and his companions were long victorious. The loss of the Bavarians—attacked on all sides, in narrow valleys and deep chasms, from dense woods and overhanging rocks—was terrible; but the brave peasants were guilty of no unnecessary cruelty. M. Mercey, a Frenchman, says, "They only killed those who resisted. "Cut me down those fellows as long as they were up against you," cried Hofer; "but once down, give them quarter. On the other hand, a Frenchman, a man that is on the ground, because he is afraid he should get up again." This was the Spanish insurrection, with its monks, its peasants, and its guerillas; but it was the Spanish insurrection without its crimes and its horrors; and if there was inhumanity on one side, it was certainly not on that of the Tyroleans. They at least did not murder their prisoners after the battle. Hofer, when a conqueror, spared the lives of his opponents, but, when conquered, his own life was not spared."

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a body of French and Saxon troops in the valley of the Eisach; and when the Duke of Dantzic attempted to force a narrow gorge near to Stertzing, they destroyed nearly the whole of his van-guard, which consisted of 4000 picked Bavarians. In performing this last exploit they did not consume much gunpowder; for the unerring rifles were only used when the invading army was thrown into confusion, and the work almost done. They kept possession of the perpendicular rocks which rose like walls on either side of the pass, and having brought immense stones, trunks, and arms of trees to the very edges of the precipices, they kept them suspended there in large masses by means of ropes, until the enemy was engaged in the narrow gorge, and fairly beneath them. Then a voice was heard, saying, "Hans, is everything ready?" "Yes!" was shouted among the rocks; on which the word of command was given, "In the name of the Father, Son, and Holy Ghost, let go your ropes!" The next moment more than a thousand of the Bavarians were crushed, smashed, and buried under a frightful mass of trees, stones, and rocks. Then the sure rifles of the peasants flashed from every corner, and the Duke of Dantzic was forced to flee, abandoning his cannon and nearly all his baggage to the Tyroleans. Nearly at the same time the forces which had attempted to penetrate by the valley of the Adige were routed with tremendous loss. A few days afterwards Hofer followed up the Duke of Dantzic, who had concentrated all his forces, and beat him in a pitched battle. The result of this gallant engagement was the immediate evacuation of the Tyrol by the Bavaro-French armies, and the establishment of a provisional government, of which Hofer took the direction; for the court of Austria was too much embarrassed to attend to the affairs of the country. Had the troops of Austria done their part of the great work but half as well as the peasants of the Tyrol did theirs, the career of Buonaparte might have been ended in 1809 instead of 1815, and six years of war and bloodshed spared the world. But, as we have already said, after a good beginning they failed everywhere. On the 6th of July they lost the decisive battle of Wagram, on the 12th they entered into a most humiliating armistice, and on the 14th of August the late Emperor Francis signed the disgraceful treaty of Vienna, by which the brave Tyroleans were again formally given over to the Bavarians. Although they knew that the whole might of Buonaparte could now be turned against them, and although the Emperor Francis, on one side, recommended them to submit, and Beauharnois, the French viceroy of Italy, on the other, proclaimed that such as continued the war should no longer be treated as soldiers, but as rebels and brigands, Hofer and many of his comrades determined to make one effort more for their independence. They defeated the French in the valley of the Passer (Hofer's native valley), and killed, wounded, or took prisoners upwards of 2000 men. But the contest was too unequal, and this was the last of their successes. They were hunted from post to post, from rock to rock; they were obliged to conceal themselves like wild beasts in the depths of their forests, in their remote caverns, or on the tops of their mountains, and this during all the rigour of winter. Some laid down their arms, some escaped into Austria, more were taken prisoners by the French, who kept their word, and shot them like brigands, and at last Hofer was left almost alone.

From the beginning of December, 1809, to about the middle of January, 1810, this remarkable man, on whose head the French had put an enormous price, lay concealed in a small hut, situated in a rocky hollow, near the summit of one of the loftiest mountains of the Tyrol. But, besides his family, a friend and former confidant knew the place of his retreat, and had the baseness to betray him. This villian was a priest;—his name (may it be forever execrated!) was Donay. In the darkness of night he led a strong detachment to the spot, and the hut was surrounded. Hofer's fortitude did not quail at this awful moment. He presented his breast to a company of grenadiers, saying, "I am Andrew Hofer! Frenchmen, fire! kill me at once, but save my wife and children!" The soldiers rushed upon him, and, having loaded him with chains, carried him down to Meran, where he was joined by his family, consisting of his wife, a son about twelve years old, and a daughter. From Meran he was marched to Botzen, and thence he was sent, under a strong escort, to the fortress of Mantua, which was already crowded with his unfortunate countrymen. The only tears he was seen to shed was when they forcibly separated his wife and children from him at Botzen.

A French court-martial, presided over by General Bisson, was soon assembled. The injustice of the case—the heroic bravery and humanity of the prisoner—pleaded strongly in his favour; and it is due to the French officers to state that the majority of them were for a sentence of limited confinement, and that two of them had even the courage to vote for a full acquittal. But, as far as justice and mercy were concerned, these tribunals were mere farces. The doom of Hofer was signed by a higher hand, and the commands from Paris, conveyed from Milan to Mantua by telegraph, were, that Hofer should be condemned and shot within twenty-four hours. He died as he had lived, a brave and religious man. The following remark by M. Mercey is characteristic of his nation, but contains a fact rather honourable to it:—"They killed him out of obedience. After his death, however, they rendered him the same honours that are paid to a general officer; and the body of the Tyrolean patriot was carried to its last home on the shoulders of French grenadiers." The Emperor of Austria, who could hardly do less,
assigned a pension to his family; and, in 1823, he ordered that the remains of Hoier should be brought from Mantua to the town, and then mounted in a cathedral-church of the Holy Cross. On the 22d of February six of the patriot's companions in arms entered the metropolitan church bearing the coffin, upon which lay the broad-brimmed peasant's hat and the sword of the hero. An immense concourse of Tyroleans followed to the tomb, over which the Austrians spoke of erecting a monument, which as far as we are informed, has not yet been executed.

MINERAL KINGDOM.—SECTION XI.

Silver (concluded).

Silver-Mines in Europe.—This metal has been found for many ages in various countries of Europe. The most productive mines have been those of Saxony, Austria, Hungary, Norway, Russia, and Spain. But the average annual produce of all the mines of Europe in the last twenty years of the eighteenth century, according to Mr. Jacob, did not exceed 600,000L. in value. The mines of Saxony were discovered in the tenth century; and, in the early part of the thirteenth, the mines of Schneeberg are said to have yielded 300,000L. annually. If this account be true, there has been an immense falling-off of late years, notwithstanding the skill, economy, and industry practised in the mines of Saxony, which are esteemed in these respects by none in any part of the world; for the annual produce of all the mines, taken on an average of late years, cannot, Mr. Jacob says, be estimated higher than 400,000 ounces of silver, or about 100,000L. The richest of the Saxon mines is that called Himmelfürst, twobrothers, Germans, of the name of Fugger, who, in building the great palace of the Spanish monarchs,—the Escorial. In the year 1598 they were leased to two brothers, Germans, of the name of Fugger, who, were celebrated as the most skilful miners of that age; and during their occupancy of them they acquired immense wealth. Both brothers were created counts in Spain, and they built a street in Madrid which still remains, and is wherethey found, ordered that the remains of Hofershould be brought from Mantua to Innsbruck, and there interred in the cathedral church of the Holy Cross. On the 22d of February six of the patriot's companions in arms entered the metropolitanchurch bearing the coffin, upon which lay the broad-brimmed peasant's hat and the sword of the hero. An immense concourse ofTyroleans followed to the tomb, over which the Austrians spoke of erecting a monument, which as far as we are informed, has not yet been executed.

THE PENNY MAGAZINE.
to warrant any rational belief that silver constitutes one of the mineral treasures of this country. About fifty years ago a vein of silver-ore was, for a short time, wrought with great advantage in the parish of Alva in Stirlingshire; the ores were native silver and the sulphur, and from 40,000l. to 50,000l. worth were obtained before they were exhausted; after which every search to recover the vein proved fruitless, and since that time no silver has been obtained in any part of Scotland. In the year 1607 a silver-mine was discovered at Hilderston, near Linlithgow, and in the General Register House at Edinburgh are preserved the original accounts of the workings there, in three folio volumes, entitled, ' The Accomptis of one noble Lord George, Earl of Dunbar, Lord Home of Berwick, Lord Highet, The-saurer of Scotland, and Lord Governour of his Majesties Mynis within the same kingdome. What the produce was, or when they were given up, does not appear; but the ' Summa of the hall money deburist in ordinary and extraordinary expenses, and upon materials and all other necessaries for the Kingis most excellent Majestie his Silver Myynes of Hilderston,' fra May 8, 1604, to December 2, 1610,' was 39930 pounds Scots, or about 3327l. sterling.

Of the silver formerly obtained from Asia, we know but little, and a small amount has been derived from thence in modern times. There are silver-mines in the province of Etruria, in Aragon, which yield silver present about 120,000l. annually. None are known to exist in Persia, or in any part of the possessions of the East India Company. But there are some in the eastern part of China: of these we know nothing more than that they exist; but that they have become very productive of late years is evident from the remarkable fact, that China from being an importing is now an exporting country for silver. Canton exported silver to England, in 1829, equal in value to 300,000l., and about as much more to India; and a considerable part of this large export is native silver. Silver does not appear to be a product of any part of Africa, as known in modern times. This metal is spoken of in the earliest records of the history of the human race; and from numerous passages in the sacred writings, it appears to have existed in considerable abundance. Among these the following are remarkable:—And all King Solomon's drinking-vessels were of gold; and all the vessels of the house of the forest of Lebanon were pure gold; none were of silver.—And it was never accounted of in the days of Solomon.—And the king made silver to be in Jerusalem as stones, for abundance. —1 Kings, c. x. v. 21 and 27. There are innumerable passages in the Classics which also bespeak great store of silver, and which render it probable that the supply had not only not diminished, but had been considerably augmented. We have no very distinct accounts from what mines it was chiefly obtained. Herodotus speaks of silver-mines in Cyprus; and, according to Phlegon, the Athenians were much engaged in silver-mines of their own country from an unknown period; and they acquired a considerable revenue at one time from mines in the Island of Thaurus, on the coast of Thrace. Epirus had silver-mines which continued to be worked to the time of Strabo. However unproductive the mines of Spain now are, they appear to have yielded a considerable quantity in former times. Pliny relates that a mine called Bebulo, from the discovery, supplied Hannibal with 300 lbs. of silver daily. Polybius, as quoted by Strabo, says that the silver-mines near to New Carthage were very productive. They were distant from the city about 20 furlongs, and embraced a circle of 40 furlongs, wherein 40,000 men were employed. Silver used to be got by the ancients from the Island of Sardinia in considerable quantities, * Macenachloch's Commercial Dictionary; and Mr. Jacob thinks, most probably, from a lead-ore, as a vein of galena is mentioned by Captain Smyth to exist near Rio de Caro, which yields six ounces of silver in the quintal, or 102 lbs.

FABLES.—No. 1.

The Wolf and the Lamb.

We doubt not that the more juvenile readers of the ' Penny Magazine,' will be well pleased to learn that it is our intention to furnish them with an occasional illustration of some one of the more interesting fables attributed to Aesop. These fables are admirably calculated for illustration by wood cuts; and they have been accompanied by such illustrations almost from the time of the invention of printing. In order to render this class of subjects generally acceptable to all our readers, we shall occasionally prefix the account of the fable illustrated, by stating such particulars on the general subject as may seem to us curious or interesting.

The good opinion of fables which we contract during our childhood, and the recollection of the enjoyment they afforded, very generally dispose us to regard them with complacency in after-life. Nor is this feeling misplaced. There is no possible reason why, when our minds and tastes have acquired maturity, we should look back with unkindness or scorn upon that which was a fitting aliment when we were called young and immature. These propositions are, in fact, admirably calculated to make impressions on uncultivated or unformed minds, and to convey, in the most agreeable form, moral instruction to them. Hence it is that fables enjoy such high poplarity, not only among children, but among all rude and only partially civilized
people. The same vehicle which in one state of society conveys instruction to the minds of men is chiefly left in another, more advanced, to perform the same office for children. Sometimes, however, when a man of high genius, such as La Fontaine was, infuses his own particular vein of talent into these homely vehicles of instruction, the fable that was alluring to the child becomes delightful to the man; and thus fables have, more or less, ultimately come to form an important portion of the unrefined literature.

Fables are of such high antiquity that our earliest information concerning them, which dates nearly 3000 years before our present era, leaves us to infer that they were then familiar, and had long been in use. It is not difficult to discover the purposes for which they were first employed, and the occasions in which they originated. They appear to have arisen among people who, as hunters or shepherds—most probably Old Man and his Ass,' the 'Shepherd's Boy and the Wolf,' the 'Travellers and the Bear,' &c., which occur in the common collections of fables. This class will also include nearly all the little narratives which are called parables in Scripture. Indeed the earliest specimen of this sort of fable occurs in the Old Testament, and it is so very beautiful, and so strikingly illustrates our previous remarks on the ancient uses of fable, that being conveniently short, we cannot refrain from introducing it. In the Book of Samuel we are told that David in the time of his prosperity indulged a passion for a married woman, which in the end induced him to resort to a successful contrivance for procuring the death of her husband. To awaken his conscience to the enormity of his conduct, a prophet was sent to him, and thus addressed him:

"There were two men in one city, the one rich and the other poor. The rich man had exceeding many flocks and herds: But the poor man had nothing save one little ewe lamb, which he had bought and nourished up: and it grew up together with him, and with his own cup, and lay in his bosom, and was unto him as his daughter. And there came a traveller to the rich man, and he spared to take of his own flock and his own herd, to dress for the way-faring man that was come unto him; but took the poor man's lamb and dressed it for the man that was come to him." This touching little fable was perfectly successful in its object. We are told that "David's anger was greatly kindled against the man, and he said to Nathan, As the Lord liveth, the man that hath done this thing shall surely die: And he shall restore the lamb fourfold, because he did this thing, and because he had no pity. And Nathan said to David, Thou art the man!" It is impossible to imagine anything more forcible than this application, after the criminal had been unwittingly led to pronounce sentence against himself.

The second class of fables, according to the arrangement we have mentioned, are those called Moral Fables, or Apologies, in which not only beasts but trees and other inanimate substances are introduced as actors and speakers. It therefore differs from the former class in this, that it does not contain possible circumstances, since beasts cannot speak, and vegetables cannot think, as they are represented to do. It seems to us probable that the branch of fable which describes the actions and imagines the speeches of beasts is the earliest form of fiction. Nothing could be more obvious to persons conversant with animals, as the ancient shepherds and hunters were, than to suppose them to express their feelings in certain circumstances. To extend the same power to vegetables, was not nearly so obvious an idea, and must probably result from a desire to enlarge the limits of this class of fable. Some of the considerations stated

* Judges x, 15.
at the commencement of this article seem to render it unlikely that what is called the "Rational Fable," should be the earliest form of fiction. Fables of the present class are frequently called "Æsopic Fables" not because Æsop was the inventor—for they were in use long before his time—but because he excelled in them beyond any of his predecessors. We have already mentioned Jotham's fable of the Trees as the earliest existing specimen of this class of fable.

The remaining class is designated Mixed Fables, because they combine something of both the preceding classes, as men and beasts are introduced in them conversing together. There are many of these in the common collections. The following, which is not contained in those collections, is one of the best we happen to have met with. It was delivered by a petty king with the view of dissuading the ancient Gauls from allowing to certain foreigners who had lately come among them the desired permission to build a city. He told them that a bitch, large with young, begged of a shepherd a place to lay her whelps in; and when she had obtained it, she further asked for leave to rear them there. This she also obtained. At length the whelps grew up, and then the bitch became bold, and, depending upon the strength of her family, claimed the property of the place. By this fable it was obviously intended to intimidate the persons who now appeared as strangers hereafter, if permitted to settle, claim to be masters of the country.

The fable which is illustrated in our present Number, as well as the others which we propose to furnish, belongs to the class of Moral Fables, or Apologues. Of the many versions which offer themselves for preference, we cannot in the present instance find one that satisfies us better than that which is in Dodsley's edition, published in 1764. We may here add, that, in the remaining fables, we shall make it a point to select that version, whether in prose or verse, which seems to us the best or most interesting.

"The Wolf and the Lamb."—A wolf and a lamb were accidentally quenching their thirst together at the same rivulet. The wolf stood towards the head of the stream, and the lamb at some distance below. The injurious beast, resolved on a quarrel, fiercely demands, "How dare you disturb the water which I am drinking?" The poor lamb, all trembling, replies, "How, I beseech you, can that possibly be the case, since the current sets from you to me?" Disconcerted by the force of truth, he changes the accusation. "Six months ago" says he, "you vilely slandered me."—"Impossible," returns the lamb, "for I was not then born."—"No matter, it was your father then, or some of your relations." And immediately seizing the innocent lamb, he tore him in pieces.

Leonard Willan, in his version of Æsop, published in 1630, under the title of "The Phrygian Fabulist," has not been very successful in this fable, but his "Moral" is quaint and pithy.

"Licentious Powers thus often circumvent,
By false pretences, the poor Innocent;
But if those fail their purposes to form,
Another's crime must then his guilt suport.
As accessor to what the charge had mist,
'Tis crime enough that he can not resist."

The last line seems to have so much pleased the author of a later and more popular version in the same century, that he repeats it in his "Moral," which is as follows:—

"It is an old saying, That it is an easy matter to find a staff to beat a dog. A man in power, if he list to hurt, easily takes occasion of doing mischief. He hath offended sufficiently who cannot resist."
KILDARE, although the capital of a county in Ireland, is twenty-eight miles from Dublin, and is a borough, governed by a mayor, a recorder, and two portreeves. It is pleasantly situated upon a rising ground; but the buildings are of an inferior description, forming one of the few towns not containing more than 1798 inhabitants. It is twenty-eight miles from Dublin, and is a borough, governed by a mayor, a recorder, and two portreeves. It is pleasantly situated upon a rising ground; but the buildings are of an inferior description, forming one of the few towns not containing more than 1798 inhabitants.

(Revises of the Cathedral of Kildare.)
tolerable street and a few lanes leading therefrom. The place has no trade, and is chiefly supported by the horse-races, which are held on an extensive common in the neighbourhood, called the Curragh of Kildare. This is a large plain, formerly surrounded by a wood of oaks, which gave the name of Chilledair to the town, and was in the time of St. Brigid, whom we shall presently have occasion to mention. It is the finest common as any in Europe, containing about 5000 English acres, and forming a most beautiful lawn, on which large numbers of sheep are pastured. This is the Newmarket of Ireland, and in some respects is considered to exceed our own. The meetings are held in April, June, and September, when king's plates are run for by Irish-bred horses. These plates were originally given at the suggestion of Sir William Temple, who, among other schemes for the benefit of Ireland, recommended this, with a view to the improvement of the Irish breed of horses. The place was, however, remarkable for its horse-races long before king's plates were established.

Although of little importance at present, Kildare contains some interesting evidences of its former consideration. The principal of these is the cathedral, the greater part of which is in ruins, the choir only being now in a fit condition for religious services. The ecclesiastical establishments for which, more than for any thing else, Kildare was formerly distinguished, owe their origin to St. Brigid. This lady, who was the illegitimate daughter of an Irish chieftain, was born in the year 458. In her fourteenth year she received the veil from the hands of St. Patrick, or one of his immediate disciples. She afterwards visited the abbey of Glastonbury in Somersetshire, and on her return (or, at any rate, before 454) founded a nunnery at Kildare. About the same time an abbey was also founded under the same roof for monks, but separated from the nunnery by walls. The monks and nuns had but one church in common, which they entered by different doors. St. Brigid presided as well over the monks as the nuns, and, "strange to tell!" exclaims Archdall, the abbott of the house remained subject to the abbess for many years after the death of the celebrated foundress, which took place on the 1st of February, 523. She was interred at Kildare; but her remains were afterwards removed to the cathedral and laid beside those of St. Patrick and St. Columba. This St. Brigid or Bridget became quite the Virgin Saint of Ireland, and next to the names of the Virgin Mary and St. Patrick her name obtained more reverence than any other in the calendar.

The amount of the influence which this extraordinary female acquired may be estimated from the fact, that she is represented as the foundress not only of the monastery but of the see of Kildare. It is stated that she presented a person variously called St. Conlath, Conlaid, and Conlain, who, with her assistance, erected the cathedral. Some writers, however, contend that there were bishops of Kildare before this personage; but Sir James Ware prefers the authority of the persons who have written the life of St. Brigid. One of these gives this account of the transaction:—"Conlath, an holy bishop and prophet of the Lord, who had a cell in the south part of the plains of Liffy, came to Kildare, and spoke to St. Brigid, and abode with her; and the holy Brigid elected him bishop of Kildare." In the next century, Aod Oubh, or Black Hugh, the King of Leinster, withdrew to the monastery of Kildare, of which he in time became abbot, and afterwards bishop of the see. The first Englishman who occupied the see was Ralph of Bristol, who died in 1232. This prelate went to great expense in repainting and ornamenting the cathedral. In the reign of Henry VII. It had again fallen into decay, and was repaired by the bishop Edward Lane, who died in 1522. It was a fine old Gothic building, now mostly in ruins. The walls, however, are still standing, together with the south side of the steeple and the walls of the nave, which has on the south side six Gothic arches and six buttresses. The north side of the steeple is level with the ground, and is said to have been beaten down, with other parts of the building, by a battery planted against it during the disturbances in 1641. The church, in which the church services are still performed, affords little matter for remark. It is kept in decent repair, and a handsome Venetian window supplies the place of an old Gothic one, which was much admired. The south wing, which was formerly a chapel, is a mass of ruins; but two statues in alto-relievo may still be noticed. One of them represents an ancient knight of the Fitzgeraldfamily, clad in very curiously-cut armour, and surrounded by heraldic escutcheons; and the other a bishop with his pastoral staff and mitre, supposed to be the Bishop Lane already mentioned.

At the distance of about thirty yards from the west door of the cathedral stands a very fine specimen of those "Round Towers" which so frequently occur in Ireland, and have occasioned a vast quantity of unprofitable speculation. The round tower at Kildare, which is included in our wood-cut, is one of the best finished and most skillfully-built structures of the kind in Ireland. It is built of white granite to above twelve feet above the ground, the superstructure being composed of common blue stone. It is about 130 feet in height, and battalioned at the top, and has, about fourteen feet from the foundation, a large arched aperture, apparently intended for a door. At no great distance from this tower is seen the pedestal of an ancient stone cross, the upper part of which still lies near it on the ground.

In the neighbourhood of the tower are the remains of a building called the Fire House, in which the "inextinguishable fire" was formerly kept by the nuns of St. Brigid, and of which Giraldus Cambrensis gives the following account:—"At Kildare, which the glorious Brigid rendered illustrious, are many miracles worthy of notice; and the first that occurs is 'Brigid's Fire,' called the 'inextinguishable fire;' not that it cannot be put out, but because the nuns and religious women are so careful and diligent in supplying and recruiting it with fuel, that from the time of that virgin it hath remained always unextinguished through so many successive years." It had been well if the matter had stopped here; but Giraldus goes on to say:—"Though so vast a quantity of wood hath in such a length of time been consumed in it, yet the ashes have never increased." It seems also that this fire was never blown by the human breath, lest it should be contaminated; but fans or bellows were employed for the purpose. At any rate, before 1240, it was put out by the Archbishop of Dublin in the year 1290. What were the reasons does not exactly appear; but Ware says:—"Perhaps the archbishop put out the fire because the custom not being used in other places, it might seem to have taken its original from an imitation of the Vestal Virgins, whom Numa Pompilius first instituted, and dedicated to the holy mysteries of Vesta for the preservation of a perpetual fire. He instituted fire, called the 'inextinguishable fire,' that it might, from the time of St. Brigid, it hath remained always unextinguished through so many successive years."

Whatever was the object of this fire, it seems to have been afterwards rekindled and kept burning until the suppression of monasteries in the reign of Henry VIII.
Monument to James Watt, in Westminster Abbey.—In the 26th Number of the ‘Penny Magazine’ we gave an engraving of the statue, by Mr. Chantrey, to be erected to James Watt, in Westminster Abbey; and we supplied a brief notice of the public meeting in 1821, at which it was resolved that such a statue should be raised to the memory of one of the great benefactors of the human race. That monument has now been completely opened; it is one of the most beautiful in the Abbey; and is remarkable for the following striking inscription, which is understood to be written by Lord Brougham:

Not to perpetuate a name
Which must endure while the peaceable arts flourish,
But to show
That mankind have learned to honour those
Who best deserve their gratitude,
The King,
His Ministers, and many of the Nobles
And Commons of the Realm.
Raised this Monument to
James Watt,
Who, directing the force of an original Genius,
Early exercised in philosophical research,
To the improvement of
The Steam Engine,
Enlarged the sphere of his Country,
Increased the power of man,
And rose to an eminence place
Among the most Illustrious followers of Science
And Arts, and of the useful Arts.
Born at Greenock MDCCXXVI.
Died at Heathfield, in Staffordshire, MDCCCLX.

THE PENNY MAGAZINE.

Treatment of the Gout.—Not more than forty years ago, the gouty had little to hope from medical treatment. Among them, the virtues of patience and flannel had grown into an aphorism, while others sought for aid from the hopeful efficacy of the Bath waters. At length the Eau Médicinale was discovered, and all was ease. This celebrated remedy, though it has no pretension to the old recom- mendation of some medicines, ‘that if they do no good, they can do no harm.’

Why cannot I spy a talk?—I have been asked by men of the first education and talent, whether any thing really dient had been discovered in the organs of voice in the course of the gathering of the knowledge from which sound will give me leave to place this matter correctly before him. In speaking, there is first required a certain force of expired air, or an action of the whole muscles of respiration; in the second place, the vocal chords, in the top of the wind- pipe, must be so regulated that the air, by the same force, will give no vibration will take place, and no sound issue; thirdly, the open passages of the throat must be expanded, contracted, or extended by their numerous muscles, in correspondence with the condition of the vocal chords, or glottis; and, these muscles are to be used in such a manner as to give the voice a sort of action suited to the organs of voice—different to combine them in the bark of a dog, in the neighing of a horse, or in the shrill whistle of the ape. That there are wide distinctions in the structure of the different classes of animals is most certain; but, independently of those which are apparent, there are the secret and minute varieties in the associating chords. The ape, therefore, does not articulate—first, because the organs are not perfect to this end; secondly, because the nerves do not associate these organs in that variety of action which it is necessary to speak. We are all the exterior apparatus perfect, there is no impulse to that act of speaking.—Sir C. Bell on the Hand, Chap. X.

Paper-Making in Tibet.—At a little distance from us, and close to the river, two people are engaged in preparations for making paper. They have two large bags of old paper that has been written upon, and manufactured from the bark of the Lathyrus, formerly mentioned. A few large flat stones, suited to the organs of voice, are placed near the edge of the water, where a portion of the stream has been divided from the main current by a low piece of sods. The grass are two frames of wood, covered on one side with fine cloth, and the other is open, forming a shallow tray. The workmen begin by dipping some of the old paper in the water, then beating it upon a flat stone with a small round tool till it is reduced to a pulp. One of the trays is then placed in the broad part of the canal, leaving a space for the water to pass. But this is put into a goer pump with water, and worked into a paste: it is then poured on the cloth, and thus is sunk two or three inches in the stream, the water rises through the cloth into the tray, and mixing with the pulp dilutes it. The impurities, which swim, are picked out, and the pulp is then put into a press, which is then inverted. When perfectly dry, the paper is removed, and folded into a sheaf, and bound together by a string. A workman engages in the manufacture of paper, which is superior to that made in Hindustan.—Journey in Tibet by W. Moorcroft, in Asiatic Researches, vol. xii., 1818.
Our present wood-cut is a portrait of the interesting animal which has lately become an inmate of the Surrey Zoological Gardens: it is shown in an attitude which displays its mode of action in a state of nature. The 69th Number of the 'Penny Magazine' contains a full description of the physical conformation and appearance of the orang-outang, with a particular account of the habits and dispositions of the living specimen which was brought from Java by Dr. Clarke Abel in 1817, and which was, we believe, the first of the peculiar species ever seen in this country: another arrived in 1831, but died in three days; a third was exhibited at the Egyptian Hall, Piccadilly, in the same year; and a fourth was, about two years since, kept in the Tower. These are, to the best of our knowledge, the only living specimens which had been seen in this country previous to the one now under consideration. The difficulty of transmitting them to England, and the short time which they have been here kept alive, arises principally from their great sensibility to the difference between their native climates and those through which they are brought, and to which they come. Our former account of the orang-outang allows us to limit our present statement to the individual in the Surrey Zoological Gardens.

The animal is one of four which were brought in a trading-vessel to Calcutta, where they were purchased and shipped for this country on board the Orontes. Their departure during the voyage was similar to that of Dr. Abel's specimen. Like it, they were allowed perfect liberty, and were permitted to clamber about the rigging of the vessel and to gambol with the sailors at pleasure. Like it, also, they were keenly sensible of the decrease of the temperature; and the caboose, or kitchen of the ship, formed the shelter which they preferred at night on account of its warmth. Three of them, however, died before the ship reached England; and, notwithstanding the arrangements which have been made in its favour at the Gardens, the survivor appears altogether so uncomfortable, that there is reason to fear that its remaining existence will not be of long duration.

This specimen, technically described as the Simia Satyrus of Linnaeus, is a female, and is said at the Gardens to be three years of age. It is smaller than the specimen described in the former article, but in other respects it closely corresponds with the description there given. Its height, from the top of the head to the heel, is two feet two inches, and its weight does not exceed fifteen pounds avoirdupois. The fore limb, from the shoulder to the end of the middle finger, measures the extraordinary length of one foot nine inches; and the length of the hand alone, from the wrist to the tip of the middle finger, is six inches and a
half. The palm of the hand measures three inches and a half; the sole of the foot five inches; and the width over the breast is nine inches.

This animal occupies the principal apartment of the neat and comfortable repository No. 8, on the south side of a small circular pond. This repository, which contains several other animals of kindred species, is, like the monkey-house, warmed by a hot-water apparatus, which constitutes the only provision made for the orang-outang, which is held in a temperature more elevated than that of the season. But, in the case of the orang-outang, a special and very judicious provision has been made, though it still seems scarcely adequate to the poor creature's wants. Her apartment is fitted throughout with green baize, in addition to which a blanket is hung up behind her bed. The inner half of the floor is a raised platform, also covered with green baize, upon which is a feather-bed similarly covered. There squats the orang-outang, wrapped up in a doubled blanket. The first appearance she presents to the visitor is rather startling. The only visible parts of her person are the face and the hand with which she holds the blanket about her in front. During our visit, she was several times uncovered, and always settled herself again in the same manner;—that is, sitting on the bed in a stooping posture, and the blanket, which is folded and tucked under her, appearing but as a thin film between her and the bed, so gathered around her as to permit her to have a complete view of all that is going on in front of her cage. Her large, round, blue eyes, peering thus with grave and quiet curiosity from amidst the ample folds of the white blanket, present, in the first instance, a somewhat spectral appearance; and then the association of blankets, in fine weather, with a face and eyes somewhat human, suggests to the visitor quite unexpected ideas of humanity in a state of sickness and suffering. The appearance of the orang-outang, indeed, even when uncovered, affords a strong contrast to that of all the other animals in this repository, and particularly with that of her immediate neighbours, the trim and brisk-looking Jacopo the aëronaut, so denominated on account of his repeated ascents in a balloon with Mr. Green, and the grotesque, inquisitive, vigorous and irritable, but withal good-humoured, blue-faced satyr. There was a little kitten in the same cage, but the orang-outang did not appear to take the least notice of it, not even when the keeper put it up close to her face. The keeper himself, however, seems to have already made some way in her regards, for when he offered his hand, she readily stretched forth her own to him from among the folds of the blanket.

It seemed a pity to encroach upon the poor animal's sole remaining comfort and business of life—that of keeping herself warm—for the sake of satisfying our curiosity, or rather to enable us to make this communication to our readers. However, the keeper entered the cage and attempted to draw off the blanket. The animal resisted with great vigour, holding it tightly around her with both hands, and at the same time showing her teeth and screaming—not, as it appeared to us, in anger, but simply in the way of complaint. She did not make the least attempt, by biting or otherwise, to express anger at the keeper's conduct. The blue-faced satyr, after he had received much less provocation, treacherously took an opportunity of pinching the back of the keeper's hand, after he had shaken it in token of reconciliation. This satyr, however, has so much mischievous good-humour about his eyes, that we are quite willing to believe that he intended this plan only as a token of reconciliation.

When the keeper succeeded, again and again, in partially uncovering the orang-outang's person, she applied herself with greater vigour and excitement than her grave and quiet appearance seemed to pro-
that they had found one of the Fortunate Isles. The eastern coast, that of St. Croix, on the contrary, bears altogether a sterile character. The summit of the peak itself is not more than one hundred and twenty feet above the level of the sea, and the promontory of basaltic lava which extends towards the point of Maga. Five-sixths of the island are composed of rocks, woods, and inaccessible mountains. The peak itself is about 12,000 feet above the level of the sea, and is a very majestic object as seen from the anchorage at St. Croix, notwithstanding the want of picturesque effect on that side of the island. The summit only was visible to Humboldt from thence, the rest of the mountain being enveloped by thick and dark clouds. The cone forms an ugly and brilliant object when illuminated by the first rays of the sun, assuming a brilliant ruddy hue, which, as the sun ascended, changed gradually to a most dazzling white.

The traveller last quoted remarks that in the Cordilleras and Andes it is observed that conical mountains are more frequently free from clouds than those the crest of which is roughened with many small inequalities. But the Peak of Tenerife, notwithstanding its pyramidal form, is enveloped in clouds for a great part of the year. The summit is seen several times a day by the traveller; but it has never been the occasion of our journey was delightful. In the course of an ascent of the peak itself is not more arid than the promontory of basaltic lavas, which extends towards the point of Maga. Five-sixths of the island are composed of rocks, woods, and inaccessible mountains. The peak itself is about 12,000 feet above the level of the sea, and is a very majestic object as seen from the anchorage at St. Croix, notwithstanding the want of picturesque effect on that side of the island. The summit only was visible to Humboldt from thence, the rest of the mountain being enveloped by thick and dark clouds. The cone forms an ugly and brilliant object when illuminated by the first rays of the sun, assuming a brilliant ruddy hue, which, as the sun ascended, changed gradually to a most dazzling white.

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fuel, and after a few preparatory arrangements we dined and spent a pleasant afternoon. Some of the party, however, were much knit up to perform a distance, which on ordinary occasions is of a rugged bed of lava. The Sugar-Loaf, so called from its shape, is the crown of the peak, and is the most difficult part of the ascent from its nearer approach to the perpendicular, and consisting of loose lava, very much like gravel, which gives way under the feet, and sometimes brings the adventurer down at one step, what it has cost him six or seven to gain. A sulphureous smoke, also, is constantly oozing through the surface in this part, and has a very unpleasant effect upon some stomachs. Perseverance at last brought the whole party to the top: few of them, however, stayed more than a very few moments to indulge their curiosity, not approving the state of things there. On approaching the summit, the noise made by the wind in the crater put us all on the qui vive; there was something so unnatural in it, that it is useless to attempt to describe it, indeed it scarcely admits of a simile. Such was the noise and commotion, that we really felt some scruples as to the prudence of proceeding, not knowing whether we might not expect some sudden eruption. When we did gain the summit, the greatest caution and our best preparations were necessary to maintain our footing; indeed, had we not crouched down behind the rocks and clung to them when exposed to the wind, it is not easy to say what might have happened to us. It was quite impossible to walk about and examine the crater. The superficies consisted of a very brilliant sulphur, which was so excessively hot, that it was out of the question to remain more than a minute or two, without having ones boots burnt.

Being unable in our situation to see anything more interesting than the clouds flying by us at an incredible velocity, we soon rejoined the others who had been induced to descend on the first impression which such an unfavourable view created; indeed we could not have been more unfortunate in selecting a day: for weeks previous the weather had been beautifully calm and clear; but now, instead of the anticipated view of sun-rise, Teneriffe just under us, and the six other Canary islands in the distance, we scarcely see half a mile around us.

On returning to the Estancia, we visited the ice-cave, a strange luna naturæ, if I may so term it; at least it seems wonderful that in a bed of lava like that of which this part of the Peak is composed, there should be found the slightest moisture, much more so a spring. The water is distilled very gently through the rocks above the cave, and is, I think, the best and coldest I ever tasted: the greatest part of the surface is frozen. Leaving this, we once more made for the Estancia, before reaching which every bone in my skin ached with fatigue, and my knees quivered as if they would no longer support my body. On our arrival, we were all glad to lie down for an hour.

By the time we had breakfasted and collected a few specimens of lava, obsidian, and pumice-stone,—had sent on our baggage and mounted our mules,—the sun was nearly at the meridian. We had consequently a very hot ride over the sandy plain, looking anxiously to the clouds beneath us for protection from the intolerable heat. These clouds have a very strange and interesting appearance when viewed from above; the only thing I can compare them to is a sea of wool. When at length, to our great satisfaction, we had descended to the clouds, we dined in the midst of them. Dining in the clouds may seem romantic, but there is nothing particular in it.

In the evening our whole party arrived in safety at Port Orotava, having acquired, in a few hours, a good practical knowledge, if of nothing else, at least of the effects of excessive heat, cold, and wind.

On my former excursion I lost all the skin off my face, but on this occasion I was unnaturally enough to wear a veil, which saved me very much.'

CIDER.

Cider, which is the fermented juice of apples, is conjectured to have been originally known in Africa, it being noticed by the two African fathers, Tertullian and Augustine, and it was introduced by the Carthaginians into Biscay; where, as well as in other countries unconnected to the culture of the vine, it has been usefully adopted. It appears that the Normans obtained it from Biscay, and if cicerar means cider, the mention of it occurs in Hengist's feast in Nennius, which is not improbable, because cyder is Anglo-Saxon. It is not known from whence we first received the cultivated apple, though it is said that some of its precursors were brought up in the time of Philip upwards of twenty varieties were known, and Parkinson, in 1629, enumerates fifty-seven kinds. Gibbon says, that Lord Scudamore, ambassador to the court of France in the reign of Charles I., obtained scions of cider-apple trees in Normandy, and
encouraged the grafting of them in Herefordshire, which has since been so celebrated for its cider. Hartlib, in 1650, believes that there were 500 sorts in this country.

The fruit-catalogue of the London Horticultural Society of 1831 contains the names of 1400 varieties of apple, and it does not include many of the names known in the west of England, though perhaps some of them may be synonyms. Apple-trees were anciently sprinkled with a libation of cider and toast on Christmas Day or Twelfth Eve, and this, which was probably a remnant of the sacrifice to Pomona, was considered conducive to the production of an abundant crop; and on St. James's day (July 25), the apples were blessed by the priest. The apples used for cider in the west of England are, among others, the Longney Russet—the Exel—the Duke—the Ansell—the Styre—the Redstreak—the Golden Harley—the Devonshire Willing, &c., &c., of which the Styre and some others are becoming extinct; but their loss is supplied by new apples of equal excellence. Generally speaking, those apples that are considerably astringent, and are unfit for the table or culinary purposes, make the best cider; while the Ashmead Pippin, which is sweet, and perhaps one of the best table-apples that we have, is not at all adapted for cider. Different apples are sometimes advantageously used together for the production of cider, and almost every cider-maker has some favourite sort, and some peculiar in the manufacture. Mr. Knight has ascertained that the specific gravity of the juice of any apple recently expressed denotes with very considerable certainty the strength of the future cider; and, according to Mr. Brande's table, the highest average of spirit or alcohol per cent. in cider is 9.87.

The process of cider-making in the West of England is to have the apple-trees gently shaken at two or three different times, that only the ripest fruit may fall; the apples are then laid in heaps, which, if circumstances permit, should be under cover, with a free admission of air. They are suffered to remain ten days or a fortnight, and some kinds even longer; and the good cider-maker takes care that the decayed apples and other impurities may be removed before they are taken to the cider-mill, where they are crushed by a large circular stone which is turned by a horse. When the apples are completely mashed, the must, as the crushed apples are called, is placed in large square pieces of hair-cloth, each hair-cloth being folded over so that nothing but the juice can escape when they are put under the screw-press to which they are removed, and where they remain till the juice is all expressed. The juice is received into a large tub, from which it is conveyed to the casks. Those who do not rack the cider (about which there is a difference of opinion) cover the bunghole of the cask with a tile, and let it stay till March, when to every cask of 100 gallons is put half a pound of hops, and a little colouring made of burnt sugar, and the cider is then stopped close, and is fit for drinking at the end of the year. It is doubtful whether the hops improve the cider, but they probably make it keep better; this method makes the strong cider, which is the principal beverage used in the cider countries; that consumed in London being prepared and sweetened by persons who purchase the cider from the cider-mill.

In Devonshire the cider is racked (which is, drawing the clear cider from the dregs, and putting it into clean casks) as often as the fermentation comes on, a brimstone-match being burnt in each cask before the cider is put into it: this management preserves the sweetness, but in an equal proportion diminishes the strength. Seven or eight sacks of apples will afford about a hundred gallons of cider, the expense of making which does not exceed 10s. A cider-mill has been lately constructed in Gloucestershire, which is much superior to the old mill; it is driven by water, and makes from 300 to 400 gallons a-day. In this mill the apples are placed in a large box, with an aperture in the bottom, which drops the apples between two iron rollers; these break them in pieces, after which they fall between two stone rollers set so close to each other as to crush the kernels of the apples, which is essential to the flavour of the cider. The must in this mill is received into a large tub beneath the rollers, and from thence put into the press.

Adulteration of Oils.—Olive-oil designed for the table is often adulterated with the oil of the poppy, and that which is used in the arts by the addition of rape-oil. Rousseau has founded on this, that the conducting power of olive-oil is electricity is 675 times less than that of any other vegetable-oil. He employs for this purpose a galvanic pile, one of which is a block of salt-petre, and the other a block of sandstone connected with the other is brought near a freely-magnetised and freely-suspended needle. The purity or impurity of the oil is known by the degree in which the declination of the needle is diminished on applying a drop of oil to this pile. Two drops of olive-oil compared to quadruple the conducting power of three drams of olive-oil. It is known that the conducting power of water depends on the salts which it holds in solution, may not the same thing be the case with the oils?—May they not owe their conducting power to the salts which they contain?—Raspail's Chimie Organique, translated by Henderson, §1066.

Caffre Fair.—The following account of the mode of barter as pursued at a Caffre Fair, held at Fort William, about forty-five miles from Graham's Town, Cape of Good Hope, is extracted from Lieutenant Holman's Travels, which gives it from the South African Advertiser. At eleven o'clock on Wednesday morning a flag is hoisted in the fort, and almost immediately after, straggling groups of Caffres may be seen advancing from the mountain tops, the women bearing on their heads the merchandise for the fair, consisting of hides, horns, milk, and green forage, and accompanied by their husbands and children. The fair is held immediately behind the fort, and almost immediately after, the women bearing on their headsthemerchandise which they have brought near a soldier's house, and when the barter commences, the hides and horns are ranged in front, the huts are ranged round in the middle, and the women are ranged in the rear. On the commencement of the barter, the huts are taken away, and a large ring is formed, and the barter begins. The fairistsupplies when there is a difference of opinion) covers the bunghole of the cask with a tile, and let it stay till March, when to every cask of 100 gallons is put half a pound of hops, and a little colouring made of burnt sugar, and the cider is then stopped close, and is fit for drinking at the end of the year. It is doubtful whether the hops improve the cider, but they probably make it keep better; this method makes the strong cider, which is the principal beverage used in the cider countries; that consumed in London being prepared and sweetened by persons who purchase the cider from the cider-mill.

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This valley, through which the rapid river Adige descends, is celebrated by all travellers in the Tyrol, as presenting some of the most picturesque and romantic of scenes. It is the principal of the lateral valleys of the country; but being little frequented by strangers, it is as delightful for the primitiveness of manners and appearance of its inhabitants, as it is for the beauty of its scenery and the number of its castles and towers which crown almost every insulated eminence.

On entering this valley on the Italian side, and going by Botzen, or Bolsano, the tourist has to find his way through a perfect labyrinth of streams formed by the Adige which divides itself into many separate channels, and not unfrequently overflows them all. But about four miles above Botzen the ground rises, the valley improves, and near to the old straggling town of Meran it puts on all its beauty. At that point it seems to terminate for the mountains, closing in on all sides, leave no visible passage for either the river or the road. A sudden turn, however, opens both, and the traveller goes on through a luxuriant and highly-cultivated country, until the encircling mountains again close in, and puzzle him as to how his future route can lie. Near to the town of Meran the arrow-like Passeier falls into the Adige, and some twelve miles up the valley of the Passeier stands the simple but much-honoured house of the patriot Hofer. Villages, hamlets, cottages, and mills, are thickly scattered through nearly the whole of the Meran district, and pure, sparkling rivulets, in some beautiful places forming cascades, and everywhere imparting verdure and coolness, tumble from the mountains and the hills to join the roaring Adige.
These numerous rivulets and brooks form a distinguishing characteristic in the scenery, and the Tyrolean peasants, who have great regard for their property, avail themselves of them for a variety of purposes, besides those of irrigation, uniting and conducting their narrow streams into one good water-course, which may drive a saw-mill, or a flour-mill, or otherwise economize labour, by a cheap and never-failing water-power.

Mr. Röhrer, a German traveller, who wrote an account of the Tyrol about forty years ago, says that on going one day into a peasant’s cottage he saw nobody there but a child in a cradle, and that to his great surprise the child just as quiet as if another member of the family were there to rock it. In seeking for the cause of this regular and constant movement, he found that a cord was fastened to the cradle,—that this cord went through a hole in the wall of the cottage, and was carried to a shaft which was set in motion by a wheel that was turned by a little streamlet.

Another distinguishing feature in the scenery of the valley of Meran arises out of the singularly-picturesque rocks and ravines which surround it. There is nothing of the sort in Switzerland that can stand a comparison with the celebrated falls of Schaffhausen, and that there is not a single waterfall of equal magnitude in the whole of the Tyrol, and happy is the boy who can carry with him some ten or twelve shillings as the savings out of his summer gains. Some of these humble laborious individuals have shown great intelligence, and even genius. Peter Anick, who was a common shepherd, made himself a first-rate geographer, and constructed a globe of extraordinary perfection, which is carefully preserved in Innspruck Castle. Peter drew up a map of the Tyrol, which is said to be the best as yet in existence.

All through the valley of Meran, in addition to the many beautiful species which grow wild, flowers are diligently cultivated, and most of the peasants’ houses have pots or boxes of blooming pinks and carnations on their window-sills. At the upper part of this lovely valley, the river Adige presents a magnificent spectacle, running for nearly a mile over a shelving series of rocks as a cataract, or at least as a glorious rapid. Some travellers say that these falls are far superior to the celebrated falls of Schaffhausen, and that there is nothing of the sort in Switzerland that can stand a comparison with them. Quiet, green, pastoral banks fringe on either side this fearful torrent and vast sheet of foam.

BUTTER.

In the most romantic part of the valley, about three miles above the town of Meran, there is a rugged, singularly-shaped gray rock, which is crowned by the ruins of an old castle—the far-famed castle of Tyrol (Teroldis), from which, curiously enough, the whole country is said to have derived its name. This is an object of great veneration to the peasants, who never approach it but with uncovered heads,—who consider it as the palladium of their nationality and independence, and who regard its desecration by the French and Bavarians, during the last war, as one of the most intolerable of the evils of foreign conquest. When the country was ceded to them, the Bavarians, after partially razing its walls, sold the old castle to a peasant for 2000 florins (about 1907.); but in 1814, the people of Meran bought it, and made a present of it to their restored sovereign, the Emperor of Austria, to whose remote ancestors it belonged. It is now a curious mixture of old and new buildings, having little that is warlike in its appearance, but being decorated from donjon-keep to sally-port with beautiful cherry-trees, that grow up among its grey walls. Around it are dark wooded mountains, rocks, ravines, and thundering cataracts.

Still ascending the valley of Meran, fields of the broad-leaved vividly-green Indian corn are found to give place to fields of barley, and these, in their turn, are succeeded by open pasture-land. The traveller then finds himself in a truly pastoral and primitive country where the rocks continually echo with the lowing of herds and the bleating of flocks, mingled with the sound of running waters.

M. de Bray was particularly struck with the familiarity and amiability of the cattle. In these elevated, salubrious regions there are no gad-flies or other tormenting insects, the passers by are few, and almost invariably shepherds, who always carry about them a little salt, or a species of powder composed of dried aromatic herbs, of which the cows are very fond. Accordingly as soon as they see a human being they gently approach him, expecting a little regale or present, and will put their fragrant lips to his pocket or into his hand to seek for it.

Every year these shepherds of the Tyrol send a part of their family on a migratory expedition, which is chiefly directed into Suabia, where they find employment in tending sheep and cattle. Troops of boys are placed under the guidance of steady old men, each troop having one Nestor who leads them the right road, and takes care of their interest and conduct. Every boy carries a pastoral pipe and a knapsack, with a small provision of oatmeal bread, and they generally cross their mountains in large companies. During the summer months they live scattered over the wide pastures of Suabia, and in spite of solitude and the coarsest nourishment, they are said to be very cheerful and always honest. Towards the end of autumn the same old men guide them back to the upper part of the valley, and lead their sheep in the opposite direction. Every farmer says that these falls are far superior to the celebrated falls of Schaffhausen, and that there is nothing of the sort in Switzerland that can stand a comparison with them. Quiet, green, pastoral banks fringe on either side this fearful torrent and vast sheet of foam.
burnt it in their lamps. Pliny says that butter was the favourite food of the barbarous nations, and that it distinguished the rich from the poor. A great deal was made of cows' milk, and it was also made of the milk of goats and ewes, that of the latter being the fattest. The milk was warmed in the winter, while in the summer it was made by frequent agitations in long vessels (burrums), a little water being added to produce acidity. The butter of the Moors of the empire of Morocco is made of all milk, as it comes from the cow, by putting it into a skin and shaking it till the butter separates from it; and a similar practice was observed by Hasselquist in an encampment of Arabs near Tiberias. The distinction of fresh butter is not modern, it being styled, in the middle ages, Physicus butyrum. The preparation of butter descended from the Britons to the Welsh and Irish; and the inhabitants of Cheshire, as neighbours of the north Welsh, were remarkably fond of it. Holinshed says of the ancient Irish, "oat-meale and butter they cram together; they drink whey-milke and beefe-broth;—they let their cows blood, which, growne to a gellie, they bake, and overspread with butter, and so eat it in lumps:" and the Scots were hardly more delicate, for "they brought furthermore from their houses to the field with them a vessell full of butter, cheese, meale, milke and vinegar, tempered together, as a shoote-anchor against extremehunger," upon which they would feed and sucke out the moisture threatened to kill Maxwell wherever he met him, if he refused to fight, which so frightened the king that he sent for and— butters superseded the use of "kychir grosse," or "kyckhir grosse," or dripping for breakfast, between the reigns of Edward IV and Elizabeth: and in the reign of Queen Elizabeth cost fourpence: at the hold-book of Lord North that a pound of butter in the reign of Queen Elizabeth cost fourpence: at the present time (the summer of 1835), a pound of the best butter in the west of England costs from sevensence to eightpence, while in the metropolis the price is fourteenpence.

A large portion of the butter consumed in London is in rolls without any impression. Dutch and Irish butter is also imported in considerable quantities, but the flavour and quality are not considered equal to the butter of this country; and the Dutch butter often abounds with hairs and other impurities. The firkin of butter contains fifty-six pounds.

Salted butter is prepared by working the moisture out of the butter and adding salt, after which it is closely pressed into the vessel, in which it is to remain till it is taken out for use.

Goats as Wet-nurses.—It is ordinary, all about where I live, to see the countrywomen, when they want suck of their own, to call goats to their assistance. And I have, at this hour, two goats that have never by the weight of a pound, or more than eight days after they were born. These goats are immediately taught to come to suckle the little children, well knowing their voices when they cry, and come running to them; when, if any other than that they are acquainted with be presented to them, they refuse to let it suck, and the child, to any other goat, will do the same. I saw one the other day, from whom they had taken away the goat that used to nourish it (by reason the father had only borrowed it of a neighbour) by the weight that was not touched any other they could bring, and doubtless died of hunger.—Montagu's Essays: Cotton's Translation, 1711.

Curious Fashion and Anecdote.—In 1612, (10 James I.) Mr. Edward Hawley of Grey's Inn, coming to court one day, Maxwell (a Scots man) led him out of the room by a black string which he wore in his ear, which was liketohave cost warm blood. Not only Grey's-Inn Society, but all the gentry in London thought themselves concerned in the affront; and Hawley threatened to kill Maxwell wherever he met him, if he refused to fight, which so frightened the king that he sent for the benchers, and made up the quarrel.—Tandale's Notes upon Rapin.—from Osborn.

Expeditvity of measuring distances from a Common Centre in London.—The Roman roads in Britain were all from London. No defect in our improved modern metropolis is more inconvenient than the want of such a stone, the various roads from London being now measured from ten or eleven different places, two, three, and even four miles distant from each other. The catalogue is curious: Hyde Park Corner and Whitechapel Church; the Surrey side of London Bridge and of Westminster Bridge; Shoreditch Church; Tyburn Turnpike; Holborn Bars (long since removed); and the place where Hicks's Hall formerly stood; "the place where the Standard in Cornhill" (of which no tradition remains, its exact site being unknown); and "the Stoves' End in the Borough," which moves with the extension of the pavement. Thus the actual measure of any point is not only uncertain without minute inquiry and local knowledge of London. The easy remedy consists in adopting the mileage of the Post Office, which shall have been re-measured from the new site of that office, the frontage of which grand centre of communication could not be more appropriately adored than by an obelisk which would become a London Stone, inscribed with the names and distances of large provincial towns, in imitation of that which stood in the Forum of ancient Rome. The vicinity of St. Paul's Cathedral, the most conspicuous object in London, recommends the Post Office especially for this purpose; and turnpike road trustees would not refuse to accommodate to it their milestones, under the direction of the road surveryor of the Post Office.—Appendix B. to Parish Register Abstract for 1831.
A general account of Durham Cathedral having been already furnished in No. 73 of the 'Penny Magazine,' we are now enabled to give a more detailed attention to that part of it called the "Galilee," and to the tomb of the Venerable Bede, whose remains are deposited there. As an account of that great ornament of the eighth century has lately appeared in the 'Penny Cyclopedia,' the present article will be particularly satisfactory to such of our readers as are subscribers to that publication, while nothing that relates to a man whose name is so familiar can be at any time uninteresting.

There is some difference of opinion as to the cause of the application of the name of Galilee to the western porch, raised directly under the west window of a cathedral or other great church, and which is still retained for the western porches of Durham and Ely cathedrals. Gervase, as quoted by Dr. Milner, if he does not enable us to trace the origin of the name, at least shows one of its common uses in this application. It seems that the western porch was the place in which females were allowed to see the monks who were their relatives.

A woman applying to see a monk, her relation, was answered in the language of Scripture: "He goeth
before you into Galilee, there you shall see him." The curious account of the origin of the Durham Galilee applies this information with peculiar point to that erection. St. Cuthbert, to whom the cathedral of Durham was dedicated, contended against a material aversion to women in consequence of having unjustly been accused of an illicit intercourse with a daughter of the King of the Picts. The lady herself accused him with the view of averting suspicion from the real offender; but the innocence of the saint is said to have been manifested by a miracle, and he granted his pardon to the culprit on condition that no woman should ever after be allowed to come near him. In consequence of this no woman was, in after time, allowed to enter a church dedicated by the saint to this purpose. That this rigidly enforced at Durham appears from the following anecdotes——

In the year 1333, on Thursday in Easter week, Edward III. came to Durham and lodged in the Priory. On the Wednesday following Queen Philippa came from Knaresborough in one day to meet him, and, being unacquainted with the customs of the church, went through the Abbey-gates to the Priory; and, after the death of Pict, she fell to station. The monks were very much alarmed at this, and one of them went to the king and informed him that St. Cuthbert could not endure the presence of a woman. Unwilling to give offence to the church, Edward immediately ordered the queen to get out of bed; and she—in her undergarments only, her mantle, &c. being buried—then returned by the gate through which she had entered, and went to the castle, devoutly praying that St. Cuthbert would not avenge an offence which she had committed through ignorance.

Again, in the year 1477, two women of Newcastle being determined to approach the shrine of the saint nearer than was legally permitted, disguised themselves in men's apparel, but were discovered in the attempt to complete their purpose, and taken into custody. By way of punishment for their intended profanation, they were adjudged to walk on three festival days before the procession in St. Nicholas's church, Newcastle, and on three other holidays at the church of All Saints, in the same town, habited in the dresses in which they committed the offence, proclamation being first made as to the cause of this penance. The master and mistress of these curious females were at the same time ordered to attend the spiritual court at Durham, to answer the charge of being counsellors and abettors in this misdemeanour.

The following is described as the origin of the Galilee of Durham Cathedral. When Bishop Hugh Pudsey was promoted to the see of Durham, in 1154, he was inclined to think that his predecessors had paid too exclusive an attention to the honour of St. Cuthbert in the erection of the cathedral which had only recently been finished. He therefore proposed to erect, at the east end of the cathedral, a chapel in honour of the Virgin Mary, into which it should be lawful for women to enter, there being, as we are informed, no holy place where they might have the same comfort and consolation. To carry this benevolent purpose into effect, the bishop procured several pillars of marble to be brought from beyond sea, and the work was commenced; but they had not been advanced far before great clefts appeared in them, and some parts began to fall down. This was considered a manifest indication that the patron saint disapproved of having a chapel for women erected in such proximity to his shrine, and therefore the bishop discontinued his works in that quarter and re-commenced them on the opposite or western side of the cathedral, where he was allowed to complete the Galilee without further disturbance. It was originally built in the Saxon style, but, about the year 1406, was repaired in the pointed-arch manner by Bishop Langley. The blending together of these two species of architecture has, in this instance, a very happy and picturesque effect. This effect, however, does not merely result from this combination, but is owing to the marble-stone and pillars standing as shrine, an therefore the bishop discontinue his works. The arches which they support are semicircular, and adorned with zigzag moulding. "The light and shade in this chapel," says Sir Henry Englefield, "particularly when illuminated by a low western sun, is exquisitely beautiful, as there are no windows in any upper story to disturb the effect." The four ranges of columns give a richness and intricacy to this building which is to be found in no other in this country." The original entrance was on the north, from a small yard adjoining the churchyard; but it is now entered from the side-aisles of the cathedral.

At the east ends of the three centre isles there were formerly three altars; that most to the north was Our Lady's altar, the next, being the central one, was Our Lady's altar, immediately before the steps of which is the tomb of Cardinal Langley, by whom the Galilee was repaired, as already mentioned. The other altar was that of St. Bede, before which is the tomb, in a gold coffin, on the right side of St. Cuthbert's body, according to some accounts, but in the same coffin with the latter saint according to others. After the completion of the Galilee, the remains were transferred thither, and honoured with a separate shrine. This removal, however, did not immediately take place, as appears from one of the Latin inscriptions, of which the following is the English:—"In the year of our Lord 1370, Richard of Barnard Castle did with eagerness procure that the bones of St. Bede, lying nigh to St. Cuthbert's shrine, should be translated into this Galilee, there to remain. This Richard, deceased, for the love he had for St. Bede, ordered his own bones to be laid near him." From another inscription, however, it appears that the shrine was prepared by the founder of the chapel, although the body was not removed to it until a much later date. The following account of the shrine as it stood previously to the Reformation is from a book published in 1672, under the title of 'The Ancient Rites and Monuments of the Monastical and Cathedral church of Durham, collected out of Ancient Manuscripts, about the time of the Suppressions.' This book, which has several times been republished under various titles, says:—"There was on the south side, between two pillars, a beautiful monument of blue marble, a yard high, supported by five pillars, one at every corner, and the fifth under the middle; and on this monument there was a stone, which stood under a stone second to St. Cuthbert's, wherein the bones of that holy man, St. Bede, were enshrined. It used to be taken down every festival-day, when there was any solemn procession, and carried by four monks in time of procession and divine service; which being ended, they conveyed it again into the Galilee and set it upon the said tomb, which had a cover of wainscot, curiously gilt, and made to draw up and down over the shrine, when the priests might have access to it."

The same account says, in another place, that "there were two stones that belonged to St. Bede's shrine in the Galilee. The uppermost stone had three holes in each corner, for irons to be fastened in to guide the covering when it was drawn up or let down. The other
was a plain marble-stone, which was lowest, and laid above a little marble-tomb, whereon the bottoms of the five small pillars stood to support the uppermost stone. At the suppression of monasteries, the shrine was defaced, the bones of Bedewer were taken down and interests underground, and the space where before his body was buried; and the larger marbles were removed into the body of the church, and only the "little marble-tomb," which served as the basis of the shrine, was left remaining in the Galilee.

THE GREAT EAGLE.

We lately presented the readers of the 'Penny Magazine' with an account of the great eagle, accompanied by an engraving of its nest. The following additional particulars mostly refer to the same bird, and describe chiefly the mode in which it deals with its prey.

The great strength of the eagle lies chiefly in its beak, talons, and wings, and there is scarcely any animal that is a match for it. A single stroke of an eagle's wing has been known to carry a man down from a spot. All the prey of eagles dislike carrion, in which they are distinguished from the vultures. They like no prey but that which they take for themselves, and they devour it while fresh. They usually carry their prey entire to their eyrie and then devour it. They are capable of carrying animals nearly as heavy as themselves to a great distance,—sometimes as much as forty miles. But when they have killed a calf or deer, they situate themselves upon the spot, and carry away choice pieces only to their young. The different species vary in their food. Some pounce on fish, others confine themselves to reptiles and insects, while some prey on quadrupeds and birds. According to Spallanzani, eagles have a decided aversion to bread, and refuse to eat it even after long fasting. Nevertheless, when forced into their stomach, it is digested like any other aliment. It is said that they never drink water, and it is certain that they can dispense with it for a great length of time. Yet, when it is presented to them, they plunge and bathe in it, and even drink it like other birds.

The great eagle is very destructive to lambs, young deer, kids, hares, poultry, &c. Low, in his Fauna Oreadensis, says, that they do not abstain from pork in the Orkneys, but occasionally seize both old and young swine. A clergyman told him that he had seen one, mounted in the air, with a pretty large pig in her talons, which she let fall alive when she fired at her. Martin, in his Description of the Western Islands of Scotland, published in 1716, speaking of this bird, says:—"The eagles are very destructive to the fawns and lambs. The natives observe that it fixes its talons between the deer's horns, and beats its wings constantly about its eyes, which puts the deer to run continually till it falls into a ditch or over a precipice, where it dies, and so becomes a prey to this cunning hunter. There are at the same time several other eagles of this kind, which fly on both sides of the deer, which fright it exceedingly, and contribute much to its more sudden destruction."

We rather doubt the latter portion of this statement, which describes several eagles as uniting their exertions against the deer; as we do not remember to have met with any other instance of more than a single pair hunting together. The eagle never engages in a perfectly solitary chase, except when the female is confined to her eggs or her young. At that season the proper prey of these eagles is generally so abundant that the male is able to provide for his own wants and those of the female without the assistance of the female. At other times they unite their exertions, and are always seen either together or only at a short distance from each other. It is said that the one beats the bushes while the other, perched on an eminence, watches the escape of the prey.

Pennant adds his authority to the former part of Martin's account, and says that the eagles in the island of Rum have nearly exterminated the deer that used to abound there. He also states that eagles seem to give a preference to the carcases of cats and dogs.

"Persons who make it their business to kill these birds lay that of one or other by way of bait, and then conceal themselves within gun-shot. They fire the instant the eagle alights, for she that moment looks about before she begins to prey."

Martin, in the work just quoted, relates the following anecdote:—"There is a couple of large eagles who have their nest on the north end of the island [St. Kilda]. The inhabitants told me that they commonly make their purchase in the adjacent isles and continent, and never take so much as a lamb or hen from the place of their abode, where they propagate their kind. I forgot to mention a singular providence that happened to a native of the isle of Skye, called Neil, who, while at home-July 15, 1782—was aware of itssituation, pursued the bird thither, found her child in the nest, and took it home unhurt. It is not improbable that some similar circumstance gave rise to the impression of an eagle and child on the coin of the Isle of Man.

The eagles that inhabit Orkney Island have been less fortunate in rescuing their children from the power of the eagle. The following instance is from Landit's Description of the Feroe Islands:—"The white-tailed eagle built its nest formerly on Tintholm, where some ruins of houses still show that a family once resided. The eagle one day darted down on a young child, which was lying at a little distance from its mother, and carried it to its nest. The mother hastened to the rock where the nest was constructed, and which is so steep towards the summit that the most experienced and boldest bird-catchers have never ventured to climb up it; but the poor woman arrived too late, for the child was already dead, and its eyes torn out." Another instance occurred in the parish of Norderhoughs in Norway, in 1737. As a boy, upwards of two years of age, was running from the house to his parents, who were at work in the fields, at no great distance, an eagle pounced upon him and carried him off in its sight, in spite of the poor little fellow's screams and efforts. It is even stated by Andersen of his History of Iceland, that the same unhappy fate has occasionally in that island befallen children of four or five years of age. We give no opinion as to the truth of these statements: but it is right to consider that the great eagle certainly does assail animals more vigorous and bally than a little child; and when, therefore, there is any good evidence, we see no reason for being incredulous in this matter.

In consequence of their rapacious habits, and the...
injury which they did to the inhabitants by destroying their cattle, they were formerly proscribed in Orkney. In the old acts of the country is found the following, which we quote as given in Low's *Fauna Orcadensis*—

"Anent slaying of the earne*. Apud Kirkwall, decimo die Decembris, annum 1635. The question was raised whether eagles continued in the rocks, and ordained by Thomas Buchanann, sheriff-deput of Orkney, with consent of the gentlemen and suiters of the court, being put for the tyme, that whatsoever person or persons shall slay the earne or eagle shall have of the baizlie of the parochine, or it shall happen him to slay the earne or eagle, vii d. for every rick within the parochine, except of the cottars who has not shelp; and xx s. t. for ilk person for ilk earne's nest it shall happen him to herrie; and they shall put the same to the baizlie, and the baizlie shall be holden to present the head of the said earne at the head court."

The quantity of provision found near the nest described by Willughby, will give some notion of the devastations committed by the larger eagles. Smith, in his *History of Kerry*, relates that a poor man in that country got a comfortable subsistence for his family, during a summer of dearth, out of an eagle's nest, by robbing the eaglets of the food brought by the old ones, whose attendance on their young he contrived to prevent beyond the usual time by clipping the wings of the eaglets, and thus retarding their flight; as also by binding them so as to increase their cries, and thus stimulate the exertions of the old ones in supplying their wants. It was well for him that the parents did not happen to discover him while thus occupied, or the consequences might not have been very pleasant. Another Irish peasant, who had determined to rob an eagle's nest on one of the islands in the lake of Kilmarney, was less fortunate in his undertaking. He swarmed over when the old birds were gone, and secured the young birds; but on his return, and while up to the chin in water, the old ones fell upon him, killed him by their terrible pounces at his head, and rescued their offspring.

It is related in the life of De Thou, the historian, that when himself and Monsieur Schomberg were passing through part of France on an embassy from Henry XII. to the king of Navarre, they were entertained for some days at Mande, the seat of the Bishop and Count of Gévaudan. At the first repast it was observed with some surprise, that all the wild-fowl or game brought to table wanted either a head, or wing, a leg, or some other part, which occasioned their host pleasantly to apologise for the voracity of his caterer, who always took the liberty of first tasting what he had procured before it was brought to table. On perceiving the increased surprise of his guests, he informed them that in the mountainous regions of that district the eagles were accustomed to build their eyries among the almost inaccessible rocks, which can only be ascended by ladders and grappling-irons. The peasants, however, when they have discovered a nest, erect a small hut at the foot of the rock, in which to shelter themselves from the fury of the birds when they convey provisions to their young: as also to watch the times of their departure from the nest. When this happens, they immediately put the ladder to the rocks, and while away off while the eagles have conveyed to their young, substituting the entrails of animals and other offal. The prey has generally been mutilated by the young eagles before the men can get at it; but in compensation for this disadvantage, it has a much finer flavour than any thing the markets can afford. He added, that when the young eagles have acquired strength enough to fly, the shepherds fasten them to the nest, that the parent birds may continue to supply them the longer with food. Three or four eagles' nests were in this way sufficient to furnish a splendid table throughout the year; and so far from murmuring at the ravages of the eagles, he thought himself very happy in being situated in such a neighbourhood, and reckoned every eyrie as a kind of annual rent.

Eagles are remarkable for their longevity. Keysler mentions an eagle that died at Vienna after a confinement of 104 years. A golden eagle is mentioned by Pennant which was nine years in the possession of Owen Holland, Esq., having previously lived thirty-two years with the gentleman from whom he received it; but what was its age when it came into the possession of the latter person is not known. Some writers state that the death of the old eagles is hastened by the increased curvature of the beak, which prevents them from taking their food any longer; but we have no evidence of this. In old age individuals of this species become more or less hoary, or partially of a pure white. Similar changes are induced by disease or by prolonged captivity or hunger.

The eagle is capable of living for an extraordinary length of time without food. The bird that belonged to Mr. Holland was at one time, through the neglect of servants, suffered to remain without food for twenty-one days. Redi also mentions that he kept two of the same species alive, one for twenty-eight, and the other for twenty-one days, without any food whatever. Another that was caught in a fox-trap refused food for five weeks after its capture, and was then killed.

**MINERAL KINGDOM.**—**SECTION XII.**

**MERCURY OR QUICKSILVER.**

This very remarkable and useful substance is the only metallic body which exists in a fluid state at ordinary temperatures. If, however, it be exposed to a cold equal to about 72° below the temperature at which water freezes, it becomes solid, and if there were a climate where there was an intensity of cold prevailed, the inhabitants would habitually see mercury in the shape of a heavy solid shining metal, like silver or tin. The naturalist Patrin relates, that during eight winters that he passed in Siberia, he frequently saw mercury in a solid state, from the excessive cold, especially the winters from 1782 to 1783, which he passed at Tomsk. Although that town, situated on the river Tom near its confluence with the Oby, is not so far north as Montrose, the spirit-of-wine thermometer fell, five or six times, 90° below the freezing point of water, and once as low as 83°. Pallas observed at Krasnojarsk, on the Yenisei, in lat. 56°, that is, corresponding nearly to the latitude of Edinburgh, a degree of cold equal to 87°, and he there saw mercury as solid as tin. By experiments made upon this metal when rendered solid by artificial means, it has been found to have a tendency to assume regular crystalline forms, to be malleable, and to be capable of being cast with a knife. In such experiments the tools employed must be previously rendered at least as cold as the mercury, otherwise the effect would be very much the same as if we were to attempt to cut wax with a red-hot knife. A piece of solid mercury placed on the hand causes a painful sensation like that of burning, and if suffered to remain would cause a blister. Mercury contracts greatly in bulk when frozen, for at the temperature of 47° it has a specific gravity of 13·54, whereas when it is solid it becomes as heavy as 13·61. It boils at a heat of 662°, or nearly three times that of boiling water, and if it be pure, it will evaporate without leaving any residuum; the vapour condensing upon the surrounding cooler...
bodies, coating them with a white shining dew, which, when examined by the microscope, is seen to consist of myriads of minute globules. It expands by increase of heat, and up to the temperature of boiling water at least, or 212°, equal measures of heat produce equal rates of expansion; a property which renders mercury the best of all fluids for the construction of thermometers.

This metal is found in its pure state in most mines where other ores of it exist; but never hitherto in such quantity as to be a special object of working. The chief source of supply is from ores in which the metal is in combination with other mineral substances, and most commonly with sulphur. It is found in combination with silver, in which case it is called by mineralogists native amalgam, and this mineral, according to the analysis of Cordier, consists of 72% per cent. of mercury and 27% of silver. Another ore, called horn mercury, from having such a consistence of being capable of being cut like horn, is a compound of the metal with oxygen, muriatic, and sulphuric acids; but the most common ore is that combination of mercury and sulphur commonly known by the name of cinnabar, a name used by the Greek writer Theophrastus in his "Treatise on Stones," written about 300 years before Christ; and Pliny says that the word is of Indian origin and signifies blood, the ore being generally of a blood-red colour. It consists, according to the analysis of Klaproth, of 64% per cent. of mercury and 14% of sulphur. This substance, both in its natural state and when prepared artificially, is used as a red paint, being previously reduced to a fine powder, when it goes by the well-known name of vermilion. There are several varieties of ore in which native mercury, cinnabar, and horn mercury are dispersed through earthy and bituminous matter in various proportions.

Mercury may be considered, in comparison with those metals we have already treated of, as of rare occurrence, the supply of it being derived from a small number of places. The ores occur in the primary rocks, and in the older of the secondary, especially the strata belonging to the coal deposits; viz., in the bituminous shales and indurated clays, often accompanied by impressions of fishes. There are no instances on record of their being met with in the newer of the secondary strata, or in any of the deposits that lie above these.

The ores of mercury have not yet been found in any part of the United Kingdom. The chief mines are in Spain, Austria, and the country lying beyond the Rhine and the Rhone. The great quicksilver mines of Spain are at Almaden, a small town of La Mancha, on the frontier of Cordova, south-west of Ciudad Real, and situated in the mountains of the Sierra Morena. The prevalent ore is cinnabar, which is found in veins that traverse sand-stone and slate. The veins are from two to fourteen feet thick, sending out numerous ramifications. In some parts they swell out into much greater dimensions, even to so much as fifty feet, but this is in places where branches cross each other or come in contact. The district around Almaden has been celebrated for producing this red paint from a very remote antiquity, for Pliny states that the Greeks obtained vermilion from thence at a period which was 700 years before the Christian era. The same author says, that Rome derived annually by 100,000 pounds weight of cinnabar from thence, and adds that the mine is considered so valuable, that a door was placed at the entrance of it, the key of which was kept by the governor of the province, and it could only be opened by an order from the emperor: as soon as the quantity sufficient for the supply of Rome was obtained, the door was again closed. We have no account, however, of the working of these mines until about the early part of the seventeenth century, when the then celebrated German miners, the brothers Fuggers, of whom we have spoken in describing the silver-mines of Guadalcanal, obtained a lease of them, agreeing to deliver annually to the King of Spain 4500 quintals, or about 460,000 lbs. of quicksilver. Nearly the entire produce of these mines was sent to Mexico and Peru, to be used as separating the precious metals from the ores by the process of amalgamation. Either from a failure of the ore, or in consequence of the strange policy of the Spanish government, which threw obstacles in the way of mining operations in the mother country, in order to encourage those in the colonies, or from some other cause, the mines of Almaden became considerably less productive for a long time; but about the end of the last century and the beginning of the present, the quicksilver-mine of Guadalupe in Peru having failed, the works were resumed with such increased activity, that the produce was raised from 6000 to 18,000 quintals annually, and not only Mexico but Peru was then supplied with this indispensable material from the mother country. Le Play, a French geologist, visited Almaden in 1833, and describes the mines as being more flourishing than at any former period, yielding annually 28,000 quintals of mercury, or about 2,244,000 lbs. About 700 workmen are employed underground, and about 2000 on the surface connected with the extraction of the metal at the surface. Numerous trains of mules are constantly occupied in carrying the mercury to Seville, and bringing back in return the necessaries for the mining establishment. On account of the fluidity it cannot be conveyed from place to place without extraordinary precautions. About fifty or sixty pounds are poured into a fresh sheep-skin, from which the wool is taken off, the ends of which are tied tight, and this sort of bag is enclosed in a second skin, and that in a third, and thus four or five are put in close well-made barrels. The mercury has very injurious effects on the health of the workmen; but notwithstanding this, and although the wages are very low, there is always an eager demand for employment, workmen coming at certain seasons of the year, in the intervals of agricultural labour, even from Portugal. The veins are so considerable, that although they have been actively worked for many centuries, the excavations do not extend more than about 1000 feet.

Customs of sitting uncovered in Churches.—The custom of men's sitting uncovered in churches is certainly very decent, but not very ancient. Richard Cox, Lord Bishop of Ely, died July 22, 1581, and was afterwards very solemnly buried in his own cathedral, I have seen as admirable, fair, large old drawing, exhibiting, in one view his face, his habit, and his biretta; and, in another, the whole figure, and (as appears by the drawing, a very great one too) sitting in the choir to hear the funeral sermon, all covered, and having their bonnets on.—Peck's "Desiderata Curiosa."
Some account of Cologne has already been given in No. 52 of the 'Penny Magazine.' We shall at present advert to a few curious particulars concerning that city, which could only be briefly indicated in a general notice.

Cologne has always been much distinguished for the number and wealth of its ecclesiastical establishments, and for the fully adequate proportion of relics which they possessed. In these respects, indeed, there has perhaps been no city in Christendom equally distinguished. Some of the more remarkable objects may be mentioned in connexion with the churches which contain them.

The greatest curiosity at Cologne is its cathedral. We are told that it was the pious design of the elector, Conrad, to erect a temple which should surpass every other among the Christian churches. It was begun in the year 1218; and his successors continued to build till the year 1490—not less than 251 years. They then found that their resources were too limited for the extent of the design. It was therefore left incomplete, and while one part of it (the choir) was so far finished, as to be appropriated to religious purposes, the other was suffered to remain in a state of decay. Had the original design been carried into execution, the cathedral would have formed one of the finest and most stupendous Gothic edifices in Europe; and even as it stands at present, overgrown with grass and mouldering away with age, it presents a spectacle of great sublimity. The body of the church is so very extensive, that four ranges of massive columns, about one hundred in number, do not seem to crowd it. The four middle columns are not less than forty feet in circumference. The grand altar is formed out of a single piece of the finest black marble; sixteen feet in length and eight in breadth. This cathedral seems to have obtained less attention from travellers than its architectural merits fairly claim. There is, however, no lack of information concerning the relics which are deposited within its walls. The principal in the list are the bones of the twelve apostles, the cross of St. Peter, the magnificent shrine of St. Engelbert, and the sarcophagus of the three Magi, who are said to have been interred there. We are not less than thirty mastiffs, belonging to large full-grown mastiffs, of which the ancients esteemed the skull and is adorned as an evidence of incorruptibility. Some of the bones of the thirteenth century. It was restaurations, have been seen lying at length, with crowns of gold and precious stones on their heads. Their names, in purple characters, appeared in a small grate, which was decorated with rich pearls and precious stones, among which was an Oriental topaz, as large as a pigeon's egg, valued at 30,000 crowns. Opposite, wax-lights were kept continually burning in six large branches of silver. The mausoleum or chapel which contains the bones was built by the Emperor Maximilian. The above account of the shrine is particularly applicable to the appearance it presented previously to the occupation of Cologne by the French. They, for a time, turned the cathedral into a granary. We are not informed of the precise amount with which the ancient splendour of the shrine has diminished.

Next to the cathedral, the most celebrated church is that of St. Ursula. Its celebrity, however, solely arises from its relics, which consist chiefly of the bones of the "eleven thousand virgins," headed by St. Ursula, who were martyred here in the year 410. These virgins have the credit of having been English women; but one difficulty is not felt at Cologne, and the walls and floor of the church are abundantly stored with bones and soffins. Some of the heads are cased in silver, others are covered with stuffs of gold, and some have coverlets of cloth of gold and velvet. One writer mentions that he saw between 4000 and 5000 skulls arranged on shelves in the church, and decked with garlands and coronets. A tuft of hair adheres to one of the skulls, and is adduced as an evidence of incorruptibility. Some of the bones attributed to the virgins appear to be those of infants; and Dr. Capella mentions an instance in which a surgeon of eminence, who had examined the whole of the body of St. Ursula for the purpose of distinguishing an anatomist, that, among the collection of bones which are said to pertain to the heads, there were several belonging to large full-grown mastiffs.

The church of St. Peter is chiefly remarkable for a fine painting of the crucifixion of St. Peter, by Rubens. In the opinion of the artist, it was one of his best works, having painted it with unusual care and exertion out of compliment to this church, in which he had been baptised. He presented it at the time that he claimed a copy or certificate from the baptismal register. The directors of the church were, however, so far from receiving this noble gift with the gratitude it deserved, that they manifested considerable discontent that the donation was not of a pecuniary nature; and some of them even proposed that a present which was of personal advantage to no one should be returned: but this motion was overruled. This contest came to the knowledge of Rubens; and he immediately offered them several thousand crowns;—it is said twenty-eight thousand. If they would return the painting on this plan, the correspondents concluded that he must consider the picture immovable, or he would else rather have painted another, like it than part with so large a sum. The price offered for the picture enhanced its value immeasurably in the sight; professing to be men of taste, they declined the offer, and ever afterwards treated the painting with due respect. It was carried to Paris by the Princess in 1794: but, like similar spoils from other quarters, was restored about twenty years after.

The fine collegiate church of St. Geron, which was built in the eleventh century, has a vast cupola, which...
The moving power of a large factory, besides performing its proper tasks of carding, roving, spinning, weaving, &c., does a vast deal of miscellaneous drudgery. It raises the coals from their bin in the boiler-yard by a sloping series of buckets, like those of a dredging machine for deepening rivers, and delivers them together about a hundred weighthicker than itself, drop-bottom of which they are duly distributed among the ascending platform; and which, as well as the platform asloping series of buckets, like those of a dredging machine balancing the platform with two counter-weights, the range of hoppers attached to Stanley's ingenious form, are suspended by ropes from the opposite sides elevated railway platform into a waggon—through which ascend and descend rapidly through several flights of stairs is no trifling source of fatigue, as domestic servants in some fashionable houses well know. Masters of mills, with the twofold motive of benevolence and economy, have long ago taken measures to supersede this painful exertion, by the construction of moveable platforms, inclosed in upright tunnels placed in convenient parts of their many-storied buildings. This apparatus is called a hoist or a teagle, and is usually of such size and stability as to allow half a dozen persons, old and young, to travel at once from any one floor to any other. The motion is perfectly smooth and agreeable, as I have often experienced; and is so entirely under control as to cease at any desired instant opposite to any of the issue-doors in the side of the tunnel.

The muscular force expended in raising stairs was made the subject of experiment by M. Coulomb. Amontons had previously found that an active man, weighing 150 lbs. English, was completely exhausted in ascending, by steps, sixty-five feet in thirty-two seconds. The full work of a man is obtained by his going up-stairs at the rate of forty-five feet in one minute. A man weighing 160 lbs. can ascend by stairs three feet per second for a space of fifteen or twenty seconds; and if he be supposed going up-stairs for a day, he actually raises 450 lbs. to the height of 3281 feet; or 1,476,450 lbs. one foot high. If the day be reckoned at ten hours, or 600 minutes, he will raise 2460 lbs. without a foot high in a minute, which is only one-thirteenth of Watt's estimate of a horse's power =3200 lbs. raised one foot high per minute. With a winch a man does, according to Coulomb, only five-eighths as much work as in going up stairs. If the above observations be nearly correct, they prove the expenditure of power in ascending stairs to be great. Coulomb says that this mode of action is the most advantageous for the muscular force of man, though he rates its amount at little more than one-half of Smeaton's estimate of an English labourer's force.

The teagle (tackle?) or hoist, consists of three principal parts.

1. The perpendicular shaft or pit, having a horizontal section, of about five or six feet square, placed in the most convenient part of the building, and extending from the ground-floor to the top story.

2. The ascending and descending platform, suspended by ropes from pulleys, and moved up and down by machinery. It is a strong frame-work of timber, about six feet high, boxed up on the work side, leaving the front side open, in correspondence with a series of doors on the several floors of the factory. The power required for hoisting is moderated by overbalancing the platform with two counter-weights, together about a hundred weight heavier than itself, which ascend and descend equably with the descent and ascent of the platform; and which, as well as the platform, are suspended by ropes from the opposite sides of the shaft to the machine, as a balance. Two large planks are fixed upright upon the opposite walls of the shaft, as guides to the platform, and two smaller ones as guides to the counter-weights, the latter being sunk groovelwise into the building.
ADVENTURES IN MESOPOTAMIA.

In an account of the Plague of Bagdad, which was given in Number 106 of the 'Penny Magazine,' it was stated that several parties of persons who endeavoured to escape to distant towns were intercepted by the inundations of the river Tigris; and that while they waited on elevated spots of ground until the waters had subsided, their numbers were daily thinned by the plague. For although they had left Bagdad to avoid that terrible malady, they had not taken any precautions to exclude its presence from their parties as they went. The following narrative embodies an account furnished by one of the comparatively few persons who survived the multiplied calamities which attended this attempt, and returned in safety to Bagdad. He was a very intelligent lad, a native of Persia, but of an Armenian family, and consequently of the Christian religion. He had been brought to Bagdad by an uncle, who was his nearest surviving relative; and for several months previous to the plague had resided with an English family with which his uncle became connected, and in a short time made a very considerable progress in learning the English language. Although, however, the following account is given in the first person, it is not offered to our readers as his own composition, but as having been prepared from statements made by him at different times and on various occasions. No further preface is necessary; unless to add that, when the plague had broken out at Bagdad, the lad's uncle determined to join a party that was about to proceed to Damascus, taking his nephew with him.

When the plague drove us from the city of Bagdad, we crossed over towards Hit on the Euphrates, intending to pass the river at that place in our way to Damascus. There was nothing remarkable the first day, or the second day, of our journey—or if there was, it was only in some small things, which the great things that happened afterwards have made me forget. On the third morning we arose three or four hours before the sun, and proceeded on our way. I was not quite awake for the first hour or more, and rode along dozing and nodding upon my mule,—which was the mule that carried, in two bags that were under me, my uncle's things and mine. After that I became quite awake and fresh, and then I looked back to the quarter where the sun rises, that I might see if day-light was coming. But I saw that it was still a good while from day. As I was turning away, my looks fell towards the ground, and I was astonished when I observed that the light of the stars fell brightly upon it, as it falls upon waters. Then I knew that our muleteers did not know the way to Hit, and were guiding us wrong; else, how was it that we were still so near to the river which we had left two days before? As I looked on to trace out the direction of the river, I saw that it made a large sweep at a considerable distance on our right hand; and when, in continuing to trace its course, I faced round in the direction we were travelling, I saw the stars twinkling on the water before us, but at a greater distance than to our right hand—so distant, that I should not have observed it if my attention had not thus been drawn towards it. I saw also that the waters before us swept round on the left hand, so that the waters before us met those behind us, both on the right hand and on the left. This I could not understand. The water behind us ought to be the Tigris, and the water before us the Euphrates; but at the distance which we had travelled from the former and still had to travel to the latter, I could not understand how it was possible that I should see either of those rivers, much less both at once. I therefore thought for a moment that there must be some great bend in one or both of those rivers, of which, being a stranger in the country, I had never heard.

Nevertheless, I was still so much surprised that I rode up to my uncle, who was dozing on his horse a little way before me, and I said to him:—"Agha, I do not understand the rivers of this country! Look: the waters are all around us. How shall we get out?"

My uncle roused himself, and asked what was the matter? I repeated what I had said, and then he
looked around him. He smote his hand upon his forehead, and then spoke to the persons near him, directing their attention to the waters by which we were enclosed.

From their conversation, I gathered that this appearance could only be occasioned by an overflow of the rivers, which are usually filled at this season, when the snow thawed on the distant mountains. The caravan then halted, and the people asked one another what might be expected, and what to be done. The sheikh of the caravan said that, judging from the rate at which he knew that the waters must have followed us, the ground on which we then stood would be covered with water within three hours of noon. He said that it was very uncommon for the rivers to overflow at this part, and he therefore did not expect that the waters would rise very high; and he thought that, if we could get to some spot of high ground, our only inconvenience would be the delay of waiting there a few days until the waters subsided.

"But," said my uncle, "suppose we do not, in this flat country, find such a rising ground as you speak of?"

"Why, then, the faithful must prepare for Paradise; for were the waters no higher than the knees of our camels, it would be impossible for us to get through them to Hit." After little consideration, he recollected that, at the distance of about four miles to the west, there were some of those mounds in which the ancient idolaters, who formerly inhabited the country, were accustomed to bury their dead; and he said that, if we could get there, we might, on those mounds, await the result of the inundation in safety. We accordingly proceeded in the direction towards the sepulchres.

When the day broke, our conductor smote his hands together. "Since Bagdad was a city," he said, "there has been no inundation like this. Look yonder! there are the mounds; and look around you."

We looked, and saw that, by this time, the circuit of dry land around us had become exceedingly contracted; and that between us and the mounds, which looked like islands in a boundless sea, there lay at least a mile's breadth of water. The sheikh bade us hasten for our lives; and we accordingly rushed on and entered the inundation, and before we had reached the mound, the waters, where we found that we had to buffet with a strong current from the north-east, had increased in depth and force as we advanced, and at last our progress became very difficult. One camel, that was rather heavily laden with dates and other provisions, slipped and fell. As we could not wait to raise him with his load, the man who rode him cut the straps which fastened the pack-saddle and burden to his back, and then leaped upon a horse behind another person. The camel, perceiving the danger of its situation, contrived to get up, and hastened after us, leaving its invaluable burden in the water.

We all reached the mounds in safety, and in the first joy of our escape forgot the dangers which lay before us. We had no apprehension that the mounds on which we were could be overflowed, and our first inquiry was into the state of our provisions. "Come what will, we shall not want for water," one person said. I looked into his face to see if this was only a hollow joke, but I looked serious and thankful; and I recollected that, when on a journey, water was always the first consideration. As to provisions, we found that there was among us a tolerable supply of dates, but scarcely anything else. The sheikh advised us to throw all our separate supplies into a common stock, and make to each person a daily allowance, to be regulated by a calculation as to the longest probable duration of our stay.

"How long that may be there is no knowing," he said, "but we must consider that if we should wish to kill the camels and horses we have no fuel with which to dress their flesh." We accordingly threw all our dates into the sheikh's cloak, which he spread upon the ground. They made a fine heap; but the old man sat down beside them, and counted them out carefully upon another cloak, when he found that, calculating we might be detained there a fortnight, there was not more than twenty-five dates a day for each person. It was agreed, however, that we should be content with only twenty, although we all knew that last twenty dates a day could not long sustain the life of man.

The cattle that were with us formed no small part of our care. The barley and chopped straw which remained was not sufficient for three days; and if our beasts perished through want, our own escape would be delayed, as we must then wait till the waters should be quite dried away from the face of the land. It was at last determined that the barley and straw should be reserved for the horses, with the exception of one or two mouthfuls, which should be given to the mules every morning; and that the camels and asses should be left entirely, and the mules partly, to get their own living from the herbs which were scantily dispersed over the mounds.

We had least fear for the camels; not only because they are better able than other cattle to go without food, but because there were several tufts of their favourite herb, the camel-thorn, growing on the mounds where we had fixed a refuge. Although I call this place the Mounds," yet, properly, there was but one large heap of high ground. The ancient idolaters of the country had in this place raised up several of those heaps in which they used to bury their dead in jars of earthenware; but, in the course of many ages which have passed, the soil and gravel, washed down from the tops and the sides, had raised the low ground which was between and around them, and moulded them into one common mass large enough to afford accommodation for ourselves and our cattle, and high enough to secure us from the flood, at least we thought so. But when day after day passed away, and we saw that the waters slowly but constantly increased, there was only one among us who appeared to feel no serious alarm for the consequences. That one was the sheikh himself. In the first alarm of the inundation, and before we had reached the mound, no person of the party had seemed more apprehensive. Convinced now all our care was about his restoration to health, and his complaints were about the delay. Notwithstanding the steady ascent of the water, he laughed to scorn the apprehension that our place of refuge would be overflowed. He said that never, in his own memory or his father's memory, had inundations which could cover such mounds happened in any part of the country; and he asked triumphantly, how it was possible for a thing to happen which had never happened before? And, particularly, how could it happen in this part of the country where inundations, when they took place at all, were trifling compared with those which were known farther down towards the Gulf. He forgot that he had himself said before that such an inundation as the present had not been known since Bagdad had been a city.

Our situation was the more unpleasant from our being debarred from all occupation or amusement, so that each day seemed three times longer to us than the days to which we had been accustomed. My uncle said, and the others agreed with him, that if there were plenty of tobacco which they could smoke, and coffee which they could sip, it would be possible to wait the end in patience. But unfortunately the supply of these necessaries was as scanty, and required to be as carefully husbanded, as our dates. When we awoke in the mornings the first business any one thought of was to examine the state of the water; and great was our sorrow of heart when we found, day after day, that the
mark was covered which, on the evening before, we had set above the water's edge. We seemed like ship-wrecked mariners upon a rock in the great ocean; but we were without the hope that any vessel might pass by and relieve us, and we had the fear that the en-croaching waters would soon sweep us from our place of refuge.

[To be concluded in our next.]

ON THE RESEMBLANCE BETWEEN THE APOLOGUES OF DIFFERENT COUNTRIES.

We have received a letter from a purchaser of this work who protests against our intention of furnishing our readers with a series of fables, characterized by him as "fit only for children between three and four." We cannot condescend to yield to such a consideration, whether compositions which have excited the best attention of such men as Gay, La Fontaine, De la Motte, and Northcote, as writers of fables, and of Sir William Jones, Baron Silvestre de Sacy, Dr. Wilkins, Mr. Kntchboll, Mr. Hayman Wilson, and others, as translators and editors, may not be entitled to somewhat more respect than he has pleased to grant to them. We can assure him that many of the best informed and most intellectual of our readers will be gratified in having these fables brought under their notice, if only for the sake of the curious comparisons, as to the growth of their own minds, which they cannot fail to form of those fables which they recollect as the foundation upon which the apologues afforded them early in life. For our own parts it is always with a feeling very different from scorn that we look back upon the things which infested us in our childhood. We beg always to consider and advise our readers to look back with the same feeling which the passers, and were perhaps altered, to render them more expressive, or to adapt them to the apprehensions of the people to whom they were offered. Thus it would happen that those fables which might have afforded the best intrinsic evidence of their origin, are precisely those of which the fewest have been borroved, or being borrowed, have lost in their travels the distinguishing features by which their origin might be recognised. Nevertheless, we are of opinion that a large number of fables retain sufficient intrinsic evidence of their origin, to enable a person well acquainted with the subject, and with the peculiar manners, opions, and products of the different countries, to trace them to their source without much difficulty. Thus, for instance, the fable of the "Man and his two Wives," who respectively deprived him of his black and his white hairs until he had none left, would appear to have originated in a country where polygamy was allowed, and was intended to express some of the evils of the system. The same may perhaps be true of the "Sheep," i.e., may be referred to a pastoral people, possibly the early Greeks, and are perhaps the most ancient of all apologues. To Greeks of a later day we may assign such fables as those of "Mercury and the Statuary," and others, in which the deities of the country are introduced in their appropriate characters. Fables in which wild monkeys and apes, elephants, and perhaps tortoises, are suitably introduced, we may suspect to come from India. Many in which camels and gazelles are introduced may perhaps be traced to Arabia; as in the instance of the "Camel and the Fly," which would have scarcely occurred to an European imagination. As we cannot find this fable in the common collections, and therefore suppose it may be new to many of our readers, we here give it in the quaint language of the edition of /Esop published in 1630.

"It happened that a fly, because of the camel's hair, leapt to the back of the camel, which was laden, and was borne of him all the day. When they had gone a great way, and that the camel came to his inn, and was put in the stable, the fly leapt from him to the ground, beside the foot of the camel; and he then said to the camel, 'I have pity on thee, and am come down from thy back, because I would be no more burdensome unto thee.'--And the camel said to the fly, 'I thank thee; howbeit I was not overladen of thee.'"
So in the same manner many of the fables of the nightingale might be traced to Persia, which is preeminently the land of the nightingale. The story of the Labourer and the Nightingale, which we find in some of our old collections, occurs also in the "Rose Garden" of Sandi, a famous Persian author, from which he therefore took an opportunity of escaping. We may infer that fables, in which the cedar, the olive, the pomegranate, or the pinetree are introduced, come from or have passed through countries where those trees and fruits are common.

These suggestions as to intrinsic evidence might be extensively carried out, and illustrated by numerous and curious instances. It would be necessary, however, to exclude from consideration modern European fables, not only because their origin is known, but because, from our extensive knowledge of foreign countries, the modern European fabulist is enabled to employ foreign animals and products in a manner which, to a future age, renders the rules of intrinsic evidence nearly nugatory, so far as fables of this class are concerned. Yet there will still be some intrinsic evidence, either negative or affirmative, which it will not be easy to mistake. No one will ever endeavour to trace in India the fable of the Elephant and the Hare, because it will not suit any one hesitate to assign either to England or Holland the fable in which the companies of tradesmen deliver their opinions concerning the building of a city wall. The fable is Dutch; and we shall hereafter have occasion to notice the collection to which it belongs.

Having mentioned India as the great fountain-head of such fables as we have under consideration, we should add, that almost every orientalist of note has given his testimony in favour of this opinion. The Hindoos, indeed, are said to boast of three principal inventions; namely, the mode of instruction by apalogues; the decimal system which is now adopted by all civilized nations; and the game of chess. With regard to the first of these claims, the following is the opinion of Sir William Jones, as given in his "Third Discourse on the Hindoos."

"We are told by the Grecian writers that the Hindus were the wisest of nations; and in moral wisdom they were certainly eminent; their Niti Sêtra, or System of Ethics, is yet preserved; and the fables of Vishnu- the Sanscrit writer, whom we ridiculously call Pilpay, are the most beautiful, if not the most ancient*, collection of apalogues in the world: they were first translated from the Sanscrit, in the sixth century, by the order of Buzzerchumir, or Bright as the Sun, the chief physician, and afterwards viceroy of the great Anishirevân, and are extant under various names in more than twenty languages; but their original title is Hitópadêsa, or Amicable Instruction; and as the very existence of Æsop, whom the Arabs believe to have been an Abyssinian, appears rather doubtful, I am not disinclined to suppose that the first moral fables which appeared in Europe were of Indian or Ethiopian origin."

We may also introduce another passage, bearing on the same subject, from Sir John Malcolm's "Sketches of Persia," some parts of which we particularly recommend to the attention of the correspondent whose representations have been so unfortunate as to incur with the feeling obliged to promise amendment.

While travelling in Persia, he was one day amused by a tale which a Persian, named Hajece Hoosein, related as they rode along, which described how an ingenious fellow named Ameen contrived to outwit a formidable monster in a human shape, who, with others of his kind, infested a valley in the neighbourhood of Ispahan. Ameen having encountered the monster, went with him to his cell, and there, by great presence of mind and ingenuity, not only preserved his own life, but persuaded the Ghool (the Persian name of the monster) that he was no longer safe in his own cave, so that he therefore took an opportunity of escaping. We give the rest in the words of the narrator:

"When Ameen found his host gone, he was at no loss to conjecture the cause; and after examining the contents of the cave, and arming himself with a matchlock, which had belonged to some victim of the Ghool, he proceeded to survey the road. He had, however, only gone a short distance when he saw the Ghool returning with a large club in his hand, and accompanied by a fox. Ameen's knowledge of that cunning animal instantly led him to suspect that it had unheeded his enemy, but his presence of mind did not forsake him. 'Take that,' said he to the fox, aiming a ball at him from his lock, and shooting him through the head; 'take that, for not performing my orders. That brute,' said he, 'promised to bring me seven Ghools, that I might chain them and carry them to Ispahan, and he has only brought you, who are already my slave.' So saying, he advanced towards the Ghool; but the latter had already taken flight, and by the side of his club bounded so rapidly over rocks and precipices, that he was soon out of sight."* * *

"I was much pleased with this tale," proceeds Sir John, "first as it bore so near a resemblance to some parts of my earliest favourite, 'Jack the Giant Killer;' nor will any one hesitate to assign it to the same author. The fox acts the same part in both fables, and in the Hindoo fable the lion represents the Ghool, and the goat the Ameen of the other. Sir John then proceeds—"

"I narrated this story to my Persian friend, saying, 'This proves to me what I have long conjectured, that the greater part of your tales are taken literally from the Hindoos.' Is it not as likely that they have been stolen from us? was the reply. 'No,' said I, 'for their stories are in a language to which you are much older than you have.' That may be," said he, 'but they are not older than Kelmomth, Houenheim, or Jemshedd. These were the glorious days of Persia, and no doubt it was in their time that the wily Hindoos stole our stories; and if our conquering swords have since made us masters of India, and we have plundered a few tales along with other articles, why we have only recovered our own.'"

Khan Sahib, who had been riding along with us, smoking his kellian, but who had not as yet spoken a word, now, with much gravity, took up the conversation.

'I have listened," said he, 'with great attention to Hajece Hoosein's most wonderful tale of the Ghool, and,' addressing me, 'to your supplement about a goat, a fox, and a lion. I shall store what I have heard in my memory, for the benefit of my excellent grandmother, whom it is my duty to amuse. These tales shall also be given, word for word, to my little children, who will no doubt be as much delighted with them as I have been, to hear how a stupid monster was outwitted by a lying rogue, and how an impudent goat frightened a valiant lion. The dispute," proceeded Khan Sahib, 'regarding the origin of such sublime productions, no doubt involves matter deeply associated with the fame of the renowned empires of India and Persia; and in the present dearth of that article, I do think they are right in claiming all they can for their ancestors.'* * *

*I quite understand, my good friend," said I, 'the}

*This is the work already mentioned as older than Pilpay.

* Sir William here appears to allude to a more ancient Indian collection of fables than those of Pilpay. We shall have occasion to notice both collections hereafter.
contempt you bestow upon the nursery tales with which the Hajee and I have been entertaining each other; but, believe me, he who desires to be well acquainted with a people will not reject their popular stories or local superstitions. Depend upon it, that man is too far advanced into an artificial state of society who is a stranger to the effects which tales and stories like these have upon the feelings of a nation; and his opinions of its character are never likely to be more erroneous than when, in the pride of reason, he despises such means of forming his judgment.

"Well, well," said Khan Sahib, 'there may be some truth in what you say; and I am the more inclined to believe it, as all the learning and philosophy which my good father endeavoured to instil into me never wholly eradicated my early predilection for such stories.'

The fable with which we now present our readers is that of 'the Horse and the Laden Ass.' Of the several versions we have examined there is none that perfectly satisfies us. That of Ogilby, published in 1651, is perhaps the best and most vigorous, and we accordingly give it. It is occasionally obscure, like most of the versions of this author, which however possess in general so much merit, that we shall frequently give him the preference. His versions must also have the advantage of being new to most of our readers:

"Dear brother horse, so heavy is my load,
That my gall'd back
Is likely to crack;
Some pity take,
Or I shall perish on the road:
For thy fair sister's sake,

Who once did bear
To me a son, a mule, my hopeful heir,
My burthen share,
Or else a cruel end

Wait on thy fellow servant and thy friend:
Here I must lie
And die."

The tired ass said, as the empty horse went by.

Prick'd up with pride and provender, the horse
Denied his aid:
"Shall I," he said,
My own back lade
And hurt myself;

Prick'd up with pride and provender, the horse
Denied his aid:
"Shall I," he said,
My own back lade
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KENILWORTH CASTLE.

[View of Kenilworth Castle from the Gate-House.]
The annals of this extensive and illustrious fortress are replete with interesting and curious facts, and embrace a great variety of incidents and events calculated to display the national customs and domestic arrangements of our puissant barons, from the early epochs of Norman domination in England to the termination of Elizabeth's reign. In contemplating the bold fragments and shattered ruins of this castle, and reflecting on the scenes of warfare and rude pageantry which had prevailsd here at different and distant ages, the mind is at once fully occupied and delighted. It becomes difficult to persuade ourselves of the reality of the scene, and fix attention on positive occurrences. The visions of romance flit before the imagination, and we are liable to confound the creations of fancy with the evidence of facts."

In 1814 Mr. Britton thus introduced the account of Kenilworth Castle which is given in his 'Architectural Antiquities of Great Britain.' If the concluding portion of this passage was then true, it has since become infinitely more so. Since then, he who carried minds captive at his will has been there, and, in his romance of Kenilworth, has peopled its desolate halls with the creatures of his genius, and made them the scene of events which, like many of his characters, are real and true in their outlines, but are filled up with only such strong similitudes of truth as might best serve the purposes of romance. The effect of such combinations, as we find them in 'Kenilworth,' is, that the work seems as a history to some readers, while others view it as history made romantic; and others as romance made historical. In the present instance, the effect has been to render thousands interested in a name which was formerly interesting only to antiquarians and architects; and to make many in all nations acquainted with some leading circumstances concerning a castle of the existence even of which they would scarcely otherwise have been aware. We are well content with this result. Separately from the beauty and interest of the romance itself, we hold it to be so great an advantage that multitudes should realise impressions (which are seldom contrary to truth) concerning historical places, persons, and circumstances, of which they would otherwise have had no impression at all, that none of the minor evils to the few who have subsequent occasion to discover that the writer dressed the facts, which he found naked, before he offered them to notice, are sufficient to neutralise it. Our present business is, however, not to expatiate on the beauties of historical romances, but to state the real history of a place which has given name to one of the most interesting of them in our language.

The town of Kenilworth, which contains the remains of this magnificent castle, is situated in the county of Warwickshire, and is distant 39 miles N.W. from London, about five miles from Coventry, and nearly an equal distance from Warwick. The town probably owes it origin to the castle; and it does not appear that it ever attained to much importance. It now chiefly consists of one irregular street about a mile in length, and its population, by the last census, amounted to 3097 persons. It was an ancient demesne of the crown, and we are informed by Dugdale that, even in the Saxon times, it had within its precincts a castle which stood upon a place called Holme (Holme) Hill. Its origin was popularly attributed to a Saxon king of Mercia, of the name of Kenelm, and this is countenanced by the name which the place bears. The common accounts, in the time of Elizabeth, as we learn from that entertaining personage Robert Laneham, consider this castle to be the same with that to which our present account refers; and a better informed person than Laneham gives a still earlier origin to the structure. In the 'Princely Pleasures of Kenilworth,' the castle is described as existing in the reign of King Arthur, and the Saxon king is only mentioned as repairing and improving the structure. The Lady of the Lake, in her address to Queen Elizabeth, says,—

"I am the Lady of this pleasant lake,
Who, since the time of great King Arthur's reign,
That here, with royal court, abode did make,
Have led a lowly life in restless pain.
Till now that this your third arrival here
Both cause me come abroad, and boldly thus appear.
For after him, such storms this castle shook,
By all the coming Saxons first who scourged this land,
As forth of this my pool I ever durst look.
Though Kenelm, King of Mercie, did take in hand
(As arrowing to see it in deface)
To leave these ruins up, and form this place.
For straight by Danes and Normans all this isle
Was some distress'd, and conquered at last.
Whose force this castle felt, and I there wherewith
Did hide my head.

Whatever date be assigned to its origin, the castle, as Dugdale informs us, was certainly demolished in the wars between King Edmund and Canute the Dane. The present structure was not commenced until about a century later.

With regard to the name of the place, that which it at present bears is not, as usually happens, a corruption, but a restoration of the true form, which had been corrupted. In Queen Elizabeth's time it was always called Kiltingworth; but even Laneham was able to state that this was wrong, and that the correct form was Kenilworth. Dugdale agrees that the kenel must denote the name of some ancient proprietor; but as the name was anciently spelt Kenulworth, he hesitates to determine whether the name of that proprietor was Kenelm or Kenulph. The syllable thorth is from the Saxon, signifying a mansion or dwelling-place, and the compound would therefore express Kenulph's (or Kenelm's) Place.

After the Conquest the desmesne of Kenilworth remained with the crown until the time of Henry I., who gave it to a Norman named Geoffrey de Clinton. Dugdale credits the accounts which describe him "to have been of very mean parentage, and merely raised from the dust by the favour of the said King Henry, from whose hands he received large possessions and no small honour, being made both Lord Chamberlain and Treasurer to the said King, and afterwards Justice of England, a great advancement, and so great an advancement, that he was a man of extraordinary parts. It seems he took much delight in this place, in respect of the spacious woods, and that large and pleasant lake (through which diver petty streams do pass) lying amongst them; for it was he that first built that great and strong castle here, which was the glory of all these parts, and, for many respects, may be ranked in a third place, at the least, with the most stately castles in England." Even in this its first state, Kenilworth Castle appears to have been large in space and great in strength. This is shown by the extent, breadth, and depth of the outer moat, and by the ancient keep, called Caesar's Tower, which, from its form and the extraordinary thickness of its walls, appears to have been of the first foundation. It was called Caesar's tower, as Laneham conjectures, "rather as I have good cause to think, for that it is square and high, formed after the manner of Caesar's Forts, than that ever he built it." A principal and often very ancient tower in many castles is called "Caesar's." Such a structure as Kenilworth Castle became a desirable acquisition to the Crown. It did not therefore long remain in the possession of the founder's descendants; but as the Clintons continued to possess the royal favour, and to live in prosperity and wealth after they no longer held the castle, it is probable that..."
it was relinquished to the king for some valuable consideration. However, we find in the 19th of Henry II. that it was possessed by the king, who placed a garrison thereon, and held his lessors' son rivalled against him. The account of the provisions taken in for the use of the garrison is curious as shewing the value of money at that time. The following are the particulars:—One hundred quarters of bread corn, 8l. 2s. 2d. (little more than 2d. a bushel). One hundred quarters of barley 33s. 4d. One hundred hogs 7l. 10s. Forty cows, salted, 4l. One hundred and twenty cheeses 40s. One hundred quarters of salt 30s. For some timesubsequent he received the castle with the whole armament, and the garrison furnished by the sheriffs, who had the charge of it for the king, and gave in regular returns of the sums received and expended.

When Cardinal Ottoboni (afterwards pope under the name of Adrian V.) was sent to England by the pope, aslegate, to endeavour to compose the differences between Henry and the barons, the king gave orders for Kenilworth Castle to be given up to Walter Gray, Archdeacon of York, for the legate's use. It does not appear, however, that he occupied it, but appointed Richard de Gray to keep it for him. The great importance which the king attached to the castle is evident from the remarkable provisions in the letters patent by which, at a subsequent period (26 Henry III.), Gilbert de Segrave was constituted governor. His instructions were, "That he was to keep it only during the king's pleasure, and not to deliver it into the hands of any one but the king himself, so long as he lived: and that if the king should die during his custody thereof, to yield it to Queen Eleanor for the use of her children; but in the case said Queen could not come in person, that then he should not deliver it to any except to some of her uncles, to the use of the king's heirs who were not in league with the King of France." For the observance of these conditions Gilbert took a solemn oath on the Bible in the king's presence.

Not long after this, the king appointed the famous Simon de Montfort, Earl of Leicester, to be governor of the castle, and afterwards granted it for life to him and his wife Eleanor, who was the king's sister. This earl is stated to have "wonderfully fortified the castle, and stored with many kinds of warlike engines, till that time never seen nor heard of in England." The earl afterwards took a prominent part in the memorable revolt of the barons, the details of which, although of great importance in history, had little connection with Kenilworth. When, however, the barons were defeated at Evesham, in August, 1265, the earl and his eldest son were among the slain, and it became the scene of very important operations. The earl's eldest surviving son, Simon de Montfort, continued in the castle, in which he received those that fled from the battle, and the friends and followers of persons killed. Their daily increasing numbers, and their exasperation of mind in consequence of "the death of their kindred and familiar," gave great strength and confidence to Simon, who "sent abroad his bailiffs and officers like a king,—his soldiers spoiling, burning, plundering, and destroying the houses, lands, and lordships of his adversaries, driving away their cattle, and imprisoning many, forcing them to what fines he pleased for their liberty."

This state of things continued until about midsummer, 1266, when the king, having become seriously alarmed for the consequences, determined to lay siege to the castle, and to that end marched with an army to Warwick, where he remained until he was joined by reinforcements from different parts of the country. Simon de Montfort, feeling that he should not be able to hold out long unless he could collect a force sufficient to raise the siege, left Kenilworth with the intention, it would seem, of going to France, though he does not appear to have gone farther than the Isle of Ely. He encouraged Henry de Hastings, whom he left governor of in his absence, to make a protest against the abbot of Westminster, and did all in his power to get him of timely relief. Meantime, Prince Edward surrounded the castle; and while he determined, if need were, to starve the garrison into a surrender, he took care that there should be abundance in his own camp. Among the items of provision, we find that the sherriff of Norfolk was commanded to cause 36 tuns of wine to be brought thither from Lynn.

The king, wishing to prevent the effusion of blood, sent to offer very favourable terms to the besieged; but, says Dugdale, "they did not only refuse to receive the terms of submission, but maimed the messenger, and with much resolution defended themselves against all the assaults that were made, having engines that cast forth stones of great bigness, and making bold and frequent sallies, did very much mischief: neither could the sentence of Ottoboni, the pope's legate, who was there in the camp, nor the king's power, any whit daunt them." The estates of the besieged having been confiscated as a bad example, and a parliament which had previously assembled at Winchester, the king, in the fear that this might render them desperate, caused a convention of the clergy and laity at Kenilworth, to reconsider this matter. The convention elected twelve nobles and bishops, to whom the final determination was referred. These persons held their meetings at Coventry, where they could be better accommodated than in the camp; and in due time produced the decree so well known in his stories and records under the name of "Dictum de Kenilworth." It enacted that the parties in question might redeem their estates by a pecuniary fine proportioned to the nature of the offence, and payable to the persons then holding the forfeited estates. The fine was not to exceed five years' income of the estate, nor to be less than two years. The exceptions were—the Earl of Leicester, whose case was left undetermined; the Earl of Derby, who was to pay seven years' income of his lands; and Henry de Hastings, the governor of the castle, and those who had received the king's messenger, who were to be imprisoned seven years, or to submit to the king's pleasure. When this decree was communicated to the besieged, they refused to submit to it; "first, because they had no voice in choosing those who were makers of the decree; and secondly, for that they held the decree itself to be intolerable."

The king, being "much moved" at this reception of his conciliatory measure, determined to storm the castle. But about three weeks were necessary to enable the sheriff to collect the masons and other labourers who, with their hatchets, pickaxes, and tools, would be required in this service; and in the meantime the garrison began to suffer greatly, not only from want of provisions, but in consequence of a pestilential disease which raged among them, and of which many died. When the king heard of this he renewed his overtures, with assurances of kind treatment if they would surrender. In answer to this, they proposed that all acts of hostility should be forgiven, and that they should meantime be allowed to send to Simon de Montfort, to know whether he would relieve them by a fixed day or not; and, if he did not, they engaged to deliver up the castle. The king consented. But before the messengers despatched to Simon could return, the flux and other grievous diseases increased so much among the inmates of the castle, that those who had hitherto escaped were unwilling to hazard the infection, and having little hope that Simon would be able to assist them, surrendered the castle to the king, on condition that the governor and all the inmates "should..."
have four days' time to carry out all their goods, and go freely away with horse, arms, and all accoutrements, throughout any part of the kingdom." Thus ended this memorable siege, which lasted six months, and the whole history of which indicates the great strength of the place, which after all was overcome by disease and famine rather than by the forces of the king.

Very soon after the king, having expelled possession of the castle, he gave it upon his youngest son Edmund, Earl of Lancaster, who was also on this occasion created Earl of Leicester. At this time (7th Edward I.) Kenilworth Castle was made the scene of a splendid and costly festival, the chief promoter of which was Roger Mortimer, Earl of March, who was also the principal challenger in the tilt-yard. This personage appears to have been one of the most fashionable gentlemen of the time, and his own son Geoffrey named him "The King of Folly." The meeting was called the "Round Table," from the banquets being held, according to a then ancient custom, at a round table, that the harmony of the festivity might not be disturbed by questions about precedence. A hundred knights and an equal number of ladies were present. The knights, many of whom came from foreign parts to be present on the occasion, amused themselves with tilting and other exercises of chivalry, and the ladies with dancing. It is recorded in the accounts of this festival, apparently as an extraordinary circumstance, that the ladies were clad in silken mantles. The Lady of the Lake, in her address to Queen Elizabeth, which we have already quoted, thus alludes to the transactions which we have recorded.

"The Earl Sir Mountford's force gave me no heart, Sir Edmund Crouchback's state, the prince's son, Could not cause me out of my lake to part; Nor Roger Mortimer's ruff, who first began (As Arthur did her) to keep the Table Round, Could not comfort my heart, or cause me come on ground."

Thus, the son of Edmund, who succeeded his father in the possession of the castle, joined the barons against the favourites of Edward II., namely, Piers Gaveston and the two Spencers; and although the king once pardoned him and restored his forfeited lands, yet in 1322 he was taken in arms at the battle of Borough-Lent (Anno 1414), and bridge, and a few days afterward was beheaded at Berkeley, and bridge, and a few days afterward was beheaded at

A hundredsessions, and from him Kenilworth Castle descended, through his son and grand-daughter, to the famous John of Gaunt, Duke of Lancaster. The Duke greatly improved and enlarged the castle. It seems indeed that, with the exception of the Swan Tower, the outer walls of it turned towards the east end, all that saw remains was built by him, and has always borne the name of Lancaster's Buildings. Dugdale finds that, in the 15th of Richard II., "the king did appoint John Deyncourt, then constable hereof and his tenant, as also Robert de Skyllington, mason, to diggers of stone, carpenters, and labourers, to the number of xx persons; and to provide stone, timber, tile, and all other necessaries, for the use of the said Duke of Lancaster here."

"When John of Gaunt's son, Henry Bolingbroke, became king, his possessions as Duke of Lancaster were united to the crown. Kenilworth therefore remained a royal property without interruption until the reign of Elizabeth."

We are informed by Stowe, on the authority of Thomas de Elmham, that King Henry V. "kept his Lent in the castle of Kenilworth [Anno 1414], and caused an harbour there to be planted in the marish, for his pleasure among the thorns and bush. He ordered a wall to be built towards the east end, all that saw remains was built by him, and has always borne the name of Lancaster's Buildings. Dugdale finds that, in the 15th of Richard II., "the king did appoint John Deyncourt, then constable hereof and his tenant, as also Robert de Skyllington, mason, to diggers of stone, carpenters, and labourers, to the number of xx persons; and to provide stone, timber, tile, and all other necessaries, for the use of the said Duke of Lancaster here."

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side, he made the principal entrance from the north, instead of the south, as it had been before: he also erected a large mass of square rooms, at the south-east angle of the upper court, called "Leicester's Buildings," and built from the ground two handsome towers at the head of the pool. The one called the "Flood Gate," or "Gallery Tower," stood at the end of the tilt-yard, and contained a spacious and noble room, from whence the ladies might conveniently see the exercises of tilting and other sports. The other was called "Mortimer's Tower," either, as Dugdale thinks, after one that stood there, and in which Lord Mortimer lodged at the Round Table festival, or else because Sir John Mortimer was confined there when a prisoner in the reign of Henry VI. Leicester also greatly enlarged the chase. Although his works are of the most recent date, they have the most ancient and ruined appearance, having been built of a brown friable stone, not well calculated to stand the weather.

Sir Walter Scott has given a short description of the appearance which the castle presented in this its most perfect state. This account appears to have been drawn from a comparison of the description given by Laneham with the details in the survey made in the reign
spelling as given in the Warwick edition, but also re

returning to earlier editions, particularly those in Mr.
Nichols's "Progresses of Queen Elizabeth," and in
the fine work entitled 'Kenilworth Illustrated,' pub-
lished at Coventry in 1821; to both of which valuable
notes are annexed.

Every preparation on the part both of the queen
and the earl having been completed, the queen dined at
Ichington, about seven miles from Kenilworth, on
Saturday, July 9, 1575. After dinner she set out for
Kenilworth, attended by Leicester, and a splendid reti-
ne. There was hunting by the way, so that they
did not arrive at the castle till eight o'clock in the
evening. On approaching to it the queen was accred-
ted by a sibyl, "comely clad in a pall of white silk,"
who came out of an arbour in the park, and, in a poet-
ical address, expressed the delight her arrival gave, and
prophesied that she should enjoy a long and pros-
perous reign. The following promise was most to the
purpose:—

"And whiles your highness here abides,
Nothing shall rest among you,
That may bring grieve to your mind
Or pleasure to your thought."

On arriving at the first gate, six gigantic trumpeters
appeared upon the battlements with trumpets of pro-
portionate size with which they seemed to sound. This
was only "seeming," however, for the giants were ar-
ificial; but real trumpeters were concealed behind them
to perform their office for them. The intention of this
was to denote that in the times of King Arthur, whose
name was raised up largely with the various entertain-
ments, men were of the stature of these puppets. The
actual porter was, however, a real giant, "tail of pers-
son, big of limb, and stern of countenance, wrapped also
in silk, with a club and keys of quantity according:
whereby (as her highness was come within his ward)
he burst out into a great pang of impatience to see
such uncoth trampljng to and fro, such riding in and
out, with such din and noise of talk, within the charge
to his office." He attempted at first to prevent their
entrance, "but yet, at last, being overcome by use
of the rare beauty and princely countenance of her
majesty, yielded himself and his charge, presenting
the keys to her highness." His changing emotions are
expressed in an address in verse which he delivered on
the occasion.

When the queen had entered the gate and came into
the base court, she was met by the Lady of the Lake,
who, attended by two nymphs arrayed in silk, flew
forward towards her from the middle of the pool upon
a moveable island, blazing with torches. In a poetical
address, part of which we have already quoted, she spoke of
the history of the castle, and said; since King Arthur's
time, she had remained concealed, and confined her
care to the lake, but now she felt it her duty to discover
herself, and surrender her trust to the queen; con-
cluding with

"Pass on, Madam, you need no longer stand,
The Lake, the Lady. the Lord, are yours now to command."
The queen, then proceeding towards the inner court,
passed over a bridge, which was raised on both sides.

To each pair of posts, of which there were seven, and
at a distance of about fourteen feet from each other, were
attached, opposite to the eight chief elevations by whom
they were supposed to be offered to the queen, as
explained to her in Latin verse by an actor clad like a
poet. The queen proceeding into the inner court, was
received with "sweet music;" where she alighted in
her pavilion, and mounted the stairs to her apartment
amidst the sound of drums, fife, and trumpets, the
firing of guns, and a grand display of fireworks; the


+ Gascoigne.
of the prince: as the footman looked well to the horse, and he of generosity soon calmed of himself:—"No hurt, no hurt," quoth her highness. Which words, I promise you, we were all glad to hear, and took them for the best part of the play."

What we have given must suffice as specimens of entertainments, which seem to us, at this day, sufficiently tasteless and insipid. Warton remarks, with reference to these classical pageants:—"The books of antiquity being familiarized to the great, everything was tinctured with ancient history and mythology. The heathen gods, although disapproved by the Calvinists, on a suspicion of their tending to cherish and revive a spirit of idolatry, came into general vogue. When the queen paraded through a country town, almost every pageant was a pantheon. When she paid a visit at the house of any of her nobility, at entering the hall she was saluted by the Penates, and conducted to her privy chamber by Mercury. Even the pastry-cooks were expert mythologists. At dinner, select transformations of Ovid's metamorphoses were exhibited in confectionary; and the splendid icing of an immense historic plumb-cake was embosomed with a delicious basso-relievo of the destruction of Troy. In the afternoon, when she condescended to walk in the garden, the lake was covered with Tritons and Nereids: the pages of the family were converted into wood-nymphs, who peeped from every bower; and the footmen gambolled over the lawns in the figure of satyrs.*"

Pageantry of this sort began to gain ground in the reign of Henry VIII., and gradually superseded those in which saints, prophets, and apostles were the actors; religious canticles and texts of scripture, delivered by personified doctors of the church, similarly giving place to profane poetry, classic translations, and occasional verses and exhortations delivered by the representatives of heaven divinities. These pageants may therefore be regarded as evidences of the national familiarity with classical learning: and they were useful, at the time, for what Warton says of the ancient 'Mysteries,' is still more true of these classical pageants: "They had their use in abolishing the barbarous attachment to military games, and the bloody contentions of the tournament, which had so long prevailed as the sole species of popular amusement. Rude, and even ridiculous, to the spectators of modern times, for what Warton saysof the ancient 'Mysteries,'"

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The rest of the seventeen days' festivities at Kenilworth we must give in the brief summing up of Dugdale. "For the several days of her stay, various and rare shows and sports were there exercised, viz.: in the chase, a savage man with satyrs: hear-battings, fire-works, Italian tumblers, a country brideall, with running at the quintain, and morrice-dancing. And that there might be nothing wanting that these parts could afford, hither came the Coventry men, and acted the ancient play, long since used in that city, called Hock Tuesday, setting forth the destruction of the Danes in King Ethelred's time; with which the Queen was so pleased that she gave them a brace of bucks, and five marks in money to bear the charges of a feast. Besides all this, they had upon the pool a Triton riding on a mermaid eighteen feet long; as also Arion on a dolphin's back, with rare music." He then goes on to state that five gentlemen were knighted; and adds that the expenses of the festivities may be estimated from the single item of beer, of which not less than 320 hogsheads of the ordinary sort were consumed. The Earl of Leicester continued to reside occasionally

* Af History of English Poetry, sect. 43. † Ibid., vol. ii., sect. 9,
at Kenilworth until his death in 1558. He died without acknowledged legitimate issue; and devised the castle to his brother, the Earl of Warwick, for life, after which it was to be inherited by Sir Robert Dudley and his heirs. This Sir Robert Dudley appears to have been Leicester's son by an unacknowledged marriage with Lady Sheffield; and when his uncle died, he resided at Kenilworth, and adopted proceedings to establish his legitimacy. He was opposed by the powerful friends of the lady whom Leicester had publicly married during the lifetime of Lady Sheffield. It was difficult to prove the fact of a marriage which had so long been kept secret; and the House of Lords, indeed, brought the cause to an abrupt termination, directing the positions to be sealed up, and no copies taken but by the king's order. Disgusted at this arbitrary measure, Sir Robert left England for Italy, having obtained leave to travel for three years. The friends of Leicester's acknowledged widow, bent upon his ruin, procured a summons for his return, which not being obeyed, the castle and lands of Kenilworth were seized on for the king's use. A survey of it was then made, by which it appears that the area within the walls was seven acres. The castle and four gatehouses were all built of freestone, the walls varying from four to fifteen feet in thickness; and the outer walls being "so spacious and fair, that two or three persons may walk together upon most places thereof." The rooms are described as being "of great state within the same. and such as are able to receive his Majesty, the queen and prince at one time, built with as much uniformity and convenience as any houses of later time; and with such stately cellars, all carried upon pillars and architecture of freestone carved and wrought, as the like are not within this kingdom *, and also all other houses for offices answerable." The parks and Chase were valued at 1,400l. per annum, "600l. is very proof grounds for pleasure." Concerning the woods, it is said: "There joineth upon this ground a park-like wood, called the King's Wood, with fifteen several copes, containing altogether 789 acres within the same, which, in the Earl of Leicester's time, were stored with red deer, since which time the deer have strayed; but the ground is in no sort blemished, having great store of timber and other trees of much value upon the same." The pool, which has been so frequently mentioned, contained 111 acres; it was well stored with fish and fowl, and its water could "be let around the castle at pleasure." The circuit of the whole domain was about "nineteen or twenty miles, in a pleasant country, the like both for state, strength and pleasure not being within the realm of England." The total value of the property was estimated at 38,554l., being 16,431l. in lands; 11,722l. in woods; and 10,401l. for the castle.

The king's eldest son, Henry, took a fancy to the castle as the most noble and magnificent thing in the mind and part of this realm yet, with that gentle manly feeling for which he has obtained much praise, was unwilling to occupy the premises without something like compensation to the ejected owner. He therefore entered into a treaty with Sir Robert Dudley for obtaining a right to the property by purchase from him: 14,500l. was the sum agreed to be paid, besides which Sir Robert was to hold the office of Constable of the castle during life. This was in 1611; and the prince died the next year, when only 3000l. of the above payment had been paid; and when this sum was never received by Sir Robert Dudley, it having been paid for him to a merchant who failed.† Prince Charles (afterwards Charles I.) then took possession as heir to his brother, without feeling bound to pay the balance of the purchase-money. As Sir Robert's wife, however, had a jointure on the estate, he obtained a special Act of Parliament to enable her to alienate it; which she did to him for the sum of 4000l. in the year 1621.

Kenilworth Castle afterwards shared the dismannered fate of many other of the Earl of Warwick's properties. It was built with such wonderful magnificence, that it is likely to remain a monument of baronial grandeur which many future ages may contemplate. We may appropriately conclude this account with a passage from the romance of "Kenilworth:"—

"We cannot but add, that of this lordly palace, where princes feasted and heroes fought, now in the bloody earnest of storm and siege, and now in the games of chivalry, where beauty dealt the prize which valour won, all is now desolate. The bed of the lake is but a rushy swamp; and the mazy ruins of the castle only serve to show what their splendour once was. The halls and chambers of so much vanity the transition value of human possessions, and the happiness of those who enjoy a humble lot in virtuous contentment."
There is perhaps no remote country, unconnected with us by the ties of subjection or alliance, concerning which so much curiosity has been felt as concerning China. This results from a combination of such various circumstances as can be applicable to no other country; and which therefore renders our interest about China quite a peculiar feeling. China stands alone among the nations; and this is not so much a consequence of that restrictive policy by which the government so sedulously checks the intercourse with strangers, as a result of the character, habits, and institutions, by which the Chinese are more palpably distinguished from all other nations claiming to be civilized, than any two of the least approximating of these nations are distinguished from each other.

This is alone sufficient to awaken our interest and curiosity concerning so singular and remote a nation. But there is much more than this to draw our attention towards it. The remote antiquity which it claims, and which seems to render it the oldest of existing nations, makes us anxious to investigate the details of that condition to which it has been brought by a civilization which dates from more ancient times, and has been less interrupted than any other. The knowledge that the energy of comparatively recent impulses has carried us much beyond this old nation in the ways of civilization, mingles something of self-complacency with the interest with which we regard a people who seem almost exempt from the influence of those circumstances which work change in all things, and who do not at present appear to differ much from what they were at the time when our own forefathers were naked savages roaming in the wilderness, and contending for their food with the wolves and the hyænas. Our curiosity concerning the Chinese has been all the more stimulated by the anxiety with which they have laboured to exclude strangers from their country, and the consequent difficulty of acquiring that knowledge concerning them which it seemed desirable to obtain. Our own country, in the common and daily use of tea, has adopted in the most decided manner one of the most prominent habits of the Chinese, for the gratification of which it still depends upon China, and maintains with it an extensive commercial intercourse. It is our impression that most of our readers will be glad to become acquainted with China as the country to which all the above considera-
The cities of China are divided into classes, and the distinction is nicely and precisely marked by the last syllable of their names, which is in fact a distinct monosyllabic word, indicating its size, rank, and municipal jurisdiction or dependence. These monosyllables, one or the other of which is found at the end of the name of every city, are Fu or Fou, Cheu, and Hien. Fu denotes a city of the first class, having under its jurisdiction a certain number of cities of the two inferior classes. Cheu denotes a city of the second class, subject to the jurisdiction of its Fu; and Hien, a city of the third class, subordinate to its Cheu, as well as under the jurisdiction of its Fu. The practice of geography might be considerably facilitated if this practice of the Chinese were general, and every nation, by a simple affix to the names of their cities and towns, would thus explain at a glance their relative rank or importance.

According to Father Le Comte, there were in his time more than 160 cities of the first class, 270 cities of the second class, and upwards of 1200 of the third, besides a number of walled towns not included in any of these classes.

As the cities of China generally have a strong resemblance (which in most cases approaches monotony) to each other, we need only describe a few of the principal. But, before doing this, we may mention the main features that are common to them all. The cities of China are formed on a regular plan, which is square whenever the situation and nature of the ground will admit. They are all enclosed by high walls, with large gates, stronger than beauty. Towers, which vary in elevation, but which are sometimes eight or nine stories high, and in form sometimes round, but more commonly hexagonal or octagonal, are built at regular distances; and, when practicable, a wide ditch, filled with water, surrounds the whole. The streets are in straight lines; the principal of them are about thirty feet wide, but the houses are meanly built, having rarely more than one story above the ground-floor; so that the width of the streets, though not too much for the thronging population and bustle of a Chinese town, confuses but little to beauty or effect. The shops are adorned with silks, porcelain, and japanned wares, the most brilliant of which are hung outside the door to attract customers, and (the practice being universal) give the main streets a gay and somewhat of a theatrical appearance. A large board is suspended from the front of each shop; it is either gilt, or painted with some bright colour and varnished, or some faunal sign, with the names of the principal articles sold in the shop inscribed upon it. These showy sign boards, placed at equal distances on both sides the streets, give the whole extent the appearance of a long colonnade, rather curious than beautiful.

Among the descriptions of Marco Polo, we may refer to those of Kin-sai, or Hang-chou-fu, and Ta-Tu, or Peking.

The first of these, Kinsai, a name which signifies "at the Celestial City," he extols as being "pre-eminent to all other cities in the world in point of grandeur and beauty, as well as from its abundant delights, which might lead an inhabitant to imagine himself in paradise." It was then said to be a hundred li in circuit, with streets broad and extensive, and squares or marketplaces of prodigious size, proportional to the immense population. It was situated between a lake of clear transparent water and a river of great magnitude, and traversed in every possible direction by canals, large and small, which were seen from above the city, and through the city into the lake, and finally into the sea. These canals were traversed by almost innumerable bridges, without which there could have been no land-communication from one place to another. Those thrown over the principal canals, and connecting the main streets of the city, had arches so lofty and so well built that vessels could pass under them without striking their masts, while carts and horses were passing over them.

The second of these, or Peking, he described as "handsomely and precisely marked by the last vessels could pass under them without striking their masts, while carts and horses were passing over them."

"One glance would enable him to imagine himself in paradise."
 occupant is obliged to hang a scroll, or writing, containing the name of each individual of his family, whether male or female. "When any person dies, or leaves the house," says Marco Polo, "the name is struck out, and upon the occasion of a birth it is added to the list. By these means, the great officers of the provinces and governors of the cities are at all times acquainted with the exact number of the inhabitants."

It is to be observed that this last ancient regulation, as well as that of the fire-police, is common to all the great Chinese cities. As to the beauty and transparency of the lake on which Kin-sai, or Hang-chê-su-fu is situated, and the pleasantness of its neighbourhood, all modern travellers are agreed. The lake and the gay scenes that occur upon it have been more particularly praised. Stuarton describes it as a beautiful sheet of water, perfectly pellucid, and surrounded by an amphitheatre of picturesque mountains. Du Halde says, its banks are ornamented with country-houses, temples, and Bouze-monasteries, and M.R. Barrow was agreeably struck by the vast number of yachts and barges sailing to and fro on the bosom of the lake, "all gaily decorated with paint and gilding, and streaming colours, the parties within them apparently all in pursuit of pleasure." Lord Macartney, after mentioning that he was upwards of two hours in passing through the city, which he found more extensive and more populous than he had longed-for—that it was very closely built, having narrow streets, paved with broad flat stones, which reminded him of the courts in London—that almost every house was a shop, and that he observed in some of these shops great quantities of fish, broad cloth, and long ells, mostly imported in English bottoms to Canton, adds, "the environs of the town are very beautiful, embellished by an extensive lake, which is, indeed, the centre, and gentle hills cultivated to the summit, interspersed with plantations of mulberries, and dwarf fruit-trees, sheltered by oaks, planes, sycamores and camphors. On one side of the lake is a pagoda in ruins, which forms a remarkably fine object. It is octagonal, built of fine hewn stone, red and yellow, of four entire stories, besides the top, which was moulderling away from age: very large trees were growing out of the cornices: it was about 200 feet high. It is called the Tower of the Thundering Winds, to which it would seem to have been dedicated, and is supposed to be 2,500 years old."

The present state of the metropolis of Chins will be described in a future Number.

THE FOSSIL ELK OF IRELAND.
(Cervus megaceros.)

Among the fossil relics which our British Islands afford, none are more interesting than those of a species of elk now extinct, which once abounded in the localities where its remains are discovered. The interest which attaches to the remains of the animal we propose to examine, does not arise from the circumstance of the vaguely-remote epoch in which it existed, nor from its having witnessed, when it existed, a condition of the earth's surface unlike any thing at present, changed England, and have been dug up also in France, Germany, and Italy, where, according to Cuvier, they were found coextensively with all the rest. Many had evidently been gnawed, and exhibited teeth-marks which fitted the canine teeth of the hyena that occur in the cave, and which appears to have been a third larger than any species now existing. Every circumstance, indeed, conspired to prove that this cave had long been the den of these ferocious animals, which had dragged their prey, whole, or in pieces, and exhibited the bones of all the larger animals, elephant and rhinoceros, were found.

But to return to the present work. Among the fossil relics of twenty-two species of animals, principally mammalia: viz., of Carnivora, the hyena, tiger, bear, wolf, fox, wasel, and an unknown animal about the size of a wolf;—of Pachydermata, the elephant, rhinoceros, hippopotamus, and horse;—of Ruminantia, the ox, and three species of deer;—of Rodentia, the rabbit, water-rat, and mouse;—of Birds, the pigeon, lark, and a small species of duck. The relics of these animals (consisting of their bones and teeth) were covered by a layer of fine mud, spread over the floor of the cave, which, on the removal of the mud, "was found to be strewed all over, like a dog-kennel, from one end to the other," with hundreds of teeth, and "broken and splintered fragments of bones of all the animals above enumerated, but none are more interesting than those of a species of elk now extinct, which once abounded in the localities where its remains are discovered." In the cave of Gailenreuth, Muggendorf, Bauman, Fouvent, &c., testify of the hyena, tiger, bear, (Ursus spelæus,*), and other animals, with the elephant, rhinoceros, and hippopotamus, all appearing to be distinct from our own species of these animals, but certainly agreeing with them in habits and manners, indicates the climate and the productions in these latitudes to have been very different during their epoch from what we now experience, and we are thrown back upon a remote era. Yet is that era not geologically remote, for, long before the land existed where they dwelt, the sea had deposited that rock of oolite, the caverns of which some of them habitually haunt, and in which the bones of all are found. Respecting these fossil-bones, Dr. Buckland states:—"The facts I have collected seem calculated to throw an important light on the state of our planet at a period antecedent to the last great convulsion that has affected its surface; and I may add that they afford one of the most complete and satisfactory chains of consistent circumstantial evidence I have ever met with in the course of my geological investigations." It is, however, to a still more remote era that we are indebted. Dr. Buckland that the existence of our noble elk is, we think, to be attributed, at least as far as it regards our own islands.

The bones of the "Fossil Elk of Ireland" (Cervus megaceros) occur in the greatest abundance, as is implied by the name, in the bogs and marl-pits of that country. They are also found in similar situations in the Isle of Man, as well as in the alluvial strata of England, and have been dug up also in France, Germany, and Italy, where, according to Cuvier, they were found in incredible numbers, as well as in those of Muggendorf and Bauman.

* In the cave of Gailenreuth, the remains of this gigantic species are found in incredible numbers, as well as in those of Muggendorf and Bauman.
for the most part of skulls, with the horns attached, and various separate bones disposed without any order. They generally occur in a deposit of shell-marl, covered by a layer of peat, and resting on clay. In this situation one of the few entire skeletons discovered is stated to have occurred. "Most of the bones," says Archbishop Maunsell, "and heads, eight in number, were found in the marl; many of them, however, appeared to rest on the clay, and to be merely covered with the marl." It is worthy of remark that the fossil remains of no other animals are mingled with them. Of the skeleton to which we have alluded, and which graces the Museum of the Royal Dublin Society, Mr. Hart drew up a memoir. "This magnificent skeleton," he observes, "is perfect in every single bone of the framework which contributes to form a part of its general outline; the spine, the chest, the pelvis, and the extremities are all complete in this respect; and, when surmounted by the head and beautifully-expanded antlers, which extend out to a distance of nearly six feet on either side, forms a splendid display of the reliques of the former grandeur of the animal kingdom, and carries back the imagination to a period when whole herds of this noble animal wandered at large over the face of the country."

The following are a few points of its admeasurement:

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<th>Measurement</th>
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<td>Length of the head</td>
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<td>Breadth between the orbits</td>
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<td>Breadth by the skull</td>
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<td>Length of each horn</td>
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<td>Greatest breadth of palm</td>
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<td>Circumference of the beam at the root of the brow-antler</td>
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<td>Height to the top of the back</td>
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<td>Ditto, to the highest point of the tip of the horn</td>
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None of the deer tribe of the present day can at all be compared for magnitude to this fossil species. It is singular, however, that until Cuvier pointed out the differences, the antlers were generally regarded as identical with those of the moose or elk of North America. Independently of size, however, they differ in many essential points: for example, in the moose-deer the horn has two palms, a lesser one growing forward from the front of the beam where the principal palm begins to expand: the palm of the moose-deer's horn is directed backwards, and is broadest next the beam. In the fossil-animal, the palm increases in breadth as it proceeds, which it does in a lateral direction; nor are there fewer differential characters in the skull and general skeleton.

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head of the fossil elk, together with several urns and stone latches, were discovered in Germany in the same drain. "In the 'Archaeologia Britannica' is a letter of the Countess of Moira, giving an account of a human body found in gravel under eleven feet of peat, soaked in the bog-water; it was in good preservation, and completely clothed in antique garments of hair," I conjectured to be that of the fossil elk. But what is still more conclusive, there exists a rib in the Royal Dublin Society, evidently bearing token of having been wounded by some sharp instrument, which remained long fixed in the wound, but had not penetrated so deep as to destroy the creature's life: it was such a wound as the head of an arrow would produce.

Of the causes which involved the fossil elk in destruction,—whether one general catastrophe universally affected the whole race wherever existing,—whether local causes, operating at different epochs, have successively extinguished the species, which might have lingered the longest in Ireland,—or whether its extermination has been effected by the hand of man, whose agency upon the animal creation is everywhere apparent, no decided opinion can yet be given. We know it existed, and that is all; its history and its fate are buried beneath the shadow of years gone by.

ADVENTURES IN MESOPOTAMIA.—No. II.

It seems wonderful to me when I think how much misery man is able to bear. I have sometimes been so very miserable that I have felt quite sure that if ever so little more sorrow came upon me it would break my heart in pieces. But more did come,—and I bore it; and more still came upon that,—and I bore it also. And I knew it was the same with others; and when they came, it was not misery that killed them, but it was famine, or plague, or drowning that did it. It was thus with us now.

While we were watching with the utmost anxiety the gradual ascent of the water towards us, we were alarmed one morning by the information that the wife of Agha Yacub had died of the plague during the night. She had, it seems, been ill several days in her tent; but as men do not talk about their wives, we would never more become aware of my proceedings: and yet I knew nothing of it till she was actually dead. This would not have been upon me had not the place where I lay been upon the road; but shut up together as we were, and having leisure to brood over our dangers, this event was regarded with more dismay that I ever knew my countrymen feel about the plague. I, perhaps, felt more strongly on this subject than any one else, as I had learnt from the English to be more afraid than others were of being near those who are afflicted with that terrible disease. I am bound to say that our sympathy with the Agha for the loss he had sustained was much less strong than the anxiety with which we watched to see whom next the plague would smite; for we had very little hope that one victim would satisfy it. We had not long to wait. The husband of the woman was the next in whom the plague appeared, and, before he died, my own uncle, who was this man's particular friend, died. I ceased to have any sympathy or sorrow for those. From the time that my uncle was buried beneath the shadow of years gone by.

When I entered the tent I stood still for a moment at a distance, hesitating whether to go to his side or not. He perceived my hesitation, and looked at me at first rather sharply; but, immediately after, his look changed to tenderness, and he said that he really believed the English were perfectly right in what they told me about the plague, and that I had, therefore, better stay at a distance while he talked to me. He then proceeded to acquaint me with the state of his affairs, and told me what I should do in the event of his death. He thus concluded:—"I have thought it best to talk to you about these things now, Lazar, because I know the plague too well to believe that the freshness and cheerfulness which I now feel is a token of any thing else than certain death. Very soon I shall become sleepless, and shall doze out the remainder of life in troubled sleep. I shall seem to suffer; but it is clear that no one can do me any good. I therefore charge you, Lazar, not to let any one come near me; and, of course, I need not tell you not to do so yourself. I did not expect that it would be my lot to die like a dog in the desert; but God sees fit that it should be so, and I do not murmur. Lazar, you have been a very dutiful nephew to me, and I hope that you will live long and prosper abundantly in the world."

Then my heart smote me because I had been thinking for myself more than for him; and I said to him:—"My father, for the love of God, and for the sake of not having thought that it was better to live among strangers without you, than to die in the desert with you. Shall I forsake you—I neglect you—I who owe all things to you?" Then I ran and threw myself upon his bed, and put my arms round his neck, and wept very much. But when, on following nights and days, I saw his misery man is able to bear. I have sometimes been so very miserable that I have felt quite sure that if ever so little more sorrow came upon me it would break my heart in pieces. But more did come,—and I bore it; and more still came upon that,—and I bore it also. And I knew it was the same with others; and when they came, it was not misery that killed them, but it was famine, or plague, or drowning that did it. It was thus with us now.

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Oh, how hard it is to tell what a struggle I felt then between my fears for myself and my duty to my uncle. I felt so much for myself that I said to him: "If I went near him, and did not at all wish to go so soon out of a world in which I believed that there were a great number of good things which I had not yet tasted, and many beautiful things which I had not yet seen. While I thought of these things, I sat outside the little tent in which my uncle lay asleep; and, after long thoughts were interrupted by hearing him call "Lazar! Lazar!"

When I entered the tent I stood still for a moment at a distance, hesitating whether to go to his side or not. He perceived my hesitation, and looked at me at first rather sharply; but, immediately after, his look changed to tenderness, and he said that he really believed the English were perfectly right in what they told me about the plague, and that I had, therefore, better stay at a distance while he talked to me. He then proceeded to acquaint me with the state of his affairs, and told me what I should do in the event of his death. He thus concluded:—"I have thought it best to talk to you about these things now, Lazar, because I know the plague too well to believe that the freshness and cheerfulness which I now feel is a token of any thing else than certain death. Very soon I shall become sleepless, and shall doze out the remainder of life in troubled sleep. I shall seem to suffer; but it is clear that no one can do me any good. I therefore charge you, Lazar, not to let any one come near me; and, of course, I need not tell you not to do so yourself. I did not expect that it would be my lot to die like a dog in the desert; but God sees fit that it should be so, and I do not murmur. Lazar, you have been a very dutiful nephew to me, and I hope that you will live long and prosper abundantly in the world."

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yet still it was so much reduced that it became necessary to shorten our daily allowance. I really think there was not a moment in which I did not feel exceedingly hungry; and the utmost that we could do was to keep ourselves a very slight degree short of raving and savage hunger. Oh, how earnestly we did long even for the frailest boat that was ever trusted upon the waters, that we might endeavour to escape in it to the dwellings of men. It so happened that this wish was not entertained in vain.

One morning we perceived, at the distance of rather more than half a mile from us, one of those small wicker boats which ply upon the Tigris and Euphrates before escaped our notice. We therefore set another As it did not seem that there was any reason to doubt our journey. He therefore turned to swim back to us; but, as he returned, his vigour seemed rapidly to abate, and when he was within about a hundred yards of the mound, he sank, and we saw him no more.

The other man reached the boat in safety, and, after resting a little, paddled it towards us. When he came within speaking distance, he stopped. He told us that he could not with safety take more than three persons into the boat; and, as he thought himself entitled to some recompense for having risked his life in the undertaking, the three persons he would take were those who would make him the largest payment.

This astounded all but the wealthiest among us; for, although a little reflection would have taught us the absurdity of the expectation, yet when we saw the boat coming towards us, every one exulted in the conviction that deliverance from our wretched thraldom was come at last. When the man in the boat spoke to us, however, our eyes were opened; and we could not but admit the truth of what he said, although every one who was not included among the happy three, disapproved of the principle by which the Arab's selection had been guided. Two wealthy merchants of Bagdad and one of Bussorah made much higher offers than the rest could afford, and were therefore accepted. Before they left us, however, they promised that on their arrival at Hit they would send a sufficient number of boats to take us all away; or if they failed in procuring the requisite number of boats, they would not fail to send back the one in which they were about to leave us, with an ample supply of provisions. Having soothed us by these promises, they entered the boat and rowed off.

As was the case with us, the second man had a new object of solicitude in watching for the promised boats. Long and anxious were our watchings. But the boats never came; and when we afterwards met at Bagdad the friends who had left us, they convinced us that it was impossible for them to fulfil their promise either as it regarded the boats or the provisions. The boatmen had generally died of the plague, and their boats had gone adrift; and in consequence of the plague and inundation provisions were not to be had at any price, the people living in the tow being themselves obliged to subsist upon their hoarded stores.

These boats are of a circular form, and have the appearance of large basins. They are made of wicker-work, so coated over with bitumen as to be impervious to the water. Boats of this description are exceedingly ancient.
ANCIENT SIEGES.

(Abridged from 'Historical Parallels, vol. ii'.)

In reading of such sieges as that of Numantia, one of the first things which strikes a reader not familiar with ancient warfare, is the extreme rudeness of the methods employed, and the vast expense of time and labour. Before the battering-ram was invented, force could avail little against solid walls; and men soon found out, with Wamba, in Ivanhoe, that their hands were little fitted to make mambos of stone and mortar. A well-conducted escalade might succeed; a skilful stratagem might deceive the vigilance of the garrison; an ingenious general might devise some method of attack which should render walls useless, as in the attempt to burn out the Plateans, and might derive some advantage from natural facilities, or even from natural obstacles, so as to convert what the besieged most trusted in into the means of their destruction; but to overthrow or pass the walls by violence was commonly beyond his power. But the introduction of the ram worked a material change in the relative strength of the besiegers and besieged, for few walls could be found strong enough to bear the repeated application of its powerful shocks. Next in importance to the ram were those huge moving towers which overtopped walls, and were provided with drawbridges, by means of which, the battlements being previously cleared of their defenders by missile weapons from above, a body of troops might at once be thrown upon them.

No material alteration in the methods of attack took place till the discovery of gunpowder gave force enough to projectiles to batter down the strongest walls, without exposing men and machinery to the hazard of close approach. The only improvements which did take place consisted in supplying means by which the assailants might approach with less danger to the foot of the walls, and there apply the powerful ram, or, in some instances, resort to mining.

In illustration of these remarks we may notice, very shortly, two of the most remarkable sieges in ancient history, those of Tyre and Syracuse, both resolutely sustained, both finally successful, both carried on by rich and powerful nations, who commanded everything that the best skill of the engineer, or the labour of numbers, could effect. The first was undertaken by Alexander soon after the battle of Issus, a. d. 333. From past ages the Phænicians had been celebrated among Asiatics for their maritime skill, and Tyre was the most powerful of the Phænician cities. Trusting in their naval strength to obviate blockade and famine, and in the height of their walls, and strength of their situation, to repel violence, the Tyrians refused admission to Alexander, remaining faithful to their engagements with Persia. Too weak at sea to assault the walls from his fleet, Alexander had no resource but to carry out a mole to the island. Near the walls there were three fathoms of water, which shoaled gradually to the shore. The mole was built of stone, heaped up, we may suppose, of rough uncemented blocks, like the Plymouth breakwater, and strengthened with piles; and the top was constructed entirely, or in part, of wood. At first it proceeded with despatch, but more slowly and more difficulty as it approached the walls, from which the besieged annoyed the workmen with missiles, and, at the same time, constantly harassed them from the sea. To protect themselves from these attacks the Macedonians built on the verge of the mole two high towers, armed with engines, and covered with raw hides as defence against darts armed with fire. These the Tyrians destroyed by a peculiarly constructed fire-ship. Having filled a large transport with dry twigs and combustible matter, they fixed two masts in the prow, heaped faggots high around them, and added pitch, sulphur, and everything that was proper to feed the flames. To each mast they fastened two yard-arms, from the ends of which two cauldrons were suspended, filled with combustibles. The ballast they moved entirely to the stern, to raise her head as high out of the water as possible. Thus prepared, they took advantage of a favourable wind to run her upon the mole, and set fire to her, the crew escaping by swimming; and both mole and towers were speedily involved in the conflagration. Meanwhile, the Tyrians, from ships and boats, assisted in the ruin, destroyed the piles, and burnt those engines which would otherwise have escaped the flames. The work therefore had to be recommenced, and it was rebuilt on a larger scale.

While this labour was proceeding, Alexander's fleet was reinforced in consequence of the submission of the Cypriots and Sidonians, to an extent which enabled him to command the sea, and compelled the Tyrians to block up the mouths of their harbours. Numerous mechanics were employed in constructing military engines; some of which were placed on the largest ships of the fleet, and the rest were mounted on the mole. The Tyrians, still to have the advantage of height, built wooden towers upon their walls facing the mole. This would seem scarcely necessary if we credit Arrian's assertion, that the city wall in that part was
150 feet high, but it gives us a scale for measuring the altitude of Alexander's towers, which we may assume, from this observation, to have been of much or greater. On the side to the sea they cast fiery darts into the attacking ships, and showers of stones, which not only did much harm in their fall, but raised a loud noise, which made it impossible to get close up to the walls. The Macedonians therefore were obliged to clear away these impediments; a work in itself of difficulty and labour, increased by the resolution of the Tyrians, who openly, by sending armed ships, and secretly, by means of divers, cut adrift from their moorings the vessels employed on this service. The Macedonians, frustrated this method of defence by using chains instead of cables for mooring, and succeeded at last in clearing away the bank, and getting access to the wall. On the north side, and that next the mole, it resisted their efforts; but a breach was effected on the south side by battering from the ship, and an assault was made, but without success. On the third day afterwards, the breach being enlarged, a second assault was made under Alexander's person, and the town was carried.

Eight thousand Tyrians, with a combination of planemirrors, are recorded as having been a forced joker that Archimedes used his machines for casting stones and darts; with which the wall were so well supplied, that the Romans were defeated in every attempt to approach: Marcellus ran his ships by night beneath the walls, hoping to be within the range of these destructive engines. Here, however, he was anticipated, for Archimedes had hollowed chambers in the walls themselves, with narrow openings, like the embrasures of a Gothic castle, from which archery, and the smaller sort of missile engines, were directed against the Roman ships with destructive effect. Against the sambucæ he had contrived machines, from which long beams or yards projected, when in use, far beyond the walls. These were heavily weighted with stone or metal to the extent of not less than ten talents, or 1250 pounds. A rapid circular motion being then given to the beam by machinery within the wall, this weighted lever was dashed against the ladder with such force as generally to break it, while the ship itself was exposed to considerable danger. This story was never considered the danger of fire by means of burning mirrors, composed of a combination of planemirrors, adjusted so as to reflect the incident rays of light to the same point. The engines which must have been used.

The most remarkable feature of this siege is the battering in breach from the shipping, which would seem a most unstable base for the cumbersome weighty engines which must have been used.

The siege of Syracuse, undertaken by the Romans under command of Marcus Claudius Marcellus, a.c. 213, is rendered most remarkable by the interposition of the celebrated geometrician, Archimedes. Many extraordinary stories are told of the wonderful things done by him, which, if they rested only on the authority of Plutarch, and other compilers of stories, it would be the natural and simple course to reject; but some of the most singular are affirmed by Polybius, almost a contemporary, well skilled in war, and of undoubted credit for honesty and discernment; and one point, of which Polybius makes no mention, has been ascertained and sold for slaves.

The most remarkable feature of this siege is the battering in breach from the shipping, which would seem a most unstable base for the cumbersome weighty engines which must have been used.

Syracuse was divided into five districts, the little island of Ortygia, Acradina, Tycha, Neapolis, and Eppipopile. Marcellus directed his attack against Acradina, which adjoined the sea, with fifty quinqueremes, or vessels with five banks of oars, well filled with soldiers armed with all kinds of missile weapons to clear the wall. He had also eight ships fitted out in a peculiar way with machines called sambucæ, from some fancied resemblance to a harp. They were thus prepared: two ships were lashed together, the oars being taken from the two adjoining sides, so as to form, as it were, one large double-keeled vessel, affording a broad and stable base. A ladder was then made, four feet broad, of the necessary height, protected at the sides and above with gratings and hides, so as to form a sort of covered way to the very summit of the walls. It was then so placed, the foot at the stern, the head projecting beyond the prow, that it could be raised by ropes run through pulleys at the mast-heads. At the top was a platform large enough to contain four men, with high sides which turned on hinges, and which being let down served as bridges to connect the ladder with the walls of the besieged town.

At the request of Hiero, king of Syracuse, Archimedes had in past years constructed a great number of machines for casting stones and darts; with which the walls were so well supplied, that the Romans were defeated in every attempt to approach: Marcellus ran his ships by night beneath the walls, hoping to be within the range of these destructive engines. Here, however, he was anticipated, for Archimedes had
THE BISHOP'S THRONE IN DURHAM CATHEDRAL.
Among the objects of interest in Durham Cathedral, the bishop's throne deserves to be noticed as one of the richest and most elegant works of the kind in this country. It is indeed, he regarded as a record of the very exalted opinion which the bishop by whom it was erected entertained of the power and dignity of his mitre; and, as if to inculcate upon his own heart a lesson of humility under the almost regal distinctions of the state to which he had attained, he built this splendid throne over the vault prepared by himself for the reception of his mortal remains after death. The person who thus directed the world by the spectacle of his humility and his pride in such near alliance with each other was Bishop Hatfield, who died in 1381, and who is stated to have erected the throne about the year 1370. It was repaired, in 1700, by Bishop Crewe, and was new painted and gilt, in 1772, by Bishop Egerton. For the following description of the throne and monument we are indebted to the account prepared, it is believed, by Sir Henry Englefield, to accompany the plates, from drawings by Carter, published by the Society of Antiquaries, in 1801, to illustrate the cathedral of Durham.

The basement-story of the throne serves as a canopy for the altar-tomb of the bishop. The whole front of this story, though in a solid style, as intended to bear the throne and its canopy above, is so richly decorated with sculpture, painting, and gilding, that it seems to have a most elegant and noble effect. It is profusely adorned with shields of arms, and the ground of the work is of the rich panels in low relief, anciently called "diaper." The crockets and finials of the niches and pinnacles are extremely handsome. A flight of steps on the left, covered by the sloping wall, leads to the top of the tomb, which is so wide as to give ample room for the bishop and his officers to sit in safety. The seats are panelled in front with quatrefoils. The bishop's seat projects in a hexagonal form. This seat has above it a hexagonal canopy, of the richest and most elegant design, which is surmounted by a canopied niche, probably at some former time filled by a statue. Two smaller niches, also with canopies, appear on each side. The buttresses and pillars which support these canopies, and the pinnacles and flying arches which rise above them, are of great height and airy a design, that it seems scarcely possible that they should have been executed in stone; yet are they connected with so much art as to have remained in perfect preservation to this day.

A very mean wooden rail runs in front of the bishop's seat and up the flight of steps. The original defence was probably by brass columns supporting slender rails, on which hung curtains with rich embroidery. Many examples of this sort of decoration may be found in the illuminations of old missals.

The interesting alabaster-tomb and recumbent statue of Bishop Hatfield, underneath the throne, are still in excellent preservation. Even the beautiful statue, which was the most liable to injury, has only slightly suffered in the more prominent and delicate parts. It represents the prelate habited in his episcopal dress, richly adorned with sculpture, painting, and gilding, in imitation of embroidery. The outer garment is the "chasuble," in its ancient ample form, and much ornamented. On his hands are the episcopal gloves, embroidered on the backs. Beneath the chasuble is the linen alb, or surplice, and under that appears another garment, or tunic, on which three shields of arms are richly embroidered. On the central shield are the arms of England, and the bishop's own coat on the two lateral ones. "The honour of bearing the arms of England in this manner," says the work which we quote, "seems a proof of the high estimation in which this magnificent prelate was held by his sovereign, and perhaps may have been granted to him in consequence of the distinguished part he bore in the signal victory of Neville's Cross."

The bishop's feet are covered with richly-embroidered shoes, and on his head is the mitre, in its ancient form. The workmanship of the whole statue is in the very best style of that period when the art of sculpture had, in this country, attained a state of advancement on which we must even now look back with respect.

A short notice of the great prelate who has so frequently mentioned in the above account, may very suitably conclude this account of his throne and tomb. Little is known of him personally to his elevation to the see, except that he was a prebendary of Lincoln and York, and secretary and keeper of the privy seal to King Edward III., by whom he was highly esteemed. Before this time the pope had for many years exercised the authority of appointing the bishops to the sees of England without even consulting the king. This was viewed with equal dislike by the king, the nobles, and the parliament; and ultimately several statutes were enacted restoring to the churches and convents their ancient privilege of election. This was the state of things when Richard de Bury, Bishop of Durham, died in 1315. The king was exceedingly desirous that his favourite Hatfield should succeed him in that rich see; but he had great fear that the consent would not be given if the matter were left in their hands. He therefore took the very extraordinary measure of applying to the pope to appoint him. The pope, who had become uneasy at the measures of the parliament, was delighted at an application which implied an acknowledgment of the power which he was quite as anxious to preserve as the parliament to take away. He at once complied; and when objections were made against Hatfield by some of the cardinals as a man of low birth, he informed them, with the very extraordinary measure of applying to the pope to appoint him. The pope, who had become uneasy at the measures of the parliament, was delighted at an application which implied an acknowledgment of the power which he was quite as anxious to preserve as the parliament to take away. He at once complied; and when objections were made against Hatfield by some of the cardinals as a man of low birth, he informed them, with the very extraordinary measure of applying to the pope to appoint him. 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This situation afforded him an opportunity of rendering his sovereign important service, for when, in 1346, David, king of Scotland, invaded England with a powerful army in the absence of the king, who was besieging Calais, Bishop Hatfield unstirred the banner of his province, and, with other prelates of the north and many nobles, marched against the invaders, who were defeated, and their king taken prisoner. Bishop Hatfield on this occasion commanded in person, jointed with Lord Percy, one of the four divisions of the English army. Eight years afterwards he was one of the commissioners appointed to treat with the Scots for the ransom of their captive king; and we next find him attending Edward when he went to France at the head of a large army in 1355. Among the many acts for the benefit of his see and convent for which the prelacy of Hatfield was distinguished, we can only mention that Trinity College, Oxford, owes its foundation to him. It was, in consequence, originally called "Durham College," and was new named after the Bishop as should wish to study there. Before his time, the bishops of Durham had no house in London in which they might reside when summoned to parliament. Bishop Hatfield therefore built a fine palace in the
The following observations are extracted from a sensible little work lately published, entitled 'Dates and Distances.' They relate to one of the most important subjects—important to the high and the low. The facts which the writer states for this reason: he shows that in Germany no cause for complaint exists to the lower classes; that mutual concessions produce mutual good will and mutual content and happiness. We do not agree with the writer in supposing that a similar state may not be attained in France; and he is in the right, but the means by which such an end may be gained will do good service to the community.

"According to the kind and laudable practice observed almost universally by the German nobility, which I have before noticed, Prince Clary, who is the court preacher of the vicinity (Toplitz), allows everybody access to his beautiful garden, which immediately adjoins the town. This privilege seems never to be exceeded, nor does it appear that any precautions are taken for the purpose. One ranges through the grounds without being spied at by gardeners or guardians; the indulgence is freely granted, and enjoyed with a freedom which is never disregarded by the prince. Prince Schwartzberg permits all decently dressed individuals to enter his beautiful gardens near Vienna, and nobody thinks of plucking a single flower of the thousands which embellish the parterres. It would not be possible to establish this state of things in England. The elaborate and expensive gardens of the nobility are in the parterres, and a certain degree of privacy, and the public would soon arrogate to itself rights inconsistent with the rules of suacerance. People in Germany, however, are content to enjoy an indulgence as a matter of course, that they are hardly perceived to be such. It is their habit, combined with the more even dissemination of riches, which create so much harmony among all ranks of society on the Continent, especially in Germany, and render the inferior classes so attached among all ranks of society.

There is a long account of this bishop in 'Hutchinson's History of Durham,' from which, 'Chalmers General Biographical Dictionary,' this account of him is taken.
The Piazza or Square of the Quirinal, now more commonly called the Piazza of Monte Cavallo, from the statues of the two horses (cavalli), is, taken altogether, not only one of the finest parts of Rome, but one of the most favourable points from which to see the rest of that city. This square is on the Quirinal Mount, which is the highest of the seven old hills; it commands some of the finest views of the modern city, with the noblest of its palaces and churches, fountains and obelisks. From one part of the Quirinal Hill the eye looks down upon the Campus Martius; in another direction it takes in the grand column of the Emperor Trajan, and, in an opposite point, it reposes upon the long galleries of the Vatican, and the massive walls and
sublime dome of St. Peter’s, and the shady sides of Monte Mario. La Strada Pia, one of the finest streets in Europe, gives access to the square, on one side of which there stands the Quirinal Palace,—a plain but imposing edifice, in which the pope generally resides in summer, on account of its level situation and the coolness and purity of the air. The palace, like the square, is now more commonly called of Monte Cavallo. In the rear of this palace are fine and spacious gardens with shady groves and fresh fountains, and in front of it are most happily placed the statues represented in our view. These statues are of colossal size, and of such great beauty, as to have been attributed, though without any historical authority, to Phidias and Praxiteles, the greatest sculptors of ancient Greece. They were brought to Rome from Alexandria in Egypt, at the beginning of the fourth century of the Christian era, by Constantine the Great, and placed in the ruined and deserted. The poet Martial is said to have had a house on the Quirinal Mount.

The statues, however, were removed from the baths some years before their destruction, and placed where they now are by the architect Fontana, in the time of Sixtus V., who was pope from 1585 to 1590. Fontana also superintended the restorations of the statues which had been somewhat mutilated in the course of many ages and accidents. Each of these groups consists of a fiery horse held by a bold young man, and hence the Roman antiquaries, who often leaped to conclusions from still weaker premises, were induced to believe that they both were intended for Alexander the Great in the act of checking Bucephalus, and consequently the names of the conqueror and the steed are inscribed on the bases the statues stand upon. Of late years, however, it has been rather the fashion to call them Castor and Pollux; and if they must have names—which we think scarcely necessary—these are probably as good as any. At all events, Phidias could not have made a statue of Alexander, from the simple circumstance that he died nearly a hundred years before the “Macedonian madman” was born. But notwithstanding that their names are confidently set down, “Opus Phidias” being inscribed on one base, and “Opus Praxiteles” on the other, it is more probable that they were originally intended to stand with their backs close to some building. The obelisk that now towers between them, and which is one of the granite columns brought from Egypt by the old Romans, is a fine but comparatively-modern addition to the splendour of this piazza. It was set up, about half a century ago, by Pope Pius VI., and he believe, the pleasant fountain with the large granite basin was completed at the same time. Neither the obelisk nor the fountain occur in old views of Rome, nor are they represented even in Piranesi’s engravings. In the rear of these very striking objects, and on the side of the square opposite to the papal palace, there is a curious quaint building called La Gran Guardia, which is occupied by the Swiss soldiers in the service of the Pope. Beyond this are the beautiful Colonna gardens, the tall green trees of which contrast delightfully in the view with the stern palaces and masses of stone and marble. At another corner of the square stands the vast palace of the Rospiglioso family. In short, whichever way the eye turns it is struck with objects of beauty or grandeur, or objects that are interesting from their antiquity and associations.

In the days of the Roman Empire, the Quirinal Mount was covered with buildings as it now is; and, besides the baths of Constantine, which we have mentioned, there was a splendid temple of the sun on the level space now called the square of Monte Cavallo. The aristocracy of the Catholic Church have built upon the ruins of the aristocracy of the Roman Empire as some future race will build upon their ruins, when, at some distant day, these proud palaces shall have crumbled and been deserted. The poet Martial is said to have had a house on the Quirinal Mount.

THE CATACOMBS OF KIEF.

The city of Kief, otherwise spelt Kiev or Kiew, is the capital of a Russian province of the same name, and situated upon the banks of the river Dnieper. The town is one of the most ancient in Russia; and in the year 892 it became the capital of the nation, and continued such until 1157, when the seat of government was removed to Vladimir.

In the present day Kief is exclusively remarkable on account of the character of sanctity which it derives from the possession of the bodies of a large number of holy persons whose memories are held by the Russians in high veneration. It has thus become to them, in some sort, what Jerusalem is to the Jews, and Mecca or Kerbela to Mohammedans. It is estimated that about 50,000 persons annually perform the pilgrimage to Kief from all parts of the vast Russian empire, not excepting Kasmitchata and the most distant regions of Siberia. These pilgrims collect money in their progress from persons who are themselves unable to perform the pilgrimage; and with this they are understood to purchase candles to be burnt before the images of Phidias could nothavemadeastatueofAlexander, the saints. The catacombs, about which such multitudes of men are interested, are particularly described by Dr. Henderson, in his ‘Biblical Researches and Travels in Russia,’ and by Colonel Johnson, in his ‘Journey from India to England:’ by which works we have been chiefly assisted in the preparation of the following account.

The catacombs consist of very extensive subterraneous labyrinths excavated in the precipitous declivity of the hill which forms the bank of the river. The substance of the hill is well suited for the formation of such excavations, consisting of a conglomerate of sand and clay, possessing a considerable degree of hardness and adhesion, but being almost too soft to be described as stone.

The entrance to the catacombs is from a very splendid chapel, which is surrounded by three gilded turrets; this chapel is uncommonly rich in its internal decorations, and is intended for the devotions of the pilgrims who explore the subterraneous labyrinths. Some delay always takes place here while arrangements are made about the lights which are to assist the stranger in his observations. This delay affords visitors an opportunity of viewing in detail the embellishments of the chapel. Their attention is often more probably engaged by a large painting, which represents good and evil spirits awaiting the dissolution of dying persons in order to convey their souls to their destined abodes of misery or happiness. The spirits of evil are represented as in the midst of vivid flames; and the great arch-fiend himself is by far the most conspicuous figure in the
whole scene. Dr. Henderson gives the following anecdote concerning this figure:—"A boy who was standing by, infuriated with rage, ran up and gave him some hard blows with the sharp leaden, from his head. The427

When the previous arrangements are completed, a small candle is placed in the hand of each of the persons about to descend. They then enter the passage which conducts to the catacombs. This passage is about six feet high, but so narrow, that two persons cannot pass each other without difficulty; the sides and roof are black from the smoke of the candles and lamps that are continually conveyed through it, and where there is any turn or winding, the projecting angles are worn away and smoothed by the friction occasioned by the continual passing of pious or curious visitors.

This passage runs in a north-westerly direction, and the explorer has not proceeded far in it before he comes to a recess on the right hand containing a coffin without a lid, in which is one of the saints, dressed, or rather swaddled, in silk, with an embroidered cap, and with the stiffened hands so placed as easily to receive the kisses of those visitors who are of the religion of the country. The other bodies seem to be similarly clad, and the kissing of hands is repeated in passing each of the bodies which is so placed as to admit the performance of this ceremony. The total number of bodies in this set of catacombs amounts to eighty-four. Within each coffin there is a small box, with a hole in the lid to receive the contributions of the devout. These generally consist of copper money, which is placed either in the box or upon the body.

The entrance-passage is about twenty yards in length, after which the visitor proceeds eastward by a somewhat circuitous passage, and then turns to the north, and subsequently another turn is made into a passage which conducts by a gradual descent towards the Dnieper. In traversing these passages, the visitor observes, on either hand, in arched niches excavated in the rock, the coffins which contain the bodies, or parts of the bodies, of the ascetics who have been thought worthy of that remarkable but not very laudable posthumous honour which the inmates of the catacombs receive so largely. In these niches the dead are deposited in various ways, and with various circumstances of honour, the coffin of the monk having a black lining and richly embossed; in some instances the bodies of two persons are deposited in one wide coffin. A picture, representing the deceased, is painted on the lid of each coffin; and his name and style are inscribed on a board, or painted on the wall of the niche.

Some of the recesses in which the dead are deposited are not of uniform construction. In some cases, a small chamber has been excavated in the sides of the passages, and, after having closed up its inmates, it has been covered with a thin wall, in which, about four feet from the ground, is a glass window, through which, when a candle is held up to it, the spectator is enabled to obtain a view of the coffins. One of the most remarkable of these dormitories is that which contains the remains of some of the children who were slain at Bethlehem by order of King Herod. This we may be permitted to doubt. To a foreigner, who cannot sympathize in the peculiar religious feelings of the native visitors, there is no sepulchre in the catacombs which will have the interest him as that of the monk Nestor, who claims the distinction of being the father of Russian history. He lived in the latter half of the eleventh century; and of his 'Annals,' which have been well preserved, an edition in the original Sclavonic, with a German translation and valuable notes, was published, about twenty-five years since, by Professor Schlözer of Gottingen.

The catacombs terminate in two subterranean chapels. The one nearest the entrance is dedicated to the Purification of the Virgin: and the other, which is only a short distance from the river, is dedicated to St. Anthony, who lies there enshrined in a coffin covered with silver. Both these chapels are very richly ornamented, and mass is performed in them on certain commemorative festivals. The whole of these catacombs are called, from the saint last named, the Catacombs of St. Anthony, to distinguish them from other catacombs farther to the south, called the Catacombs of Theodosius. In some parts of these caverns the air is very confined, but in general there is a perceptible current of cold air introduced through gratings communicating with other passages.

The Catacombs of Theodosius are situated at a short distance to the south of those of St. Anthony. They are not so extensive as those to which the preceding account relates, nor are the bodies (forty-five in number) deposited in them regarded with equal veneration.

The interesting work of Dr. Henderson, which we have already mentioned, gives the following account of the origin of the catacombs:

"The origin of the catacombs of Kief is to be traced to the introduction of the ascetic life into Russia. Hilarion, Presbyter of Berestof, a learned and devout man, abandoning his church and the intercourse of the world, dedicated himself to prayer and fasting, and, in a short time, acquired such a reputation for sanctity that immense crowds of devotees, among whom was the Grand Duke Iziaslav himself, came to his cell in order to receive his blessing. Other ascetics now associated themselves with him, and enlarged the subterranean seclusion; a regular monastic discipline, in strictness in its tenets and observance, was established for the accommodation of those who visited the place; and, in the course of time, after miraculous powers were ascribed to the relics of the original founders and others, who had rendered themselves famous for the vigour of their discipline, the spot obtained that celebrity which it still retains in the present day."
MINERAL KINGDOM.—Section XLII.

The quicksilver-mines of Austria are situated at Idria, a mountainous district on the borders of Carniola, about twenty-five miles north-east of Trieste, and about the same distance west of Laybach, a place rendered celebrated in history by the congress of sovereigns held there in 1821. They are said to have been accidentally discovered about the end of the fifteenth century: a peasant wishing to soak a new pail in a rivulet, filled it with sand to sink it, and on raising it found it so unusually heavy that he carried some of the sand to the village pastor, who submitted it to the examination of the imperial director of mines. It was found to be a rich ore of mercury, and works were immediately begun, and have been constantly in operation since that period, yielding a large annual contribution to the imperial treasury. The chief ore is a bituminous sulphuret of mercury, that is, cinnabar mixed with bituminous and earthy matter, and it occurs in veins that traverse a limestone-rock. The mines, although 850 feet deep, are easily accessible, and quite dry, so that they are frequently visited by strangers, who suffer little inconvenience except from the fumes of quicksilver, which are disengaged from the ore even in the mine itself, and from the injury of any article of gold that may have been brought in contact with the mercury powder with which she had sought to correct the natural odours of her complexion. In 1803 these mines unfortunately caught fire, and the conflagration raged to such an extent that they were completely abandoned. Attempts were made to smother the fire, but after awhile it burst forth like a volcano, shaking the ground all about, and shattering the adjoining houses like an earthquake. It could only be extinguished by turning a stream into them, and thus completely drowned the works. The loss was immense, for besides the destruction of the internal works, it was nearly three years before the water could be drained off and the operations resumed. For a long period the greater proportion of the produce was bought by the Spanish government for their South American mines, but that demand has nearly ceased, probably in consequence of the increased supply from their own mines at Almaden.

After the mines of Almaden and Idria, the most considerable in Europe are those in the ancient Palatinate, that part of the frontier-country of Germany and France on the left bank of the Rhine, westward of Worms. There are records of their having been worked in the thirteenth century, and they are supposed to have been opened long anterior to that period. They have been opened on a large scale, and are situated in a jolly country, which forms the northern termination of the range of the Vosges mountains, extending about thirty miles from south to north, from Wolfstein to Kreutzach, and about twenty miles from east to west. The mines are in the coal-strata, coal being worked to a considerable extent in the country at different places; and the bituminous schist, which is rich in mercurial ore, frequently contains fossil fishes. These last are found abundantly near Munster-Appel, and are described by M. Agassiz, in his great work, now in course of publication, on that curious and important department of geological science—a naturalist from whose labours the most valuable general results regarding the history of the revolutions of our globe, in its progress towards its present condition, as disclosed by these organic remains, may confidently be expected.

When the successful armies of the French Republic took possession of this territory, a commission of scientific men was sent to inquire into the state of the quicksilver-mines, and they reported that their annual produce amounted to about 67,000 lbs. of mercury.

The most celebrated quicksilver-mines of South America are situated in the mountain Santa Barbara, near the town of Guancavelica, about 130 miles south-east of Lima. They were discovered in 1560 by Henry Garces, a canon of the cathedral of Mexico, who, examining one day a red earth, red which the Indians, like the ancients, painted their own bodies and their idols, found that it was cinnabar, from which he knew that quicksilver was obtained in Spain. The Peruvians had sought for silver in this place, but were quite unaware of the treasure it contained in the mineral so essential to them in refining the ores of their precious metals. The part of the mountains where the mines are situated is 12,300 feet above the level of the sea. The cinnabar occurs in the form of layers and of veins in a sandstone which is almost as compact as pure quartz, thirteen feet thick, forming a subordinate bed in a calcareous puddingstone, or rather breccia, that is, a rock composed of angular fragments of limestone, cemented together, resting upon or rather being a continuation of layers of magnesian-limestone. From documents which have been regularly kept of the produce of these mines, it appears that they had in general yielded annually from 400,000 to 600,000 lbs. of quicksilver, and in some years as much as 1,050,000 lbs. But in 1789 an ignorant superintendent, wishing to increase the produce, caused the miners to work the masses which had been left to support the roof, and is usually done in coal-mines; the consequence of which was, that when the pillars were taken away, the roof of the mine sank down to the floor and closed it. (See 'Penny Cyclopædia,' Article Anaes.) Ores of mercury are found in many other parts of the Andes, but not hitherto in great quantity. Humboldt says, that they exist abundantly in many parts of Mexico; but although they have for a long period required a large importation, when Humboldt was there mines were not being worked, and there were badly managed, and yielded a small quantity.

The method of obtaining quicksilver from cinnabar, which is by far the most common ore, is very simple. The ore, after being broken, carefully picked and reduced to powder, is put into an iron retort, with a proportion of quicklime; a glass receiver is attached to the neck of the retort, and, by the application of a strong heat, the sulphur combines with the lime; the quicksilver is set free,—is distilled over and is collected in the receiver. A hundred pounds weight of ore yield in general from six to ten ounces of mercury.

Uses of Quicksilver.—The great consumption of this metal is in the refining of gold and silver ores by the process of amalgamation. It appears from Pliny and Vitruvius that this art was known to the ancients, and, that the famous mining establishments of Mexico at the time of Humboldt’s visit was about 1,632,000 lbs. annually, and that of South America consumed about 918,000 lbs. A large quantity is imported into China for the same purpose. The Chinese, who first discovered the use of this metal, used it in their mines for many years ending with 1829, the imports of quicksilver into Canton by the English and Americans amounted to 648,055 lbs. annually. The quantity imported into the several ports of the United Kingdom in the year 1833 was 1,597,866 lbs., and in the same year 1,166,137 lbs.
were exported, and 260,150 lbs. cleared for consump-
tion. With the exception of a small quantity from
Germany, the whole amount imported was from Spain.
The exports were to all parts of the world, but the
largest proportions to Mexico, Chili, Peru, and dif-
erent parts in India, including the Archipelago and China.

Mercury is extensively used in the arts, in various
processes of gilding, and in jewellers' and silversmiths'
works. In gilding, the gold is formed into a soft
amalgam with mercury, and in that state is applied to
the copper button, or other article; the mercury is
driven off by heat, the gold remains behind, and is
then burnedished. One of the most extensive uses of it
is in manufacture of vermilion paint, and for
the colouring of sealing-wax. The quantity of quick-
silver converted into vermilion in Paris amounts to
about 40,000 lbs. annually, of which the greater part
is consumed in the manufacture of sealing-wax. There
is also a large consumption of quicksilver for the silver-
ing of looking-glasses, which is done with tin-foil and a
layer of mercury between it and the glass. The
manufacture of barometers and other physical instru-
ments must also require an considerable quantity.
The use of preparations of mercury in medicine is well
known, especially in the form of calomel, which is a
compound of mercury, oxygen, and muriatic acid; and
a larger proportion of the acid forms corrosive subli-
mate, one of the most deadly poisons.

MONOMANIA IN HORSES.
The following curious facts are extracted from a paper by
Professor Rodet, in 'The Veterinarian,' a sensible monthly
publication:

"In 1806, during the campaign of Austerlitz, a Pied-
montese officer possessed a beautiful, and, in other respects,
a most serviceable mare, but which one peculiarity rendered
at times exceedingly dangerous for the saddle. She had a
decided aversion to paper, which she immediately recognized
the moment she saw it, and even in the dark if one or two
leaves were rubbed together. The effect produced by the
sight or sound of it was so prompt and so violent, that in
many cases she unhorsed her rider; and in one case, her
foot being entangled in the stirrup, she dragged him a
considerable way over a stony road. In other respects, this
mare had not the slightest fear of objects that would terrify
other horses, that it was dangerous to place them in the same
travel offers. Lord Burghley then expresses a strong
opinion against training up sons to a warlike profession;
and adds, on this point, "It is a science no longer in request
among the sons. Lord Burghley disapproves of sending them to travel, at least he
would not have them cross the Alps: he says, "If by
travel they get a few broken languages, that shall prof
them no more in the way of a soldier than a broken
dishes." In point of fact, however, travel is good, or evil,
or neither, according to the degree in which the traveller
has been previously prepared to turn to good account, or
bad account, or no account at all, the opportunities with
travel are of all others the greatest, and the great
opinion against training up sons to a warlike profession;
and adds, on this point, "It is a science no longer in request
than use; for soldiers in peace are like chimneys in sum-
mer."—From Ten Precepts which Lord High Treasurer
Burghley gave to his son Robert Cecil.

**The Office of the Society for the Diffusion of Useful Knowledge is at
29, Lincoln's Inn Fields.**

**LONDON—CHARLES KNIGHT, 99, LUDGATE STREET**
The name is very generally applied to bridges placed in difficult and hazardous places, the popular ignorance of old times easily getting over the difficulty of their construction by attributing them to the evil one. There are many devil's bridges among the Alps, in Savoy, Switzerland, the Tyrol, and the Grisons; there are others among the Apennines, in Italy, and others again among the Pyrenean mountains; but the subject of our present illustration is not quite so far off, being a Welsh Devil's bridge. It is situated in Cardiganshire, South Wales, between Hafod and Aberystwith, and not far from the roots of the mighty Plinlimmon. This bridge is thrown across a deep rent or chasm in the rocks through which, about 118 feet below the arch, the river Mynach forces its way, and after flowing onwards for a few yards, dashes down in a succession of cataracts into a deep abyss, which is about 325 feet beneath the level of the bridge, but only partially seen from it. The opposite disrupted cliffs, at the point where the arch spans them in a very bold and picturesque manner, are not above eighteen feet asunder; they are in part covered with hardy mountain ash and other trees; but lower down they lay bare their magnificent masses of dark rock, which have been worn, fretted, and brought to a slippery-looking polish, by the constant rushing of the Mynach,—which is here rather a mountain torrent than a river. A fine safe carriage-road leading to the foot of Plinlimmon runs over the upper arch; for, as the reader will perceive in the engraving, there are two arches that span the chasm, the one over the other. The lower bridge, to which the legend made the devil stand god-father, was built in 1187, by the monks of Ystrad Flur, or Strata Florida, or Star-flower Abbey, an important house of the Cistercian order, where many of the ancient Welsh princes were buried, and the mouldering ruins of which
are still to be seen in the neighbourhood, at a short distance from Hafod. In those dark ages most of the monastic orders were the benefactors of mankind, and the pioneers of civilization; they were the greatest road and bridge makers then in existence; for while the warlike barons and land-feudal chiefs found their safety in glory in inaccessible mountain fortresses and dangerous and impassable ways, it was to the interest of the monks that the faithful from all parts should be able to repair without impediment to their abbeys and churches, the shrines of which were to be enriched by popular piety, whilst their own influence was to be increased by a direct and constant communication with the people. This particular bridge, though insignificant enough as a modern work, was important and extensively useful in those days, and indeed even now it (or rather its successor) is the only direct medium of communication between those who live on the opposite sides of the long deep chasm or bed of the Mynach. After having done good service for 600 years—facilitating the friendly intercourse of man with man, and the interchange of people's cattle, produce, and goods—after having served the religion (as a national faith) of those who built it, and the cells and cloisters of the proud Abbey in which they indeed even now it (or rather its successor) is the only streams, particularly at the seasons when their waters produce, and goods after having survived the religion and allow of a wide and level bed), they flow on, in for 600 years--facilitating the friendly intercourse of acquaintance with each other, and finding more room to move in (for the chasm expands into a fair valley (asa national faith) of those who built it, and the gentle unison, like one and the same river: though insignificant enough as a modern work, was made a fine fall a few hundred yards off, meets the Mynach nearly at a right angle. The ascending streams, particularly at the seasons when their waters are most abundant, clash and roar, rush upon and retire from each other like enemies in deadly conflict; but, after a while, becoming friendly on a better acquaintance with each other, and finding more room to move in (for the chasm expands into a fair valley and allows of a wide and level bed), they flow on, in gentle unison, like one and the same river:

"May our hearts, like their waters, be mingled in peace."

The inefficiency of words to describe a scene like this has been felt even by the first of poets; nor can the painter represent motion or sound, and without its headlong speed "rapid as the light,"—without its tremendous voice, roaring, howling, and hissing, all is one—a cataract is only half a cataract, even let it be painted on canvas as huge as the mountains,—is little better than a dumb lion fastened to a stake, with his mane, tail, and paws cut off, and all his tusk extracted.

As we went down the rugged path which, in several places, lies over the face of almost perpendicular banks of rock, where the tourist must use his hands to grasp the bushes, and his toes to support himself on any little ledge or hole, or inequality of surface, we gave ourselves time, at every good resting-place, to examine the beautiful picture in detail, pausing, as near as we could, and in various positions, from which we last got below the fourth fall, we sat down on a broad shelving table of rock, close to the foaming sheet, and while the minute spray that filled the atmosphere of that deep hollow, and sparkled in it like diamonds, cooled our heated faces and hands, and refreshed the very heart within us, we gave ourselves quietly up to the enjoyment of sensations which we can only describe by calling them dreamy and delicious. A thousand little irides were to be seen in and over the sheet of falling water, and the prismatic colours, indeed, were scattered all about, and varied and changed places according to the sun's motion, and the greater or less brilliancy of his rays. Nothing can be more absurd than some of the guide-books when they speak of "the horrors of this gloomy chasm,"—this "abyss for ever denied a ray of sun;" for there is nothing horrid in the scene, which is beautiful rather by the tree folds, and for the sun's rays, they most happily light up every part of it that wants light during a good part of the day, shining, at the very bottom of the chasm, upon the broad, grey rocks beneath the last of the falls. The light, open foliage of the trees above, and the creeping and hanging plants that decorate the rocky sides of the ravine, do not intercept the sun's rays, but here and there separate and cool them, and give them, as it were, a most delightful glimmer which is far more abundant than might be expected in so rocky a scene, is the cause of much of its beauty. Whether in descending the sides of the chasm, or in looking upwards.
SCHOOLS OF ART.

Among the many advantages that Lyons possesses, the school of St. Peter, where a course of instruction in the different departments of art is gratuitously given to about 150 students, must not be forgotten. The course lasts five years; the classes open at nine and continue till two o'clock. The students must be of French birth, and Lyons are to be preferred. The city of Lyons pays 20,000 francs annually for the support of the school, and the government gives 3000 francs from the budget of the Minister of Commerce. A botanical garden, a hall of sculpture, and a museum of natural history are attached to the establishment. There are professors of the different branches of the fine arts, and one whose particular business is to teach their application to manufactures, and to instruct the students in the manner of transferring the productions of the artist to the loom of the weaver. The students who are advanced, are generally easily located as draughtsmen or pattern producers among the manufacturers, and the school constantly pours forth a supply of talented young men, whose taste is specially devoted to the production of novelties, and who very frequently are admitted to partnership in the principal houses, if their creative or inventive powers are of a distinguished order. The gain of an artist is from 3 francs to 10 francs or 12 francs per day, and in cases of very high merit, considerably more. The preparation of new patterns, or quite a new branch of the business, or very frequently are admitted to partnership in the principal houses, if their creative or inventive powers are of a distinguished order. The gain of an artist is from 3 fr. to 10 fr. or 12 fr. per day, and in cases of very high merit, considerably more. The preparation of new patterns, or quite a new branch of the business, is an object of instruction.

Since the Revolution of July, two additional classes have been instituted, to each of which a professor is attached. The entire number of students is now 200. They are divided into seven classes, under the direction of seven professors. These classes are:-1. Engraving; 2. Anatomy, comparative and picturesque; 3. The animate-object class, in which the studies are all living models; 4. The ornamental class; 5. The architectural class—flower-drawing, painting, &c.; 6. The mise en carte and sculpture class—in which the application of art to manufacture is the object of instruction.

The morning lessons last five hours— the evening lessons two hours.

The works which have been crowned, or recompensed with the first prizes, are to be collected in a separate apartment, and so arranged as to exhibit the progress of the school from its first foundation. Great progress is making in the ornamental classes, whose combinations are susceptible of so many varieties.

A botanical garden is attached to the school, which furnishes a supply of plants and flowers to the students throughout the year. Mr. Flowering on the Commercial Relations between France and Great Britain.

Variety of Knowledge.—All knowledge is of itself of some value. There is nothing so minute or incon siderable, that I would not know it, if I could. In the same manner, all power, of whatever sort, would be useful to me. A man would not submit to learn to hem a ruffle of his wife, or his wife's maid: but if a mere wish could attain it, he would rather wish to be able to hem a ruffle.—Boswell's Life of Johnson.
THE PENNY MAGAZINE.

THE PORPOISE.

The cetacea (an order of mammalia comprising the whale, the grampus, the porpoise, &c.) were formerly classed with fish, and in common language still bear that ill-applied title. Hence we read of the "whale-fishery," and of the number of "fish" taken upon any occasion. The cetacea are not "fish" in any sense of the word. They breathe the atmospheric air by means of lungs; their heart consists of two auricles and two ventricles; their blood is warm; they bring forth living young, and manifest towards them great attachment, nursing and protecting them with remarkable assiduity. As it respects the general form of their body and the construction of their limbs, the cetacea differ considerably from all terrestrial mammalia; and the reason is evident—their exclusive destination to aquatic habits. Terrestrial mammals are covered with hair, wool, spines, scales, or plates of mail: in the cetacea, we find the skin naked and smooth,—a circumstance in strict harmony with their structure and habits. In its general outline, the body has considerable resemblance to that of a fish, being of an oblong form, and terminating in a thick, muscular tail, furnished, at the extremity, with a horizontal cartilaginous paddle. There are no posterior limbs, and the anterior are modified into the form of short broad ears, which they resemble also in their use. But the great muscular force resides in the tail; its action is not, however, from side to side, as we see in the fish, but up and down, and the reason of this arrangement is very evident;—the cetacea breathe air, and are obliged to inspire every few minutes, hence, plunging as they do into great depths, they are enabled to raise themselves, by a succession of vigorous strokes, with great rapidity to the surface. What is termed "blowing" by the whale-fishers is nothing more than the forcible expiration of the breath before the animal has reached the surface. Having retained his breath as long as possible, as he ascends, he begins to force out, through his nostrils, the pent-up air, which throws aloft the water in a jet or column. The position of the nostrils in the cetacea is well worthy consideration. Of little use as olfactory organs, they are the exclusive apertures through which the process of breathing takes place. In other mammalia, the nostrils are placed at the extremity of the muzzle, but in the cetacea the muzzle or snout is always immersed beneath the surface, and cannot well be elevated. Where, then, can these organs be conveniently situated?—On that part which, as the animal floats, rises naturally above the surface. They open on the top of the head, and lead, in the whales, into a large sack, where the air, before being expired, is pent up, and whence it is violently expelled by the compression of powerful muscles. The larynx or windpipe is prolonged into the posterior nares, or back of the nostrils, in the form of a cone, so that the air is immediately conducted to the lungs through an uninterrupted channel. As it regards the organs of sight and hearing, we may observe that, as in fish, the eye is adapted to the density of the surrounding medium, the cornea being flat, and the crystalline lens globular. The external aperture of the ear is very small, and capable of being closed.

There are two other points, of especial interest, which we cannot pass over, general as we intend our remarks to be,—we allude to the deposition of a layer of oil or blubber between the skin and muscles, and to the construction of the vertebrae of the neck. There are several uses connected with the mode of life of the
cetaceans which the layer of blubber between the skin
and muscles appears to serve. In the first place, it
tends to render their specific gravity lighter,—a cir-
cumstance of some importance when we consider the
immense mass of muscle and bone of which these
animals are compacted. It is, however, in the true
whales that we find the layer of blubber the thickest.
These are animals exposed to the rigours of the Polar
circle, and it would appear to be a means of preserving
the vital heat of the body, which might perhaps be
unfortunately unable to withstand the intensity of the cold.
This coating is as bad a conductor of caloric as the fur
of the white bear. But the blubber has most pro-
ably another use also. It is well known that the
whale plunges to an amazing depth, where it has to
sustain an extraordinary pressure. Now, to prevent
this pressure from paralyzing the muscles and disturb-
ing the functions of the internal organs, must be one
of the ends to be kept in view in the economy of this
gigantic animal. Such a purpose the thick layer of
blubber will well subserve, and such is, no doubt, one of
its appointed uses.

The cetaceans appear to have no neck. They have no
distinct interval of separation between the head and
the trunk, yet, if we examine their skeleton, we shall find
that they possess the number of cervical vertebrae
common to all mammals, namely, seven. The neck of
the giraffe also consists of seven vertebrae. But, in
the one case, we find the vertebrae elongated to the
utmost, in the other case, the whole seven are com-
pacted closely together, and so compressed as to lose
the usual appearance of such bones;—they scarcely
occupy the space, in length, of a single vertebra of the
giraffe. Hence the neck of the cetaceans is immovable
and solid.

The cetaceans are divided into several groups. Some
are herbivorous, as the dugong, feeding on the submarine
vegetables which grow in shallows or near shore; most,
however, are carnivorous, preying on the fish and other
tenants of the ocean. To this latter family must be
referred that common native of the shores of our island,
the porpoise (Phoena communis, Cuvier).

The porpoise is the smallest of the cetaceans, seldom
exceeding five feet in length. It frequents, in troops,
the bays and inlets of our coast, and especially the
mouths of rivers, not unfrequently advancing to a con-
siderable distance up their stream. In such places it
is often taken in nets by the fishermen, becoming en-
trapped while eagerly pursuing its prey. When the
shoals of herring and other fish which periodically
visit our coast make their appearance, they are harassed,
among other enemies, by this active and voracious
animal, which revels in the luxury of a perpetual feast;
and, as its appetite is enormous and its digestion rapid,
the slaughter in which it appears incessantly occupied
must be very great. The porpoise is common at the
Nore, and few have sailed to Margate or Ramsgate
who have not seen these animals, tumbling along,
as they appear to do, in the rushing waves. The peculiarity of their motion results from the horizontal
position of the tail-paddle, and the up-and-down stroke
which it gives; and their momentary appearance is for
the purpose of breathing, which accomplished, they
plunge down in search of their food. In former days,
the flesh of the porpoise was highly esteemed as a
delicacy for the table, and was served at public feasts;
indeed, it is but lately that it has fallen into disrepute,
and been omitted at city entertainments, where the
turtle usurps its place. Our forefathers must have had
a different notion about table delicacies from ourselves;
for few, we believe, would now relish the rank, oily,
fishy flesh of this animal.

CHINA.—No. II.

THE CITIES OF CHINA.

In its principal features, the city of Pekin differs little
from the description we have given of it from Marco
Polo. Its form, however, has varied from a perfect to
an oblong square, and the city only occupies an area of
twelve square miles. Its gates are no longer twelve
but nine. Its suburbs, so vast in the time of the old
Venetian, seem gradually to have declined in the
course of the two last centuries. The early mis-
sionaries found them of prodigious extent, and, in 1790,
John Bell describes them as "very extensive;" but
according to Staunton's account, it took the English
embassy, going at a very slow ceremonious pace, only
fifteen minutes to traverse the suburb by which it
entered Pekin, and twenty minutes that by which it
departed.

The city itself is now divided into two—the Chinese
and the Tartar cities. Except in its length of walls,*
the materials of which these walls are built are sun-burned
bricks and granite. "We reached the city of Pekin," says Mr.
Clarke Abel, when describing his abrupt departure with Lord
Amherst, "at the close of day, stepped from our carts to steal a
piece of its walls,—had just time to observe that they were built
of a sun-dried brick, of a blue colour, resting on a foundation of
blocks of granite." It will be remembered that the great wall of
China is composed of the same materials.
fringed at its extremity by the mountains of Tartary, the distant view of which, according to Mr. Ellis, is striking and agreeable.

Before entering within its walls, we should not omit to observe that the road by which Pekin is approached is paved with fine granite slabs, two feet in length, and proportionably broad, and that these enormous flags must all have been carried at least sixty miles, the nearest mountains where quarries of granite are found being those that divide China from Tartary.*

Once within the gates, which are double, the sight presented by Pekin is novel, singular, and impressive. Two streets, as straight as a line, four English miles long, and 120 feet wide, run parallel from two gates in the southern wall to two gates in the northern wall, and these are crossed at right angles by other two streets of the same magnificent width. Opening on one of these main streets, which are four times as long as Oxford Street in London, or Princes' Street in Edinburgh, the traveller sees before him a double line of gay shops and warehouses, whosewares, as we have explained, are displayed in full view, and whose splendid sign-posts stand before them, not merely ornamented by the painted and gilded inscriptions, setting forth the nature of the goods and the name of the dealer, but generally entwined with silken ribbons, and hung with flags, pennants, and streamers of every possible colour, from top to bottom, like, but still more gay, than the mast of a man-of-war on some great holiday. The sides of the houses are scarcely less brilliant, being generally painted of some delicate colour, mixed with gold ornaments. In singular contrast with our notions and practice, the articles exposed for sale that make the greatest show are coffins for the dead. Along these streets he sees a continual crowd during the day, which has scarcely a break or interruption. It flows in a central and two lateral currents. In the middle stream are mandarins and grandees of the court, on horseback or in palankeens, attended by their numerous retinues, bearing umbrellas, flags, painted lanterns, and other insignia of rank;—Tartar soldiers dashing along on horseback, or making their way by applying their whips to the crowd;—long strings of camels, bringing coals from Tartary, and wheel-barrowes and carts, with vegetables from every corner;—ladies carried in sumptuous sedan-chairs, which are used in great numbers;—marriage-processions, and funeral-processions, the biers in the one case and the cars in the other being gilded and covered with canopies of silk, and forming the most splendid portions of the moving picture.

The lateral streams are filled up by those who are busied in buying, selling, and bartering: the gaiety, buzz, and confusion that prevail, are greater than might be expected from the general character of the Chinese: the dealer cries his goods, the purchaser chaffers and wranggles aloud, the barber flourishes his trowsers in the air, and clacks them together, inviting custom; comedians and quack doctors, mountebanks and musicians, pedlars and their packs, jugglers, fortune-tellers and conjurers, leave no space unoccupied on the sides of the street. And this noise, and bustle, and crowd, is not confined to any particular season or occasion, but reigns every day of the year. "I scarcely ever passed the gates, which happened twice or oftener in the week," says Mr. Barrow, "that I had not to wait ten minutes before the passage was free, particularly in the morning, notwithstanding the motions of two or three soldiers with their whips to clear the way." The number of women in this crowd is by no means proportionate to that of the men. In the capital, the Chinese confine their wives more scrupulously than elsewhere, and though in the quiet streets or cross lanes young girls (who always retire at the approach of men) may occasionally be seen smoking their pipes at the doors of their houses, few women, married or single, are seen out of the crowd or in the narrow streets. The Tartar women, however, go about everywhere, both on foot and horseback, which are cross like men. They are seen in the thickest of the crowd, clad in all in long silken robes that reach to their feet, which appear as much too large as those of the Chinese women do too small.

When the main streets cross each other at right angles, there are erected at the four points of intersection, four or five prominent ornamental arches which we have described as monuments to particular who have attained a venerable age, or merited well of the community. They consist of three gateways, the central one of which is broad and lofty,—the narrow roofs thrown over them are like the roofs of the houses, penasile, painted, gilded, and varnished.

The ample breadth and continuous crowd are confined to the four large, main streets: all the other streets branching from the great avenues (also at right angles), are narrow and silent. In these lanes, however, the houses of the state officers, and of most of the rich and great, are situated. Lord Macartney, and the gentlemen of his embassy, were lodged in a house of this sort in a lane near to the city-walls, which had not been long built by a former Hoo-pou of Canton, who was said to have spent nearly 100,000l. in its erection. What increases the gaiety and the bustle of these streets is, that there are no windows or doors, but are opened to the street. (save a little mean door, generally closed) in the fronts of the houses. Such things are only found in the great shops and magazines, which are all situated on the four principal streets. Many of the houses of the wealthy class have, however, a sort of terrace, with a railed balcony or parapet-wall in front, which is ornamented with miniature trees, shrubs, and flowers growing in pots, and produces rather an agreeable effect.

Neither the broad nor the narrow streets have any pavement, but both are cleaned every morning, and the latter regularly watered to lay the dust, which is often intolerable.

Every one who has had access to this remarkable city has affirmed that the police maintained is singularly strict. At the two ends of each street there is a stone or earthen embankment, closed at night, which cuts off the inhbitants of that street from communication with the rest of the town, nor will the sentinels there permit ingress or egress to any one who has not a lantern in his hand, and urgent business to plead. Night-watches also perambulate from gate to gate, who, instead of crying the hour as our watchmen used to do, strike upon a short tube of bamboo, which gives a dull hollow, loud sound. To show their vigils, and that they are not neglecting their posts, the gardes, in about three minutes as they go their rounds. Lord Macartney, who had two or three of these noisy guardians of peace and tranquillity constantly near his house, could not sleep a wink for the first three or four nights, but, by degrees, became so accustomed to the noise that it did not disturb his slumbers. In addition to these measures, which, though they admirably secure the safety of the city, are felt by the quiet and narrow streets, the propietors or inhabitants of every ten house in the city, like the ancient tything-men of England, takes it in turn to keep the peace, and be responsible for the orderly conduct of his nine neighbours. If any riot should take place he is obliged to give instant information at the nearest guard-house.
These regulations are common to the rest of the Chinese cities.

Pekin, as we have mentioned, is divided into two. The Manchoos or Tartars inhabit the northern, the Chinese the southern portion. The court end, or what is called "The Imperial City," in which are situated the emperor's palace and gardens, all the tribunals or public offices, lodgings for the ministers, the eunuchs, tradespeople, and artificers of the court, occupies a parallelogram about a mile long by three-fourths of a mile broad, and is surrounded by a wall twenty feet high, built of large red glazed bricks, and covered with a parapet which is yellow brick. The enclosure offers a delightful inequality and variety of surface, not produced by nature, but by the industry of man, and "a rivulet" winding through it not only affords a plentiful supply of water, but adds largely to the beauty of the grounds, by being formed into canals, and basins, and lakes, which, with the artificial mounts, and rocks, and groves, exhibit the happiest imitation of nature.

In this city there are more remarks to be made on the capital of the Chinese empire. Its exuberant population was stated, both by the missionaries and the Chinese themselves, (when neither were suspected of any motives for exaggeration,) at 3,000,000 souls.

Mr. Barrow, who had the most ample means of observation, and who is always rather under than over the mark, confidently calls it the greatest city on the surface of the globe. The picture it presents to the European eye contains many grand, imposing, and some beautiful features; but our primary comforts and advantages are utterly wanting. It has no pavements, no cloaca or sewers, and no commodious supply of wholesome water; consequently, it is muddy in winter and dusty in summer. It abounds in the foulest smells, proceeding from ordures and all sorts of filth, which the wealthy try to neutralize in their houses by making use of a variety of violent perfumes, and burning strongly-scented woods and compositions; and its inhabitants are obliged to draw their supplies of the indispensable fluid from wells dug in the city, whose water is execrable. Were the magnificence of Pekin ten-fold what it is, it might be sacrificed for the supplying of these wants. The lofty gate and the gilded palace, the royal garden and the ornamental lake, are not to be put in competition with those things which contribute to the comfort and health of millions. The greatest work of ancient Rome was her cloaca,--and to have been constructed for the amusement of Tippoo Sultan, sovereign of the Mysore, by some European artist at his court. It was found in the palace at Seringapatam after Tippoo's defeat and death, in 1799, in an apartment appropriated to the reception of musical instruments, and was presented to the museum of the East India Company by the army. It represents a tiger in the act of tearing to pieces a Dutch doll, with the tiger standing upon him; the fore-paws resting on his chest, and the hind-paws on his thighs. The representation is altogether of the most primitive description, as the engraving will testify. The attitude of the tiger is perhaps not so bad, but that of the man is very ludicrous: the left hand is placed on his mouth,--the right arm, in soldierly attitude, is strung out by his side, and the foot, with well-blacked shoes and painted-yellow buckles, are turned out as though upon drill. The dress of this figure is equally droll with his attitude. He has a round black hat, with a low crown, and broad brim. His coat is scarlet, adorned with large roses, and two gilded epaulettes;--his breeches are green, and his stockings yellow.

Opposition to Improvement.--In France, as elsewhere, every improvement has had to struggle against vehement opposition. The proprietors of old machines look with jealousy and dislike on those who introduce any changes likely to diminish the value or supersede the use of those in which their property is invested; and these improvements are most difficult of introduction when they are either completely new or of foreign origin; as, in that case, the whole of the existing trade is against the innovation. The motive to adopt better modes is almostwholly destroyed, and the interest of the existing manufacturers is to combine against the intrusion of improved methods of fabrication. The Jacquard loom, the broad loom, and the machinery which adapts the broad loom to ribbon weaving, would never have been forced upon France but from the improvement-creating pressure of foreign competition. The Jacquard machinery subjected its inventor to be almost hunted out of society; the introducer of the broad loom died in an hospital; and the late employment of the common loom for ribbon weaving would never have been sanctioned, had not the riband trade absolutely departed from Lyons, and forced the manufacturers there to new exercises of ingenuity in order to win it back again; and in this, to a considerable extent, they have succeeded.--Dr. Bowring's Report on the Commercial Relations between France and Great Britain.

TIPPOO'S TIGER.

This engraving at the end of this article is an accurate representation of a strange toy or plaything, supposed to have been constructed for the amusement of Tippoo Sultan, sovereign of the Mysore, by some European artist at his court. It was found in the palace at Seringapatam after Tippoo's defeat and death, in 1799, in an apartment appropriated to the reception of musical instruments, and was presented to the museum of the East India Company by the army. It represents a tiger in the act of tearing to pieces a prostrate soldier,—intended for an Englishman. The tusks of the animal have just penetrated the collar of the soldier, who lies very low in the attitude. He has a round black hat, a prostrate soldier, with the tiger standing upon him; the fore-paws resting on his chest, and the hind-paws on his thighs. The representation is altogether of the most primitive description, as the engraving will testify. The attitude of the tiger is perhaps not so bad, but that of the man is very ludicrous: the left hand is placed on his mouth,—the right arm, in soldierly attitude, is strung out by his side, and the foot, with well-blacked shoes and painted-yellow buckles, are turned out as though upon drill. The dress of this figure is equally droll with his attitude. He has a round black hat, with a low crown, and broad brim. His coat is scarlet, adorned with large roses, and two gilded epaulettes;--his breeches are green, and his stockings yellow.

* This small river issues from a chain of hills about ten miles to the west of Pekin, and, under the name of Yung-ho, falls into the Pei-ho, about sixteen miles to the east of that city.

† Barrow.
But the great object for which this group was constructed, and the part which is said to have given the greatest delight to its royal owner, was the machinery which it contained. This, though not of nice workmanship, is simple and ingenious in its contrivance. The handle of the animal's shoulder turns a spiral crank within the body; to this crank is fastened a wire, which rises and falls by turning the crank: the wire passes down from the tiger between his fore-paws into the man's chest, where it works a pair of bellows, which forces the air through a pipe with a sort of whistle, terminating in the man's mouth. The pipe is covered by the man's hand; but at the moment when, by the crank and the bellows, the air is raised through the pipe, a string leading from the bellows pulls a small lever connected with the arm, which works on a hinge at the elbow; the arm rises in a manner which the artist intended to show supplication; the hand is lifted from the mouth, and 'a cry is heard. The cry is repeated as often as the handle is turned; and while this process is going on, an endless screw on the shaft turns a worm-wheel slowly round, which is furnished on each of the four levers or wipers; each of these levers alternately lifts up another and larger pair of bellows in the head of the tiger. When by the action of one of these four levers the bellows are lifted up to their full height, the lever, in continuing to turn, passes by the bellows, and the upper board being loaded with a large piece of lead, falls down on a sudden and forces the air violently through two loud-toned pipes, terminating in the animal's mouth, and differing by the interval of a fifth. This produces a harsh growl. The man in the meantime continues his screaming or whistling, and, after a dozen cries, the 'growl is repeated. Such is the delectable nature of the music which pleased Tippoo so much, that he is said to have passed hours in his music-room with an attendant turning the handle of the machine. The situation of the pipes was typical of the subjection of England to the Khodadad*; and the representation consoled him with a show of power of the southern part of the peninsula when the Dutch were making inroads upon them. The appearance of the soldier is certainly much more like that of a Dutchman of the seventeenth century than of an Englishman at the end of the eighteenth. In this case Tippoo would only have the 'credit of adopting the invention ready made, instead of that of originating the barbarous idea; at all events it appears certain that he was in the habit of enjoying the working of the machine.

But we will charitably hope that this was not the sole amusement derived by Tippoo from this instrument. On opening a door in the side of the tiger, a row of keys may be seen just within; although awkwardly placed, and not very easily come at, they may be played upon in a clumsy way, and may produce a sort of music. There are eighteen of these keys, each differing from the next by the interval of a semitone: the part touched by the finger is made of ivory; it is not flat as the keys of a pianoforte, but rounded like a stud or button. They are arranged with the bass to the left and the treble to the right, as in our instruments; but the semitones are all in one even line, which renders it awkward in the hands of one of our performers. Behind the keys are two rows of copper pipes, in unison with each other, two unisons being played by each key; either or both rows of pipes may be made silent by drawing out one or two stops placed by the tiger's tail, contrary to this respect to our organs, which are made silent by pushing the stops in. Behind the pipes, on the further side of the tiger, are placed the large bellows which supply this part of the instrument with wind. These are larger than those before mentioned; they are blown by means of a piece of string coming out of the animal's shoulder, near the handle, and may be worked by an assistant.

This part of the machinery appears to be quite unconnected with the growing and screaming portion of the instrument, and would seem to be intended merely to fill up a vacant space in the tiger's body, without reference to the original destination of the machine, as a symbol of abhorrence to Europeans. The bellows cannot be worked by turning the handle; nor, if that were possible, could the instrument be played upon while they were so worked, for the door through which the hand is admitted to touch the keys must be kept shut or the handle will not turn round. The string coming out of the shoulder, though it appears at first to be a mere temporary substitute for some other and more mechanical means of doing the work, is in fact a part of the original contrivance, as will appear on a close inspection. By pulling this string pretty briskly, so as to keep the bellows distended, a tune may be played in a clumsy way, even now; although the machine is somewhat out of order. These pipes are not ill made, and they are tolerably in tune; but their tone is loud and harsh, not unlike the principal stop of the organ. It has been stated that the instrument was originally played like a 'street-organ'; but, except the above-mentioned growling and screaming, this is not the case. There is no barrel, nor any means by which a barrel could jet air into the pipes if there were one. The mistake undoubtedly arose from the look of the handle and pipes, which bear a considerable resemblance to those of a barrel organ. The case for this curious piece of music is the tiger's body, which is constructed of thin hard wood, well adapted for giving effect to the harsh tones produced. The body of the tiger is perforated in several places to let out the sound, and the whole of the upper part may be taken away and removing a few screws. The man is formed all of wood, like the tiger, but, being of the opposite sex, it is not of so light a structure; it is put together in a clumsy way, such as a common carpenter would not like to acknowledge. The tiger is merely put upon it, and secured by common screws, with their heads sticking through of the animal's mouth, and differing by the interval of a fifth. This produces a harsh growl: The man in the meantime continues his screaming or whistling, and, after a dozen cries, the 'growl is repeated. Such is the delectable nature of the music which pleased Tippoo so much, that he is said to have passed hours in his music-room with an attendant turning the handle of the machine. The situation of the pipes was typical of much older than the age of Tippoo, and that in fact it was made in the seventeenth century for some sovereign of the southern part of the peninsula when the Dutch were making inroads upon them. The appearance of the soldier is certainly much more like that of a Dutchman of the seventeenth century than of an Englishman at the end of the eighteenth. In this case Tippoo would only have the 'credit of adopting the invention ready made, instead of that of originating the barbarous idea; at all events it appears certain that he was in the habit of enjoying the working of the machine.

Whether made for Tippoo himself or for some other Indian potentate a century and a half earlier, it would be difficult to convey a more lively impression of the mingled ferocity and childish want of taste so characteristic of the majority of Asiatic princes than will be communicated at once by an inspection of this truly barbarous piece of music.

*Tippoo's Tiger.*
BLACK-GAME shooting begins about this time everywhere, except in the New Forest, and in Devon and Somerset, where it does not commence till the 1st of September. This information may not perhaps dispose any great number of our readers to prepare to flag after the black grouse through the stiff heath in hot weather, which Colonel Hawker calls the hardest labour of any sport he knows; but as grouse will now, either alive or dead, begin to come under the notice of many, the present seems a very seasonable opportunity of presenting our readers with some particulars in the natural history of the European grouse.

Few European birds have more points of interest in their history than those to which we now invite attention. We allude to the grouse strictly so called, excluding the partridges and quails, &c., which Linnaeus associated with them in one genus under the name of tetrao. The term tetrao is however at present so restricted as to include only a certain group of grouse, while to another, comprehending the ptarmigan, red grouse, or moor-game, &c., the generic title of lagopus (Amyt., a hare, Hier., a foot) has been accorded. The grouse, under which term we allude to the genera tetrao and lagopus, constitute a tribe peculiar to the northern and temperate latitudes of the globe. Dowse-pine-forests are the abode of some,—others frequent the wild tracts of heath-clad moor-land,—while the patches of vegetation scattered among the high rocky peaks of the bleak mountain afford a congenital residence to others. Patient of cold, and protected during the intense severities of winter by a provision which we shall presently more particularly detail, they relieve by their presence the sternness of the frozen solitude, from which other birds have retired, and give animation to the most desolate scenery.

The high latitudes of North America produce numerous species of grouse, most of which are peculiar to that continent; two or three of these are also found in the parallel latitudes of Europe: while, on the other hand, there are in Europe several species peculiar to our portion of the globe, and of these one at least is very limited in the extent of its habitat. Thus the lagopus saliceti, or willow-grouse, which inhabits the fur-countries from the 50th to the 70th parallels of latitude, is also abundant in Scandinavia, Kamtschatka, Greenland and Iceland. The T. rupestris, or rock-grouse, which abounds in Melville Island and the Barren Grounds, is common in Sweden and Norway; while on the contrary the black grouse (tetrao tetrix) is peculiar to Europe, as is also the capercailzie (tetrao urogallus).
and the red grouse (lagopus scoticus) is even more circumserbed, being exclusively a native of the British
islands.
We shall proceed to offer a few observations respect-
ively on the two groups into which the tribe of Euro-
pean grouse naturally divide themselves: these we
can characterize as forest-grouse, comprehended in
the genus tetrao, and as moorland or ptarmigan grouse,
comprehended in the genus lagopus. It is in the gen-
us tetrao that the largest of the tribe are found;
but this genus is by no means so numerous in species
as that of lagopus. The pine and birch forests which
clothe the mountains and hills of the colder latitudes
are their abode; they seldom visit the open country,
but prefer the densest recesses of the wood, where they
perch upon the branches. Shy, recluse, beside the
two species already mentioned, there is
their abode; they seldom visit the open country,
their maintenance, or to quit their habitual places of
and wary, they retire from the presence of the intruder,
and seek refuge in the deep wooded glens which
inter-vene between the mountains, where vaut morasses
treepossess a luxuriant growth of willow, alder, birch,
trees of a similar nature. Hence it requires much
address and caution to approach within range of gun-
shot. Their food consists of the tender shoots of pines,
the seeds of plants, the berries of various species of
saccinium and arbuitus, the buds of the birch and alder,
leaves and grain. In their habits they are polygamous.
As the breeding season draws on, the male birds choose
echonect to the certain territory which
possessor drives every intruding rival. Desperate
combats are then continually taking place, the weaker
or less fortunate being obliged to quit the precincts of
the station; and it not unfrequently happens that the
test contest terminates only with the death of the defeated.
Secure in his temporary dominion, the proud victor
raises a call of invitation morning and evening, which
resounds through the wood, and brings his bevy of
mates to the selected spot. The nest is very simply
constructed, consisting of dried grasses, and placed
upon the ground, sheltered among the herbage.

The genus tetrao is characterized, among other points,
by a peculiarity in the structure of the toes, which
deserves especial attention. The torsi are covered
with hairlike feathers, but the toes are bare, having their
edges strongly pectinated, or fringed with an array of
rough prominences; for this remarkable fact it is
difficult to assign a reason perfectly satisfactory to
inquirers; our own opinion is, that it is a provision
for enabling the birds to grasp securely the smooth
branches of the trees on which they perch, but more
especially when they are covered with frozen snow, or
a coat of glossy ice, which in the forests of the north is
a common winter occurrence.

In their flight the forest grouse are rapid for short
distances, but the motion of their wings is accompanied
by a whirring noise, like that of the branches. The
scarlet-fringed skin above the eye, so peculiar an orna-
ment in the grouse-tribe, they possess in great perfe-
tion; the beak is stout, short, and convex; the nostrils
are hidden beneath a tuft of close small feathers,
enveloping the base of the upper mandible.

Two species of this genus are indigenous in the
British Islands;—one is the black grouse, common in
the p.nw. of Scotland, and of the northern coun-
ties of England, and elsewhere, we regret to
say, is no longer a sojourner among us; the other, the
capercaillie, or cock-of-the-wood. Formerly in Ireland,
and still more recently in Scotland, this noble bird, the
most magnificent of the whole of the grouse-tribe, was
abundant in the larger woods; indiscriminate and
wanton slaughter, and an unremitting system of harass-
ment, have caused its extirpation. It still abounds in
the pine-forests of various portions of the north of con-
tinental Europe, such as Sweden and Norway. Selby
informs us, that "the last individual of this species
in Scotland was killed, about forty years ago, near
Inverness."

Neither the cock-of-the-wood nor the black grouse
undergo any marked change in the colouring of their
plumage on the commencement of winter, as we shall
find to be the case with several of the ptarmigan-grouse.
Natives of a cold climate, still they are not exposed to
such severities as their mountain-dwelling relatives,
which have to brave the unbroken storm of winter
among the crags and rocks of their northern altitude.
The forest, with its thick underwood, shields them from
the fury of the tempest; and as it affords abundance of
food, they are seldom forced to wander far in search of
their maintenance, or to quit their habitual places of
resort.

Besides the two species already mentioned, there is
a third species indigenous in Norway, and other por-
tions of the North, termed tetrao medius. "Some of
the older writers considered this bird to be a hybrid
produced between the wood-grouse (capercaillie) and
the black-grouse, and had named it accordingly. Mo-

dern authors have, however, established its distinction
as a species; and the female and its egg are now
known. Notwithstanding the general resemblance
between these two large wood-grouse, they are de-
cidedly and obviously different. In the tetrao medius
the beak is black; the shining feathers on the front of
the breast are dark glossy green, and the centre feathers
of the tail are the longest. In the cock-of-the-wood the beak
is white, the feathers on the front of the breast are dark
glossy green, and the centre feathers of the tail are the
longest." Besides these differences, it exhibits several
others in the anatomical structure of the trachea.

There is reason to believe that this bird was formerly
known in Scotland, as Mr. Fox, in his 'Synopsis of the
Newcastle Museum,' quotes a note of the late Mr.
Tunstall, which states that: "he knew some old
Scotch gentlemen who said they remembered that,
when young, there were in Scotland both the cock-
of-the-wood and the tetrao hybridus" (medius). This
interesting bird is occasionally brought with the caper-
caillie from Norway into the London markets.

[VULGAR ERRORS.

The consideration of what are properly called "vulgar
errors" is attended with perhaps an equal proportion
of pain and pleasure. It cannot but be exceedingly
painful, in running over an extensive list of absurdities,
fooleries, and superstitions, to recollect that all of them
were, at no distant day, little less than articles of faith
to the mass of the people, and, as such, too surely
indicate how little education had done for them, and
that

"Knowledge to their eyes her ample page.

Rich with the spoils of time, did ne'er unfold." It
shows even more: it shows not only that they were
uninformed, but that all the natural powers of their
minds lay inert, seemed to have been bestowed in vain,
and afforded little trace that they existed at all. It is
truethat many errors which we now call vulgar were
in those days shared with the common people by many
in the higher walks of life, and in the middle walks of life a large proportion were wholly
uninstructed; and, in general, the distinction between
the small number of men who had their minds opened,
and the great mass whose minds were closed, was so
very obvious as to lessen our surprise at the language
of contempt with which the few thought it meet to
those days to speak of the many. Poets described
them as a "rascal rabblement," and philosophers spoke
of their "feeble understandings," and their
qualified intellectuals." "Certainly," says Sir Thomas Brown in his "Inquiries into Vulgar and Common Errors," that the presumption of any did every enjoin."

"Credulity.—This is a fruitful source of error. It consists in yielding an easy assent, without examination, to whatever is stated. "It is," says Brown, "a weakness of the intellect most discoverable in vulgar heads;" but adds, with no less truth than candour, "yet hath it sometime fallen upon wiser brains and great advanced truths." He illustrates this by the fact that the learned Arabians, Geber, Avicenna, and Almanzor were satisfied with the account which the Koran gives anything about his own errors, and still less was it talking with Peter about the importance of removing error from John's mind, and of keeping error from the minds of John's sons and daughters.

It is to us a matter of daily rejoicing that this state of things has undergone considerable change. The public mind has been partially cultivated, and is undergoing the process of still further cultivation. The popular courtiers do not advocate, or even hint at, the necessity of any large measure for extending intellectual culture to them and diffusing information among them, but content themselves with inditing long and laborious treatises on the subject of some particular classes of errors, which treatises it was a moral certainty that not one of the multitude would be the better for. They were indeed expressly addressed to educated and learned men. It was like discoursing with Peter about the errors of John; but it was not telling John anything about his own errors, and still less was it talking with Peter about the importance of removing error from John's mind, and of keeping error from the minds of John's sons and daughters.

One consequence of this has been that the popular errors which, less than a hundred years since, were common in towns and villages, and which still lingered among the middle classes, are now rarely to be met with except among the remnant of uninstructed people in the remote parts of the country, and chiefly amongst the rural population. They have been eradicated, not because they were disproved by facts, for many of them did not admit of being thus negatived, but because the popular mind has leaped forth from that infant state in which it was unable to distinguish the right hand from the left. It is now increasing its power to choose mortally its enemies to its knowledge, and that which hath been a monument of truth, hath been a peremptory adhesion unto antiquity, and more especially on the dictates of antiquity." This superstitious looking back of present ages upon ages past seems to Brown so grievous an abuse, that he devotes a whole chapter to the subject. He says, "Men hereby impose a thraldom on their own reason; and of keeping error from the minds of John's sons and daughters.

"Supinity," as Brown calls it, or a neglect of inquiry into even the matters concerning which we doubt;—"rather believing than going to see, or doubting with ease and gratia, than believing with difficulty and purchase." In the page which our author devotes to this subject, he expatiates with much force and justice upon the sin and shame that men should on any subject concede their intellectual rights was, for a time, very strongly disputed, but it is seldom at present openly questioned. One consequence of this has been that the popular errors which, less than a hundred years since, were common in towns and villages, and which still lingered among the middle classes, are now rarely to be met with except among the remnant of uninstructed people in the remote parts of the country, and chiefly amongst the rural population. They have been eradicated, not because they were disproved by facts, for many of them did not admit of being thus negatived, but because the popular mind has leaped forth from that infant state in which it was unable to distinguish the right hand from the left. It is now increasing its power to choose mortally its enemies to its knowledge, and that which hath been a monument of truth, hath been a peremptory adhesion unto antiquity, and more especially on the dictates of antiquity." This superstitious looking back of present ages upon ages past seems to Brown so grievous an abuse, that he devotes a whole chapter to the subject. He says, "Men hereby impose a thraldom on their own reason; and of keeping error from the minds of John's sons and daughters.

"Respect for Antiquity.—It is exceedingly interesting to observe a writer early in the seventeenth century stating opinions on this subject, which must have been considered very bold at the time; but which now begin to be pretty generally admitted. He says, "The most illustrious enemy unto knowledge, and that which hath done the greatest execution upon truth, hath been a peremptory adhesion unto antiquity, and more especially on the dictates of antiquity." This superstitious looking back of present ages upon ages past seems to Brown so grievous an abuse, that he devotes a whole chapter to the subject. He says, "Men hereby impose a thraldom on their own reason; and of keeping error from the minds of John's sons and daughters.

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some, as they unto us at present: as we rely on them, even so will those on us, and magnify us hereafter who at present condemn ourselves. And, to speak importantly, old men, from whom we should expect the greatest example of wisdom, do most exceed in this point of folly; commending the days of their youth, which they scarce remember: extolling those times which their younger years heard their fathers condemn, and condemning those times which the grey heads of their posterity shall commend.

Sir Thomas Brown proceeds to contend that the ancients, whose testimonies we regard as oracles, were often, even the acutest of them, guilty of inaccuracies and errors, which may be detected not only by "critical and collective reason, but by common and country observation." Thus Aristotle, in a single section, proposes three problems, every one of which is founded on error. First, he asks, "Why a man coughs, but a horse or cow does not?" Now there is no husbandman who does not know that horses and cows do cough. A similar error is involved in his question, "Why horses, asses, cows, and other beasts of labour do not eructate as man does?" His third problem, "Why man alone has grey hairs?" is contradicted by common observation, which shows that there are several animals which do become grey with age. Equally common is his assertion that salt is easiest dissolved in cold water. To prove to his contemporaries that "the ancients were but men, even like ourselves," Brown goes a little out of his way to show that the ancient writers were terrible and wholesale plagiarists from their predecessors, proving, as he says, that "plagiary had not its nativity with printing, but began in times when thefts were difficult; and the paucity of books scarce wanted that invention."

The tendency of the ancients, especially the Greeks, to give a fabulous turn to their statements is another reason why their accounts should be received with caution. We cannot refrain to give a few of Brown's elucidations of ancient fables in his own quaint language.

**Orpheus.** —"The fable of Orpheus, who by the melody of his music made the wild beasts and trees to follow him, was raised upon a slender foundation; for there was a crew of mad women retired into a mountain, from whence, being pacified by his music, they descended with boughs in their hands."

**Medea.** —"That Medea, the famous sorceress, could renew youth, and make old men young again, was nothing else but that, from the knowledge of simples, she had a receipt to make white hair black, and reduce old heads into the tincture of youth again."

**Niohe.** —"That Niobe, weeping over her children, was turned into a stone, was nothing else but that, during her life, she erected over their sepulchres a marble tomb of her own," [namely, for herself].

**Actaeon.** —"When Actaeon had undone himself with the strangers whom he had invited to his tent. "And Abraham hastened into the tent unto Sarah, and said, 'Make ready quickly three measures of fine meal, knead it, and bake cakes upon the hearth.' And Abraham ran unto the herd and fetched a calf, tender and good, and gave it to a young man, and he hasted to dress it. And he took butter and milk, and the calf which he had dressed, and he set it before them, and he stood between them, and they did eat." This picture of a patriarchal entertainment exhibits none of the refinements of cookery, nor perhaps does it come up to our notions of good eating; but it does present a very pleasing picture of comfortable living. Warner says, that the only singular cir..."
in the East" in No. 113 of the 'Penny Magazine,' and had a tendency to debilitate both the mind and body. For instance, it is often said that people who eat a lot of sugar get fat and have a weakened constitution.

In eastern countries, it is seldom, except where all are in common of the same food. There in large towns, much of the food is prepared and ready for use, particularly where there is a great demand for such entertainment. It could be furnished. Of the former, there is a perfect luxury compared with those of the latter, as there is a full explanation in the paper that was being printed at the time.

It is said that the Spartans were called melas zomos, or "black broth," and that it was a special dish for those who were remarkable for their parsimony. It is still applied to those who valued economy more than anything else.

The food of the Greeks appears to have been for the most part introduced, and pottage and savoury flesh and fish. If anyone happened to offer a sacrifice of first fruits, or to kill game, he sent part of it to the public table; for, after a sacrifice or a hunting, a man was at liberty to sup at home.

But in aftertimes fish was considered a luxury among the Spartans. Among the Israelites, different combinations of meat were in 'time introduced, and pottage and savoury dishes invented.' Oil, honey, milk, and butter could also be mentioned as ingredients that were common in the notices of their meals. "If we have to taste the expression of the Athenians, it is a name which has long excited the curiosity of the learned. What were the precise ingredients of this mess, and why did it have such a reputation in ancient times?"

The food of the Greeks appears to have been for a long time a very simple description of oxen, sheep, and hogs. The method of preparing them was exceedingly plain. Their meat was commonly roasted, and served up without decoration, sauces, or any other accompaniment. Our earliest hints concerning the cookery of the Greeks are from passages in Homer, Aristophanes, &c. They afterwards possessed many authors who wrote on the subject; but as then, and subsequently, dietetics were considered a branch of the study of medicine, so many of these authors were physicians, and the cook was undoubtedly a character of high reputation at Athens. The Athenians maintained their plain style of living until the later periods of their freedom; but as they increased in wealth, luxury crept in among them. One of the characteristic dishes of the Greeks was made of eggs, cheese, and garlic beaten up together: they had also a composition of eggs, honey, cheese, and rice, which they called thrion, because it was served up in fig-leaves. It appears that, in the heroic ages, as described by Homer, fish was not eaten but as a matter of necessity. But in after times fish was considered a luxury at Athens, where there was a regular fish-market, furnished with eels from Brontis, red mullet caught off Cape Zoster, &c. Fruit also, such as figs, was there in much repute. Athenians, who is the great authority on the subject of ancient gastronomy, gives a full account of an Attic feast; but from the frequent use of silphium (supposed to be assafetida) in their dishes and sauces, it seems likely that a modern epicure would have turned from it with abhorrence.

From all we can learn, it appears that the Athenians, in their high and palmy state, were less anxious to entertain their guests with rich dishes and a profusion of wine, than by useful and interesting conversation, by the recitation of inspiring and patriotic odes, and by the friendly disputations of poets, historians, and philosophers. It seems that the frugal living of the Athenians even went so far as to attract the ridicule of some of their more wealthy neighbours, among whom "to live like an Athenian" was a proverbial expression applied to those who were remarkable for their parsimonious living.

Temperate as the Athenians were, their meals were perfectly luxurious compared with those of the Spartans. In the conviction that the luxuries of the table had a tendency to debilitate both the mind and the body, their lawgiver (Lycurgus) took effectual care to banish from their public tables all but the most coarse and homely articles of food, which could only be tempting to those accustomed to them from long habit, or suffering the pangs of actual hunger. He directed that the people should take their meals at public tables, where all ate in common of the same food. There were on an average fifteen persons at each table. Every one was to bring in monthly a bushel of meal, eight gallons of wine, five pounds of cheese, two pounds and a half of figs, and a little money to buy flesh and fish. If any one happened to offer a sacrifice of first fruits, or to kill game, he sent part of it to the public table; for, after a sacrifice or a hunting, a man was at liberty to sup at home.

The dish that was in the highest esteem among the Spartans was called melas zomos, or "black broth," which is the name which has long excited the curiosity of the learned. What were the precise ingredients of this mess is never been determined with certainty. We remember an old traveller, who, on observing the use of coffee for the first time in the East, conjectured that it was the black broth of the Lacedæmonians! Julius Foulus, the preceptor of the Emperor Commodus, in his 'Onomasticon,' says that this famous mess consisted of red mullet and eggs, tempered with new wine, similar to the drink used by the Romans for the same purpose (as a...
The first course seems to have been more substantial, flesh and made-dishes being served up. The second consisted chiefly of sweetmeats. The Greeks, at their larger entertainments, were accustomed to have several officers who presided over and regulated their entertainments. The Symposiarch, or president, was a person chosen from among the guests, and was usually the one who appeared to be the most facetious, convivial, and hard-headed of the party. It was his business to encourage cheerfulness, but to preserve sobriety among the guests; not preventing moderate indulgence, but carefully guarding against intoxication. This sort of duty could, of course, he much better performed by one of the guests than by the master of the house himself, whose interference in the matter might be construed into a desire to spare his own pocket. There was another officer, called the king (Basileus), whose function it was to determine the laws of good fellowship, and to see that each person drank his proportion of wine. Then there was another person who divided the food, and gave to each guest his due proportion; and another who distributed the wine among the guests. The Grecian feasts being regulated in this manner, they were not very commonly attended with inebriety; but as it was thought that a certain quantity of wine was necessary to cheer the heart and put the company in spirits, no guest was permitted to remain until he had drunk a certain quantity of wine. This is also in the course of six months above fifteen hundred places several times after he became king, and once holding a parliament there. About the middle of the fourteenth century Worcester suffered much from pestilence; and in 1401 was burnt and plundered by the troops of Owen Glendower. In 1471, Queen Margaret (wife of Henry VI.), having been seized by Lord Stanley, after the battle of Tewkesbury, was brought to Edward IV., who was then at Worcester. In 1474 Queen Elizabeth visited the city, and presented the inhabitants with a statue of a young girl. In 1580 the city was again burnt, and the inhabitants were compelled, by extreme tortures, to discover their treasures. In the same year King John was buried here. In 1263 the city was taken by the barons then in arms against Henry III.: they spared the church, but railed the houses of the citizens, especially those in the Jews' quarter (the Jewry), killing many of the Jews, and imprisoning others. Next year the king was brought hither as a prisoner, after the battle of Lewes, by Simon de Montfort, Earl of Leicester; and, in the following year, Prince Edward (afterwards Edward I.) first raised his standard at Worcester in behalf of his father, and here collected the forces with which he defeated the barons at Evesham. Edward always remained grateful for the assistance the citizens gave him on this occasion, visiting the place several times after he became king, and once holding a parliament there.

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more neatness and general comfort. This arises from the breadth and regularity of the principal streets, the very large proportion of good private houses, its market and show shop, intermixed with its churches and public buildings. The town is well supplied with water by means of a steam-engine erected in 1810. The streets are well lighted with gas, and excellently paved. The first stone of the pavement was laid in 1281 by Godfrey Giffard, the bishop; and this was long before Canterbury or Southampton began to be paved. The town is connected with the suburb of St. John Bedwardine, on the opposite side of the Severn, by a bridge, five arches, built in 1780, at an expense of 29,843L. The diameter of the centre arch is 41 feet, while the four others decline in a small proportion to assimilate with the necessary sweep of the segment of that arc which forms the general outline. The chord of this arc from bank to bank is nearly 270 feet, and the clear width of the whole below the parapets is 25 feet, including a flagged path of four feet. This noble specimen of English arch, so much admired by the moderns, is not only convenient for use, but forms a very handsome promenade on a summer evening. The avenues on each side of the river have been laid open, and the quays widened to produce an effect in unison with the elegance of this very fine bridge.

The principal object of attention at Worcester is its cathedral. There is some perplexity in the accounts of the early cathedral-church at Worcester. The see was founded in 660 by Ethelred, King of Mercia, and the ancient cathedral of St. Peter was probably erected about that date and 690. The endowments of this cathedral were, in 969, transferred to St. Mary's, Minster, or convent, which then became the cathedral; but being unsuitable, a new one was built by St. Oswald in 983, in the churchyard of St. Peter's. This was burnt by Hardicanute's troops in 1041, and the present structure was begun by St. Wulstan, in 1034, and finished in 1050. It is recorded that, when Bishop Wulstan saw the workmen pulling down the remains of the previous cathedral, he wept. One of his attendants expostulated with him, reminding him that he ought rather to rejoice, as he was preparing in its place an edifice of greater splendour, and more proportioned to the enlarged number of his monks. He replied:—

"I think far otherwise; we, poor wretches, destroy the wondrous edifice which our fathers only to get praise to ourselves; that happy age of holy men knew nothow to build properly, but we, on the contrary, neglecting the care of souls, labour to heap up stones." To what extent the building suffered in the fires of 1113 and 1202 is not well ascertained; apparently, the shell was preserved and remodeled by the hands of various artists, and a common stone-mason, a native of the city, named Nathaniel Wilkinson; and it is asserted by very competent judges that he has improved in this work even upon the much-extolled spire of Salisbury Cathedral. This, at Worcester, rises from its base according to the most correct gradual diminution, terminating in the finest point, whereas that at Salisbury is brought abruptly to its apex, as if the builder had been afraid to carry it to the height which its proportions required. The following are the dimensions of this fine structure: Height of the ancient tower 90 feet; height of the spire 155 feet 6 inches; diameter of its base 20 feet; diameter under the cap 6 inches and five-eighths. The height is 514 feet, the breadth 78, the height 68, and the noble square tower rises from the intersection of the west transept with the nave and choir to the height of 200 feet. It is ornamented at the corners with four lofty pinnacles, and with elegant battlements of light, open work. It is embellished with some curious sculpture on its several sides, and is enriched with canopied niches containing statues of kings and bishops.

The interior has a remarkably airy and light appearance. The nave, which appears to be the oldest part of the structure, is divided from the aisles by clustered columns and pointed arches, and has a grilled roof decorated with heads, foliage, animals, and other figures. The choir, which is in the early English style, has a handsome groined roof, an altar-screen of carved stone, and an octagonal pulpit, the front and sides of which are of stone, richly ornamented with sculptures. The bishop's throne and the prebendal stalls are richly ornamented with tabernacle work. The organ, which stands over the western entrance of the choir, has a very fine tone, and in the trumpet stop is supposed to resemble the famous instrument at Salisbury. The organ case seems about the same date with the choir, and corresponds with it in style. There are monument chapels in the transepts, one of the most elegant of which is that of Prince Arthur, eldest son of Henry VII. The cathedral is remarkably rich in monuments, several of which are to persons of great eminence in their day. The monument of King John is in the middle of the choir. It consists of an altar tomb, on which is a crowned figure of the king, of the natural size. It was believed that his remains were actually interred in the Lady Chapel, to which it was therefore determined, in 1797, to remove the monument; on opening it, however, a stone coffin was found in which lay the remains of the king in good preservation; but, on exposure to the air, they mouldered away to dust.

There are nine churches in Worcester, and two in the suburb of St. John Bedwardine. We can only mention particularly the church of St. Andrew, the spire of which appears in our wood-cut. The church was built in the eleventh century, and is in itself an interesting structure; but we notice it on account of its lofty spire, which forms one of the principal ornaments of the city, and is considered one of the most perfect in the kingdom for its form and construction. The architect was a common stone-mason, a native of the city, named Michael Wilsom, and it is asserted by competent judges that he has improved in this work even upon the much-extolled spire of Salisbury Cathedral. This, at Worcester, rises from its base according to the most correct gradual diminution, terminating in the finest point, whereas that at Salisbury is brought abruptly to its apex, as if the builder had been afraid to carry it to the height which its proportions required. The following are the dimensions of this fine structure: Height of the ancient tower 90 feet; height of the spire 155 feet 6 inches; diameter of its base 20 feet; diameter under the cap 6 inches and five-eighths.

Besides the churches, the principal public buildings are the town-hall, the city and county gaols, the public library and news-room, and the theatre. All the principal denominations of Dissenters have places of worship at Worcester. There are a large number of endowed almshouses, and several establishments for education, including two free grammar-schools, and several endowed and subscription charity-schools. The number of houses in the city was 4586, according to the census of 1831, when the population amounted to 21997 persons, of whom 11942 were females*. The principal

* This is somewhat larger than the usual statement, because it includes St. John and St. Michael Bedwardine, the population of which, according to the 'Population Returns,' ought to be included to form a correct estimate.
Principal manufactures of the place are porcelain or chinaware, and gloves. Its products in the former branch of manufacture are much admired for the fineness and transparency of the fabric and the taste of the patterns. The manufacture of gloves is very extensively carried on; it has afforded employment to 8000 persons in the city and its vicinity; but this trade has declined of late years. A considerable commerce is carried on by means of the Worcester and Birmingham Canal; and large sales of corn and hops take place in the markets.
Having briefly illustrated the general habits of the woodland-grouse (*tetrao*), we shall now proceed to the next European group, that of the ptarmigan-grouse, or genus *lagopus*. Of this group two species are exclusively indigenous in the British islands, namely, the common ptarmigan (*lagopus mutus*), and the red grouse or moor-game (*tetrao Scoticus*). The common ptarmigan is not only a native of Scotland, but of the higher latitudes of continental Europe, where the willow-ptarmigan and the rock-ptarmigan, &c., are also abundant. In their manners, the ptarmigans mutually resemble each other;—it may be observed, however, that in Scotland (a comparatively temperate climate) the bare and bleak mountains are the permanent abode of the species there indigenous; while, under the intense severity of winter within the polar circle, they all quit the more exposed situations and seek the willows and copse-woods which border the rivers, and stretch over the sheltered vales. Mountain-berries and heath-shoots in summer,—spring-buds and leaves in winter,—constitute their food, in search of which, as well as for the sake of shelter, they burrow beneath the snow. Perhaps the changes of plumage in none of the feathered races are more worthy of attention than those which the ptarmigans undergo. Their full summer plumage is of a yellow, more or less inclining to brown, beautifully barred with zigzag lines of black,—their winter plumage is pure white, except that the outer tail-feathers, the shafts of the quills, and, in our species, a streak from the eye to the beak, are black.

Let us first examine the reasons for such a change, and next the mode in which it is conducted.

The brown patches of heath on the rocky sides of the mountains assimilate well in their broken and blended tints with the summer livery of the ptarmigan; and as concealment from the observation of enemies is one of the laws of nature, this end is, so far, well answered. But when the mountains are covered with snow, when the whole surface of the country is one wide waste of dazzling white, the brown ptarmigan can only escape the notice of its foes by adopting a corresponding dress; so that while crouching in the snow, it will scarcely attract the glance of the Iceland Falcon or the Snowy Owl. Yet the safety which arises from its change of plumage is neither the sole nor the principal motive for that change. This motive we consider to be the provision against the intensity of the cold accruing to the bird by the transition in question. For it not only happens that the plumage turns to white,—but it be-
comes much fuller, thicker, and more downy—the bill is almost hidden, and the legs become so thickly covered with hairlike feathers, to the very end of the toes, as to resemble the legs of some well-furred quadruped,—the hare of the same wild regions, for instance. It is well known that colour greatly influences the rate at which bodies either reflect heat, or acquire and part with it, and that objects which reflect heat the most, part with it the most. Now it has been observed that "reflection takes place most readily in objects of a white colour, and from such, consequently, heat will radiate with difficulty." • • • "If two animals, one of a black colour and the other white, be placed in a higher temperature than that of their own body, the heat will enter the one that is black with the greatest rapidity, and elevate its temperature considerably above the other." • • • But when "these animals are placed in a situation the temperature of which is considerably lower than their own, the black animal will give out its heat by radiation to every surrounding object colder than itself, and speedily have its temperature reduced; while the white animal will part with its heat by radiation at a much slower rate." The winter colour of the ptarmigan therefore, in conjunction with its increased fulness of plumage, tends to limit the expenditure of the vital heat generated in the system; some expenditure, however, must and does take place, beyond that of summer, to meet which the energies of the system are taxed to increase the ratio of its production. This power in the animal system of generating heat, is the principle upon which all animals are enabled to withstand the effect of cold, and to preserve life and health in a low temperature.

With respect to the plumage of the ptarmigan, it may be asked whether this change is effected by a moult, or by a change in the colour of the feathers themselves? Recent experiments have proved beyond doubt, that the change is that of the colour, not of the feathers.—at least, the plumage does not undergo a general moult for that purpose. The moult of those birds which, like the ptarmigan, change their livery, appears to be gradual, in order that the system may not be taxed too much, seeing that it has already to struggle with the debilitating effects of cold. Besides all this, it is scarcely reasonable to suppose that the young ptarmigans should have the brown plumage of their parents to moult when they have only just assumed it. The rationale then appears to be thus:—as the winter approaches the summer dress loses its colour, and gradually passes into white; while, at the same time, an addition of new white feathers increases the fulness of the plumage. On the approach of spring the older feathers of the past year are thrown off, their place being supplied by coloured ones, while the white ones that sprang up as the winter set in, gradually gain the hue which was then denied them. Hence in spring ptarmigans are often seen in a living state, fully coloured; the new feathers having been developed, while the white ones that endure as yet uncoloured: these having acquired their tints will be moulted in autumn, so that no individual feather undergoes more than one mutation. It will be seen from this that the moult is never simultaneously performed; but that a partial loss and accession of feathers, except in the depth of winter, is almost constantly taking place.

The red grouse, or moor-game, undergoes no change of plumage; it however acquires a greater mass of clothing, and its legs are more covered with hairlike feathers in winter than in summer. It would seem either that its native districts, the wild heathy moorlands of our islands, afford more shelter than the favourite localities of the ptarmigan, or that its system needs not this change in order to enable it to resist the cold. It is somewhat singular that this beautiful bird should not be known on the continent, abundant as it is on the moorlands of Scotland, England, and Ireland. Its value, as game, need not be pointed out. The breeding season of the red grouse is early in spring, the pairing commencing in January. The female deposits her eggs, eight or ten in number, in a shallow bed among the heath, and both herself and her mate attend the young with great assiduity. The brood continue in company during the winter, and when the other broods, forming large packs, which range the high moorlands, being usually shy, and difficult to be approached. Various berries, such as the cranberry, the bilberry, together with the tender shoots of heath, constitute the food of this species: its rich colouring of chestnut, barred with black, is too well known to need any special description. Our readers must not suppose that the two forms of grous to which we have alluded are all that exist,—on the contrary, as in every other group of nature, there are here also some which lead off (or indicate affinities) to other groups, forming links in the chain of being. Of these we may allude to the urophasianus of North America, and the sand-grouse (pterochae) of the arid stony tracts of Turkey, Spain, and Africa.

MINERAL KINGDOM.—SECTION XLIII.

PLATINA.

This metal was first brought to Europe by the Spanish traveller, Ulloa, from South America, in the year 1741. It was so named (or rather platirio) by the Spaniards from its resemblance in colour to silver, which they call plata; and they indicated its supposed inferiority, by one of the terminations they sometimes employ for diminutives. It was first brought to England from Jamaica in 1749, but the specimens were obtained there from Carthagena. Its qualities were soon investigated by the most eminent chemists in different parts of Europe.

Pure platina has a silvery whiteness, but with an inferior brilliancy of lustre. It was long considered to be the heaviest substance in nature, having a specific gravity of 21.5; that is, being twenty-one and a half times as heavy as water, bulk for bulk; but Professor Breithaupt of Freyberg has described a metallic substance, found in the sand containing platina near the Ural Mountains, having a specific gravity of 23.6, and which he ascertained to be native iridium, a rare metal, which we shall presently speak of. He further conjectures, that, had the mass on which he operated been larger and of greater purity, the specific gravity would have been 24.00 or 25.00*.

Platina is malleable to a considerable extent, for it may be beaten out into very thin leaf, but it is inferior in this quality to gold, silver, copper, and tin. It is the most ductile of all the metals, as was proved by the experiments of Breithaupt of Freyberg, who placed a platinum wire in a situation the temperature of which is considerably below that of the body; and the wire remained supple, though it was not burned through. The female depositshereg, eight or ten in number
extremely rich in gold and platina, and which, according to M. Von Humboldt, has a remarkable similarity to the platina-district of Choco abovementioned. A lump was found near Nishnei-Tagilsk which weighs above 21 Troy pounds, and is now in the museum at Petersburg, and lumps of smaller size are not uncommon. The quantity of platina obtained from the Ural district, according to M. Von Humboldt, was as follows:—

<table>
<thead>
<tr>
<th>Pounds</th>
<th>Lbs.</th>
<th>Avoirdupois</th>
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<tr>
<td>In 1838</td>
<td>93</td>
<td>33 which is equal to about 3378</td>
</tr>
<tr>
<td>1839</td>
<td>78</td>
<td>31</td>
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<tr>
<td>1830</td>
<td>105</td>
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Platina, in small quantity, has been found in the alluvial soils in which the diamonds of Minas Geraes, in Brazil, are met with, and also in the island of St. Domingo. Vauquelin found it in the silver-ore of Guadalcanal in Spain.

In the analyses of the ore brought from South America, four new metals were discovered, viz., Palladium and Rhodium, in 1803, by Dr. Wollaston, and Osmium and Iridium, in the same year, by Mr. Smithson Tennant. Berzelius, in more recent analyses, has found these four metals in the platina of the Ural district. Dr. Wollaston mentions that some platina ore brought from Brazil was found by him to be nearly pure, and among the grains were some of native palladium. Of these four metallic bodies rhodium is the only one which has hitherto been used in the arts. A series of interesting researches on different alloys of steel, conducted, in the laboratory of the Royal Institution, by Mr. Stodart, the eminent cutter, and Mr. Faraday, are described in the 'Philosophical Transactions' for 1822. Alloys with rhodium have been made in the large way, and they say that they are perhaps the most valuable of all, but, owing to the scarcity of the metal, they cannot be brought into general use. Some articles of fine cutlery were made, and also pens, which went by the name of "rhodium pens." Alloys were formed with osmium, iridium, and palladium. A proportion of \( \frac{1}{4} \) th part of palladium produces a very valuable steel for making instruments that require perfect smoothness of edge. The best proportion of alloying metal for edge-tools was found to be one part in the hundred. An alloy of platina produces a steel of excellent quality.

To obtain pure platina from the ore was long an extremely difficult process, and greatly retarded its application in the useful arts. A method was discovered by Dr. Wollaston, who established a manufacture of it, and which is understood to have yielded him a very large sum of money, for the platina used in the arts in England was, for several years, obtained almost, if not altogether, exclusively from him. He kept the process a secret until within a very short time of his death, when a full account of it was laid before the Royal Institution. A number of trials were made, the most successful of which was described in the 'Philosophical Transactions' shortly afterwards.

**Uses of Platina.**—The resistance which this metal offers to the action of air and moisture as well as to a large proportion of chemical agents, together with its power of sustaining the most intense heat without melting, renders it a most valuable substance for crucibles and other vessels used in chemical processes. In the manufacture of oil of vitriol, or sulphuric acid, on the large scale, it was usual to employ glass retorts for the purification and concentration of the acid; but these being liable to break from various causes, great loss was often sustained, and the workmen were exposed to serious injury from the destructive effects of the acid when such accidents occurred. Mr. Tennant, of Glasgow, conceived the idea of substituting retorts of platina for those of glass, by which means not only the accidents from breakage would be avoided, but a...
much stronger heat could be employed in the process of distillation than could be ventured upon with the glass. The extent of loss in using the glass vessels may be conceived, when it was found economical to substitute for them so costly a material. The works of this ingenious and enterprising chemist were originally established for the manufacture of a substance used in bleaching—a combination of chlorine, or oxy-muriatic acid gas, with lime; they have now been increased by the addition of manufactures of sulphuric acid, soda, and soap, processes all connected together; and his establishment is probably the most extensive of the kind in any part of the world, there being no less than eleven acres under roof. The magnitude of his platinum vessels is quite in keeping with that of the rest of his works, for he has two retorts of that metal for distilling sulphuric acid, the one of which cost 1600l., and the other 1680l. One of them weighs 1445 ounces, and has a capacity of 79 wine gallons, the other weighs 1370 ounces, and has a capacity of 90 gallons. Pieces of money have been struck in this metal in Russia, but the circulation is not as yet extensive, nor has it been applied for that purpose in any other country. With the construction of his ingenious pyrometer, or instrument for measuring high temperatures, founded on its properties of expansion and infusibility. By this new instrument many corrections have been made of the very erroneous estimates of the melting points of various substances as determined by the pyrometer of Wedgwood. Thus iron was said to melt at 158 degrees of Wedgwood, and as every degree of that scale is equal to 190 degrees of the thermometric scale of Fahrenheit, and as Wedgwood's scale commences at a point corresponding to a heat of 1077 degrees of Fahrenheit, the melting point of iron was supposed to be equal to the enormous heat of 21617 degrees. Mr. Daniel has reduced it by his more accurate instrument to 2786. The maximum of expansion of platinum, and therefore the greatest heat it is capable of measuring is equivalent to 3280 degrees of Fahrenheit.

THE GREAT WALL OF CHINA.

The great wall of China, built to defend the empire from the incursions of the Tartars, has been familiar to us all from our childhood, as one of the wonders of the world. A sober examination, though it will somewhat lessen its magnitude and marvellousness, will still present us with an astonishing work, and impress us with a high notion of the industry and perseverance of the Chinese.

Father Gerbillon, one of the missionaries, who travelled along the chief part of it, passed through most of its principal gates, and indeed saw more of it than any other European, says, "it is indeed one of the most surprising and extraordinary works in the world; yet it cannot be denied that those travellers who have mentioned it have over magnified it, imagining, no doubt, that it was in its whole extent the same as they saw in the parts nearest Pekin, or at certain of the most important passes, where it is indeed very strong and well built, as also very high and thick." According to this valuable authority, from the Eastern Ocean to the frontiers of the province of Chan-si, or for the distance of 200 leagues, it is generally built of stone and brick, with strong square towers sufficiently near for mutual defence, and having besides at every important pass a formidable and well-built fortress. In many places in this line and extent the wall is double and even triple. But from the entrance of the province of Chan-si to its western extremity, the wall is nothing but a terrace of earth, in many places so much obliterated that the missionary could cross and reccross it on horseback. There are numerous towers on this part of the wall, but they too are chiefly built of earth.

The wall is in many places carried over the tops of the highest and most rugged rocks. The missionary, P. Gerbillon, expresses his inability to comprehend how stones and bricks could be carried to such places, or how the Chinese could construct vast forts on spots where the boldest European architects would not attempt to raise the least building. The great wall which has now, even in its best part, numerous breaches, is made of two walls of brick and masonry, not above a foot and a half each in thickness, and generally many feet apart; the interval between them is filled up with earth, making the whole appear like solid masonry and brickwork: for six or seven feet from the ground these encasing walls are built of large square stones; the rest is of brick. The mortar used is of excellent quality. The wall itself averages about twenty feet in height, but the towers which are distributed along it are seldom less than forty feet high. At their base these towers are about fifteen feet square, but they gradually diminish as they ascend, till they are scarcely larger than those below. Below them there are stairs. There are stairs of brick and stone, as well as inclined planes, to ascend to the platform on the top of the wall, along which six horsemen may ride abreast. It must, however, be understood that this description applies only to the very best part of it.

Near every one of the gates in the wall that the missionary passed through he found a town or large village. Near one of the principal gates which opens on the road towards India, is situated Siningfu, a city of prodigious extent and population which was several times visited by the missionaries. The Jesuit fathers, Albert Dorville and Gruberus, stayed here thirty days, and had ample opportunity of examining the great wall in this part of the country. They described it as being so broad at the top, "that six horsemen placed abreast might run a race along it, without inconvenience to one another; and hence," they continue, "the esplanade on the top of the wall is much frequented by the citizens of Siningfu, both for its air, which blows most wholesomely and pleasantly from the adjacent deserts, and for the performance of sundry games and exercises for the easing and recreating of the mind; for the walls are of such height that they readily invite the inhabitants unto them by the prospect they afford, and which is on every side most clear and open, and withal exceeding pleasant; and the stairs that give ascent unto the walls are broad and convenient." They give the length of a journey which may be performed along the top of the wall, as occupying eighteen days, starting from the gate by Siningfu, and stopping by the gate at the city of Sucienc, which opens upon the desert, and state that many travellers, from motives of mere curiosity, having obtained the permission of the Governor of Siningfu, and furnished themselves with provisions to that effect, have performed this muriar journey. The contrast between the country within the wall and the wilds without, is described as being in certain places so great: looking down from the battlements and towers which frequently fringed the loftiest rocks, these travellers could see on one side a cultivated expanse covered with numberless inhabitants, and on the other all the wildness of the desert, that seemed never to have been trod by human footsteps, but abounded with all sorts of wild beasts. The view of the wall itself must be equally imposing, as it traverses one vast plain after another, and strides over lofty mountains—its numerous towers here entire and there falling to ruins, the sides

* Ogilby's China, vol. 1.
of the walls here free and open, there overgrown with creeping plants, and garnished with hardy trees that shoot from their interstices or that spring from their base; the whole, to appearance, stretching out as if it were to girdle the globe, or as if it had no end. An antiquity of 3000 years must be added to the vastness and solemnity of the impression.

Mr. Barrow makes some curious calculations, which assist the conception of the magnitude of this wonderful wall. According to him, the materials of all the dwelling-houses in England and Scotland, supposing them to amount to 1,800,000 (Mr. Barrow wrote this thirty years ago), and to average on the whole 2000 cubic feet of masonry or brick-work, are barely equivalent to the bulk or solid materials of the great wall of China. Nor are the projecting massy towers of stone and brick included in this calculation. These alone are calculated to contain as much masonry and brick-work as London. The mass of matter is more than sufficient to surround the globe, on two of its great circles, with two walls, each six feet high and two thick! But in this calculation the earthy part in the middle of the wall is included.

It has been remarked as a singular omission that Marco Polo makes no mention of the wall of China, through which, it seems, he should have passed, and which must have left a deep impression on a mind so fond of the marvellous as was his. There is, however, a probability that he wandered through the wilds, passing through Corea, beyond the walls, to the eastern seas, where he might have embarked or found his way into China without seeing the walls.

In its good part, or from the eastern sea to the province of China (i.e., for 2000 leagues), there seems to be only two gaps or interruptions in this wonderful wall, and they are where an inaccessible mountain and broad rivers supply its deficiency. The avenues or passages through the wall to and from the desert are contrived arch-wise, like bridges, or are through walls under ground. The sally-ports for the troops, whence they could issue forth or retire as assault or invasion required, are very numerous. Purchas says, in his "Pilgrims, "When any enemy appeareth, they kindle fires upon the towers, to give the people warning to come to their places where they are appointed upon the wall." He adds in another place a curious fact, if it be one, that the walls and towers were garrisoned by condemned Chinese prisoners and foreign mercenaries. If they were, we need no longer be surprised that they hardly ever offered a serious resistance to foreign invasion. "This work," says the missionary Kircher, "is so wondrous strong, that it is for the greatest part of admiration to this day; for through the many vicissitudes of the empire, changes of dynasties, battles and assaults, not only of the enemy, but of violent tempests, deluges of rain, shaking winds and wearing weather, yet it discovers no signs of demolition, nor is it cracked or crazed with age, but appears almost as in its first strength, greatness, and beauty; and well it may be, for whose solidity whole mountains, by ripping up their rocky bowels for stones, were levelled, and vast deserts, buried with deep and swelling sand, were swept clean to the firm ground." The rapidity with which this work was completed is as astonishing as the wall itself. The whole is said to have been done, in five years, by many millions of labourers, the emperor impressing three men out of every ten throughout his dominions for its execution. It was finished 205 years before the birth of Christ. The rapidity with which it was turned over by some writers into a proof of his not having visited the countries he describes, and by others, who would rather admit that traveller's authenticity than the antiquity of the wall, into a proof that the astonishing structure could not have existed at the period when the Venetian traveller wrote. The supposition of Marco Polo's having entered China by a route to the south of the wall, as we have stated, saves at once the consistency of the traveller and the antiquity of the work: than the latter few things can be better authenticated.

The period of its completion is a historical fact as authentic as any of those which the annals of ancient kingdoms have transmitted to posterity. From that period (about three centuries before the Christian era) the transactions of the Chinese Empire have been regularly, and without any chasm, recorded, both in official documents and by private contemporaneous writers. Nowhere had history become so much an object of public attention, and nowhere more the occupation of learned individuals. But, it has been again objected, Marco Polo did not merely arrive once in China and depart by the same route; for "he resided many years in the country, was actively employed in the service of the Chinese Emperor, who sent him occasionally upon foreign missions; and, in the performance of his ordinary duties, must have incessantly passing and repassing between the capital, where was his master's winter residence, and the summer palaces, by the gates or fortified passes through which the great road or roadsteads went. According to him, the materialsof all the transactionsof the ChineseEmpire have been calculated to contain as much masonry and brick-work as London. The mass of matter is more than sufficient to surround the globe, on two of its great circles, with two walls, each six feet high and two thick! But in this calculation the earthy part in the middle of the wall is included.

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which did not pre-exist. Of the Chinese with his
Lordship, Van-ta-gin, and Chou-ta-gin, two grandees
of the court, though they had passed the wall twenty
times before, had only visited it once, and some of the
other attending Mandarines had never visited it at all.
And though Lord Macartney gives a good description,
and a suggestive reasoning, he does not appear to have obtained from his Chinese fellow-trav-
ellers a single point of information concerning the
Great Wall.

We learn, moreover, from the learned notes which
Mr. Marsden has appended to his valuable translation
of 'Marco Polo's Travels' the remarkable circumstance
that in the Persian account of the journey performed
by the ambassadors sent by Shah Rokh, in 1420, to
the emperor of China, and which in many respects is
circumstantial, no notice whatever is taken of the wall;
although in their progress from Kan-cheo to the Kara-
muran or Yellow-river, they must have coasted or tra-
versed the line of its direction. And again, from the same
authority, we learn that, "even by the geographers of
Persia and Arabia, who were laborious in collecting
information of that kind, and had the means of obtain-
ing it from the Mohammedans who traded between
Bokhara, Kashgar, and China, no mention is made of
any such rampart, either of masonry or earth, con-
structed for defending the borders of Khatari."

In case we have stated under the head of this
curious discussion should not carry conviction to the
sceptical, we will end by a supposition which Mr.
Marsden has referred to; and it does not appear to us,
who have some acquaintance with the manner in which
the copies of works were multiplied in Italy some
centuries ago, a gratuitous or an unreasonable sup-
position, that the portion of Marco Polo's work in
which he describes the great wall has been lost by accident,
or omitted by design, as too improbable. And Mr.
Marsden supports this conjecture by the fact that
in Ramusio's printed version of Marco Polo, a whole
chapter (xxxviii.) has been omitted without notice,
though it existed in the earlier Latin editions, was
necessary for the connexion of the subject, and is in-
directly referred to in a subsequent chapter of the same
book.

Note.—To preclude misapprehension, it is proper to state, that
where the article on 'Pekin,' in a previous Number, (No. 216,) as-
signs nine gates to the city, the Tartarian city is particularly
intended. The Chinese town, which joins it on the south, has five
more gates, making fourteen, if we regard the whole as one city.

ANALYSIS OF AN OLD MAGAZINE.

[From a Correspondent.]

I LATELY picked up at a book-stall the volume of the
'Universal Magazine' for 1775,—just sixty years ago;
and when I came to examine it, there seemed to me so
many obvious points of difference between this old
magazine and the periodical publication of our own
day, and that it contained so many indications of differ-
ences of tastes and habits between our grandparents
and ourselves, that an account of the contents of one
of the numbers would form a very suitable article for the
'Penny Magazine.' I take the first number of the
volume. The number was sold at 6d., and contained
fifty-six pages.

The first object of attention is the allegorical frontis-
piece—a bad-executed copper-plate engraving, but
the meaning of which seems perfectly incrustable, except
that it must refer in some way to literature. A lady,
without any clothes, stands with a pen in her hand, and
before her a great book which rests on the back, and
between the wings, of a stout old man, who, by his
scythe and hour-glass, seems to be Time, and who, with
great good nature, has placed himself on the ground in
a very inconvenient posture, in order to form with his
back a suitable writing-desk for the lady. The fair
scribe herself is looking up to a hovering figure, who
seems addressing her, and at the same time lets a string
of flowers fall around her person. It is odd that the
figure in the air is the only one in the picture unfur-
nished with wings. Referring to the very necessary
exposition which is given in the text of the work, I
find that all this represents Apollo, dictating to Clio,
the historic muse, "who, by her art, is supposed to pre-
vent the ravages of Time from destroying the
memory of wise and virtuous actions." What a dunci
does I not discover this! However, the Apollo being
a full-robed figure of a feminine appearance is as little
as possible like the common representations of him.
Yet we are told that "this beautiful allusion is taken from
a drawing by the celebrated Eisen, who is confessedly
unrivalled in a species of painting which is now in the
highest reputation; we mean, the allegorical kind." The
loss of reputation which allegorical painting has
since undergone, is a circumstance which I certainly see
no occasion to lament.

The copious title-page is a perfect advertisement,
and affords a striking contrast to the brief and unde-
terpretable titles of modern magazines. Here it is:—

"The Universal Magazine of Knowledge and Pleasure; con-
aining Books, Geographical, Historical, Biographical,
Letters, Essays, Voyages, Travels, Philosophical, Letter-
ary, Poetical, Critical, Political, Miscellaneous, Philosop-
ical, Historical, Mathematical, Astronomical, Naviga-
tional, Theatrical, Musical, Architectural, Political,
and other Arts and Sciences, which may render it Instruc-
tive and Entertaining to Gentry, Merchants, Farmers, and Tradesmen; to
which occasionally will be added an impartial account of Books in
several Languages, and of the State of Learning in Europe: also of the
Public Press, and Graffiti.

It ought to be remarked that this magazine was one of
the earliest and most permanently successful rivals
of the 'Gentleman's Magazine.' It commenced in
1747, and, after extending to 112 volumes, it would
seem to have been discontinued in 1803, as I have not
been able to find a volume of later date. As its title
denotes, it aimed at a more general and popular char-
acter than the venerable publication which preceded
it, and obtained a high degree of circulation among
the operative classes as embraced within the 'universal
scope' of its objects.

The first article in the number, which is suggested
by the frontispiece, is entitled, 'A Critical Inquiry into
the defects of modern artists in Painting and Poetry,
with regard to Allegorical subjects.' The object of
the paper is to show that the moderns have grievously
departed from the simplicity of ancient allegorical
representations. Their own frontispiece evinces this
so satisfactorily, that the essay cannot be dispensed
with. The next article is a 'Life of William Penn,' the introduction of which was considered
very appropriate at a time when the disputes with the
American colonies engrossed so much of the public
attention. Then follows a sort of treatise 'on Mar-
riage, in an epistle from a Father to his Daughter.'
Next comes a sketch of the plot of the still well-known
comedy of 'The Rivals,' which had then just been
brought out at Covent Garden Theatre. This is fol-
The American were in too great a hurry to plant hedges; they had no ready resource of native material; but a wooden fence is put up in a few weeks—a hedge takes as many years to grow; and, as I said before, an American has not time to be a year about anything. When first the country was settled, the wood was an encumbrance, and it was cut down next to its size; this was the order now; and the only recommendation of these fences is, therefore, the comparative rapidity with which they can be constructed. One of the most admirable and distinguished men of this country once remarked to me, that the Americans were in too great a hurry to plant fences, and that it was necessary to bring anything to perfection. And certainly, as far as my observation goes, I should calculate that an American is born, lives, and dies twice as fast as any other human creature. I believe one of the great inducements to this national hurry is, that "time is money," which is true; but it is also true, sometimes, that "most haste makes worst speed."—Mrs. Butler’s Journal.
ALCANTARA

Alcantara is a small frontier city of great strength in Spanish Estremadura, upon the banks of the Tagus. The town was originally built by the Moors, on account of the convenience of a fine stone bridge which, as recorded in an inscription over one of the arches, was built in the reign of the emperor Trajan by the people of Lusitania, who were assessed to pay the expenses. It was thus that the Moors gave to the town the name of Al-Cantara, which in their language signifies the bridge. This bridge is thrown across the river at a place where it flows in a deep channel between two high and steep rocks. It is elevated 211 feet 10 inches above the level of the water; although it consists but of 6 arches, is 568 feet in length and 27 feet 6 inches in breadth. Of the six arches the two in the centre are 91 feet wide. A triumphal arch in honour of Trajan rises in the centre, and a mausoleum constructed by the Roman architect (Lacer) stands at the extremity towards the town. This mausoleum, which owes its preservation to the enormous stones with which it is constructed, has been changed into a chapel dedicated to St. Julian, and is now an object of veneration both to the townspeople and peasantry. There is nothing else remarkable about the town, except the strong walls, bastions, and other works, with which its situation on the borders of Portugal has caused it to be fortified. There are about 3000 inhabitants, who carry on some trade in wool and cloth.

When the town was taken from the Moors by Alphonso IX., king of Castile, in the year 1212, it was in the first instance committed to the charge of the knights of Calatrava; but, two years after, it was transferred to the knights of St. Julian del Parero, or St. Julian of the Pear-tree, an order instituted in 1170, and which soon relinquished this odd denomination for that of Alcantara, at the same time assuming a green colour for the cross fleur-de-lys which they bore over their large white cloaks. This was apparently intended for the purpose of a distinction between their order and that of Calatrava. When the town of Alcantara was surrendered to the knights of the Pear-tree, it was stipulated that there should be a confraternity between the two orders, with the same practices and observances in both, and that the Alcantara order should be subject to be visited by the grand-master of Calatrava. The Alcantara knights soon, however, became dissatisfied with this engagement, and released themselves from it, on the pretence that their grand-master had not been called, according to one of the stipulations, to the election of the grand-master of the Calatrava order. The knights make a considerable figure in the history of the expedition against the Moors,—war against them being one of the grounds on which the order was instituted. They were, in fact, military monks, under the same vows as the Benedictines. After the expulsion of the Moors and the taking of Granada, the sovereignty of both the orders of Alcantara and Calatrava was settled upon the crown of Castile, in the reign of Ferdinand and Isabella, when the order transferred the town to the general government. The order of Alcantara was very wealthy. After it had become comparatively poor, it still possessed 33 commanderies, four alcazaries, and four priories, producing an annual revenue of 80,000 ducats. It has probably since undergone further diminution, but to what extent we are not informed.

[Bridge and Town of Alcantara, Spain.]
Plynlimmon, a mountain of South Wales, which is about 2462 feet above the level of the sea, and situated on the verge of Cardiganshire and Montgomeryshire, gives birth to five rivers, the most important of which is the Severn, and the most beautiful the Wye. The other three, that never become much more than mountain-torrents, are the Rhydol, which joins the Mynach at the Devil's Bridge, the Lyffant, and the Dulas. The sources of the Severn and Wye (like the fountain-heads of those grander streams, the Danube and the Rhine) are close to each other, and, after pursuing opposite courses, their waters meet, and roll into the ocean together.

For the beauty and variety of the scenery, on its banks, there is no river in England at all comparable with the Wye, nor do we believe, notwithstanding the superiority of some of them in point of size, that there is a single river on the continent of Europe that can boast such scenes of alternate grandeur, gracefulness, and pastoral beauty,—such an uninterrupted succession of exquisite landscapes as occurs on the Wye all the way from Goodrich Castle to Chepstow Castle. For ourselves, we never saw such a continuity of beauty, and the author of the book that goes under the title of the "Tour of a German Prince" seems to be pretty much of our opinion. "Never," he says, "was I more convinced than here, that a prophet has no honour in his own country. How else would so many Englishmen travel thousands of miles to fall into ecstacies at the beauties of a very inferior order to these!"

It is only at a comparatively recent date that the Wye has become at all frequented on account of its scenery. About the middle of last century, Dr. John Egerton, who was afterwards Bishop of Durham, was collated by his father to the rectory of Ross, in which pleasant town, situated on the bank of the river, and just at the point where the beautiful scenery begins, the doctor resided for nearly thirty years. He was a man of taste, and had a lively enjoyment of the pleasures of society amidst the beautiful scenery of his neighbourhood. His chief delight was to invite his friends and connexions, who were persons of high rank, to pay him summer visits at Ross, and then to take them down the Wye, which river, the "Pleased Vaga echoing..."
through its winding bounds," of the poet, as well as the town of Ross, had derived an interest from the verses of Pope. To this end Dr. Egerton built a pleasure-boat; and year after year till it became fashionable in a certain high class of society to visit the Wye; but when the doctor was removed to the see of Durham, his boat was left to rot on the banks, the voyage becoming less and less frequent. Mr. Whately, a writer on landscape gardening, and an exquisite critic, directed attention to the New Weir, Tintern Abbey, and one or two other scenes on its banks; and in 1770, the Wye was visited by the Rev. William Gilpin, who, though somewhat of a pedant in art, and not over-correct in his descriptions, did good service to taste and the lovers of nature, by publishing the account of his tour. The same year a greater name connected itself with the Wye, for it was visited by the immortal author of the 'Elegy in a Country Churchyard.' "My last summer's tour," says Gray, in one of his admirable letters, "was through Worcestershire, Gloucestershire, Monmouthshire, Herefordshire, and Shropshire, five of the most beautiful counties in England. The kingdom of light, and capital feature of my journey was the Wye, which I descended in a boat for near forty miles, from Ross to Chepstow. Its banks are a succession of nameless beauties." It may almost be said that the last happy moments Gray knew in this world were spent upon the Wye; for a few months after we find him a prey to ill health and despondence, complaining of an incurable cough, of the irksomeness of his employment at Cambridge, and of "mechanical low spirits," and he died in the course of the following summer.

The publication of Gray's correspondence probably attracted more tourists than Gilpin's book, and yet, for some years afterwards, a single boat was all that was required to convey the company down the Wye. At present there are several pleasure-boats in pretty constant employment during the fine season, and these are to be hired for private parties. They are safe and commodious, and are rowed by two men. The voyage from Ross to Chepstow generally occupies two days. Single boats are of course expensive, for the river is in parts so rapid that it is a great labour to work a boat up again. Last summer, however, a large vessel, sometimes like a city barge, was started at Ross, and the passage per head to Chepstow is very reasonable. And country-houses occur frequently, and the whole Wye, at first an insignificant stream, flows on in a countryassumes an English air. Descending from the lofty sides of Plynlimmon, the Wye, at first an insignificant stream, flows on in a southerly direction, traversing the county of Radnor, which it divides from Brecon. For the first ten miles, or as far as Llangerrig, the country has little to recommend it, being naked and dreary, with brown peat-covered hills in the distance; but from Llangerrig to Rhayader (a distance of twelve miles) the scenery is rather romantic, the river being flanked by bold rocks, and running over a declining irregular bed, in a succession of falls, or rapids. It is a favourite resort of anglers, as it abounds in fine trout; but, otherwise, all that part of the Wye above Rhayader is little visited, and may very well be omitted, as far inferior in scenery to the latter part of the river. At Rhayader, which is in itself a curious romantic scene, the river commences to be very picturesque, and there is a fine view of it from the bridge at the entrance of the town, where it falls over a ledge of rocks and forms some deep and dark pools, after which it tears its way through white rocks and crags into a great bold open and spacious bed. Near to this spot the Wye receives two tributary streams— the Eilon and the Ython,—which materially increase its importance; and the whole of the valley between Rhayader and Builth, or eighteen miles, is singularly romantic. The road (for the traveller must not think of boats as yet) lies, for the most part, close to the bed of the stream, and affords the most favourable views of the lofty banks, the rocky channel, and the winding, devious course of the river. At one point the road passes the Black Mountain—a grand mass, called the Black Mountain, seems to choke up the vale and deny all passage to the Wye, which runs rapidly towards it; but just as the river reaches the foot of the mountain, it turns towards the north, and, after opening an unexpected narrow passage, it expands into a broad picturesque bay, a little above Builth. From this old town, which is entered by crossing a long and rather rude stone bridge, the views of water, wood, mountains, and plain are fine and extensive. The town itself has an essentially Welsh character; and the picturesque and attractive village of Welsh history took place in its neighbourhood. It was here, on the left bank of the Wye, that the celebrated hero Llewelin was defeated and slain, in 1282, by the army of Edward I. It is supposed that Builth was known to the Romans under the name of Bulleum Siburum, and several sepulchral barrows point to a much more remote time, and to the religion and usages of our Druidical ancestors.

We arrived at Builth on the evening of the market-day, when the romantic little town and all the roads and bridle-paths near it were unusually animated. Farmers and shepherds were retiring (singing as they went) to their homes among the mountains; and the pretty laughing Welsh girls, in their neat blue dresses and men's hats, and mounted on rough-coupled long-tailed ponies, were trotting and cantering home in all directions. The scene was the more pleasing from the testimony it afforded, that even among these rocks, moors, and mountains men could obtain a comfortable subsistence. There was a very general apppearance of comfort and prosperity, and scarcely a sign of squalid poverty. Plenty of people had come to the fair from Hay, and other parts of the Herefordshire border, and all was harmony and good will where, if Englishmen and Welsh had met a few centuries before, there would have been nothing but strife and a cutting of one another's throats.

The road from Builth to Hay affords some fine prospects of the Wye, though it does not always lie near to the bed of that river. On approaching Hay the scenery loses much of its picturesque wildness,—mountains and rocks begin to disappear, neat villas and country-houses occur frequently, and the whole country assumes an English air. The town of the Hay, or, as it is commonly called, the Welsh Hay, is pleasantly situated, and is in part very picturesque. There is a tower with the gateway of an old castle finely covered with ivy, and, in the rear of the church, there are some slight vestiges of fortifications which are supposed to be Roman. A little below the Hay the Wye bends to the east, and enters the beautiful plains of Herefordshire with a slow and majestic pace. Having travelled sixty miles from its source in Plynlimmon and received numerous tributary streams, it has here the appearance of an important river; but the bed is broad and shallow, and, from its size, its appearance is much the same. About two miles below the Hay, and close to the banks of the Wye, stands an old castle, partly surrounded by woods. This was the birth-place of the fair Rosmomd of whom our old chroniclers and poets made so much,
and of whose real history we know so very little. The antique building is called Clifton Castle, and forms a good feature in a very pleasing landscape. The whole valley of the Wye, from the Hay to Hereford, is highly cultivated and pretty, but devoid of grandeur.

In the ancient city of Hereford, which has a singular air of tranquillity and of the olden times throughout, the tourist may spend a delightful hour or two in examining the fine Gothic cathedral. There are some pleasant promenades in the outskirts of the town, particularly one on a quay immediately above the Wye, which is here a quiet, stately river, as unlike as possible to the mountain torrent which it is above Hay and along the foaming, impetuous stream it is above Balaith.

We saw a considerable number of barges and other craft moored at Hereford, where we were told that some of these vessels, drawing very little water, could, at certain seasons, go twenty-five miles higher up, or nearly to the Hay. At other times, however, when the river is low, they have some difficulty even in getting as far as Hereford. Most of the coal and wood consumed in that city and its neighbourhood are brought up in barges from Bristol, Chepstow, and the Forest of Dean, after a swell of the river; and the inhabitants occasionally export, by the same conveyance, their excellent Herefordshire cider and other articles. These voyagers, however, are liable to frequent interruptions, and, at times, to long detentions.

From its numerous shoals and deficiency of water, the Wye, in its present natural state, can scarcely be considered a commercial highway above Monmouth. About six miles below Hereford it receives the river Lod, and, near the confluence of the two streams, there is a curious elevation called Marchay Hill, which seems to have been thrust up by some convulsion of the earth like the Monte Nuovo in Italy, that suddenly rose out of and almost entirely filled up the Lucrine Lake. According to Camden, for three days together did Marchay Hill "shove its prodigious body forward with a terrible roaring noise, and, overturning everything in its way, raised itself to the great astonishment of all beholders, to a higher place." In volcanic countries such phenomena are not rare, and sometimes, instead of proscriptions and ascents, there are descents, which are equally curious. In the province of Apulia, in the kingdom of Naples, there is a hill that slid down into the plain, which is said to have been man-made, and that stood on its summit. Even the church-tower, the highest building in the place, was not overturned by this locomotion.

Although the road only now and then affords a glimpse of the Wye, all the country (which Gilpin calls fame) between Hereford and Ross is varied by swelling hills, hop-groves, orchards, and woods, and is lovely all in the extreme. It may not always be fit for a picture, and Gilpin only looked at nature with reference to the painter's canvas, but it is undoubtedly a most delightful part of this fair island.

On entering the small quiet town of Ross, which is beautifully situated on an eminence close to the left bank of the Wye, everything reminds one of honest John Kyrie, whom Pope has immortalized, and the eye is attracted to the church and the "heaven-directed spire," to the trees he planted, to the canopied seat he laid down, and to the rest of his useful and honourable labours. Indeed, spending a day at this pleasant town is like spending a day with the "Man of Ross" himself, for we are reminded of him whichever way we turn, and the inhabitants have most religiously cherished his memory, and all the little circumstances and anecdotes relating to him. Near to the decent, quiet inn where we stayed, there stands the house he built himself and inhabited; and in the club-room of another little inn in the town they preserve the good man's arm-chair.

John Kyrie's fame was acquired by the judicious employment of a small fortune in works of public utility, and those works are fairly set down, and without exaggeration, in Pope's well-known and admirable lines, as Dr. Johnson observed, it is probable that his "five hundred pounds a-year" did not pay for all those improvements and charities, and that through his example, his known integrity and active benevolence, his wealthier neighbours were in some instances induced to join their purses with his for the public good and the ornament of their town.

In his time the country round Ross, which in the twelfth century was a forest interspersed with marshes, and swarming with wild-boars and wolves, was greatly wanting in trees, and Kyrie directed his energies to the supplying of this deficiency. He planted a vast number of elms in the churchyard and glebe, and in the rear of the church he laid out a beautiful avenue which is called the "Prospect," or "The Man of Ross' Walk." It is on the ridge of a hill, and commands a fine view of the valley, and the river, and the hills beyond. It is said of him in King's 'Anecdotes,' that "he had a singular taste for prospects; and by a vast plantation of elms, which he disposed of in a fine manner, he has made one of the most entertaining scenes the county of Hereford affords."

Within the church we were shown the pew where the good man sat for so many years, and which, out of respect to his memory, has never been altered or touched during the several alterations the church has since undergone. Two slight elm-trees grow inside of the church, and indeed within the pew, partially curtaining with their foliage the tall arched window that opens upon it. The local legend is, that some years ago a rector impiously cut down some of John Kyrie's dear elms that stood in the churchyard, outside of the window, and opposite the pew, and that thereupon, as if determined to show their affection for their planter, some roots threw out fresh shoots, which, penetrating the church wall, grew up over the very seat he used to occupy. The legend, at all events, is pretty, and there are the trees growing in the church, and their light dotes relating to him. Neartothedecent,quietinnofwhosebaronialfounderswe forgetoroverlook in the province of Apulia, in the kingdom of Naples, there is a hill that slid down into the plain, which is said to have been man-made, and that stood on its summit. Even the church-tower, the highest building in the place, was not overturned by this locomotion.

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was Thomas Guy, the founder of Guy's Hospital in London. The estate of Wilton Castle was left by him to that establishment.

A few yards lower down, the Wye passes under Wilton Bridge, the arches and piers of which are of curious construction, and were first built at the end of the sixteenth century. At the time of our passage, which was early in the month of June, we found such a deficiency of water about two or three miles below the bridge, that even our little boat grounded. So far, and indeed for a mile or two farther, the scenery of the Wye, including the view of Ross, with its steeple, its terraces, and trees, is only pretty and graceful; but, on approaching Goodrich Castle, it becomes bolder and grander. On either side, the banks begin to rise into lofty precipices, or wooded hills, of the noblest forms; and the sudden turns and windings of the stream every minute bring unexpected and startling objects in sight, and give a new aspect and character to the features of the scene already passed. At the very point where a massy ivy-covered ruin and an antique-looking castellated building are most desirable, we find the ruins of Goodrich Castle, and—that admirable imitation of the antique—the mansion of Sir Samuel Meyrick, called Goodrich Court. As we approach this point, which is about four miles below Ross, the river expands, and forms a sort of bay; and on the right bank, on a lofty wooded eminence, which projects as a promontory, stand the ruins and the mansion.

The ascent to the old castle, from the bed of the river, is steep; but the path lies, for the best part, through a pleasant wood, and every resting-place offers a delightful view. The castle itself presents grand and imposing masses of masonry of different periods of architecture. The keep, which is the most ancient part, is in the Saxon style; but there are evident signs of alterations and improvements of a much later age; and, in other parts of the building, which seems to have been successively enlarged, we trace the Tudor style. The history of the place is not well preserved, but there was a castle here (consisting probably of the keep and little else) before the Norman Conquest, and the last additions to it should seem to have been made in the time of Henry VII. During the great civil war, it was the scene of desperate contention. It was occupied in the first instance for the parliament, but was afterwards seized and garrisoned for Charles I. by Sir Richard Lingen. It was retaken by the parliamentarians under Colonel Birch, after some hard fighting, at the beginning of August, 1646, being the last castle in England, with the exception of Pendennis, that held out for the king. During the siege, it suffered considerably from the mortar-pieces, granadoes, and "the great iron culverin" of the assailants, and, in the month of March following, it was ordered by parliament, "that Goodrich Castle should be totally dismanned and slighted" (i.e. destroyed). From the immense, and in some parts almost perfect, masses that remain, we may judge that the people employed on this work of destruction were sparing of their labour and gunpowder; and we are happy that it should have been so, as they have left us a fine ruin,—just ruined enough to be picturesque, and sufficiently entire to attract and gratify curiosity in the examination of its arrangement and details. Whether seen from the water below or from the hill-side, being taken in connexion with the river, the woods, and the rocks, it is a beautiful object. From the battlements of one of the towers there is a glorious view.

A romantic winding path leads from the old castle to...
Goodrich Court, which building is said to be strictly copied in all its parts from original specimens of the architecture which prevailed from the close of the reign of Edward I. to the commencement of that of Edward III. In the interior, Sir Samuel Meyrick's valuable collection of old armour is arranged in the happiest manner in a spacious hall, and each apartment is furnished and fitted up in the style prevalent at one particular period of our history. The house, which by far the most perfect thing of its kind in England, is freely shown, upon application to its accomplished owner; and as its style and contents harmonize with the scenery of the Wye, and the old historical associations upon its banks, the tourist will do well to visit it on his way. If he be fond of antiquarian pursuits, Sir Samuel's large and valuable collection of British antiquities, arranged with the most perfect taste and knowledge, will afford him singular pleasure.

On returning to our boat we gently glided down the winding river through scenes of constantly changing and increasing beauty and magnificence. For some time Goodrich Castle remained a prominent feature in the landscape, for the Wye here makes a remarkably bold sweep, going completely round the wooded headland, and returning, as it were, upon the castle in another direction. Another sudden turn brings us full in view of the magnificent forest of Dean, and the romantic spire of Huerc-Dean Church rising among the trees. Here both banks are lofty and steep, and both woody; but the woods on the left bank are intermingled with rocks. Villages in the most beautiful situations, rural churches, and scattered cottages, now begin to peep more frequently from the hills upon the river that reflects and multiplies them. The village of Lidbroke, where coals are occasionally shipped for Ross and Hereford, has an air of business and bustle, but all is again tranquillity on reaching Courtfield and Welsh Bicknor Church. According to tradition, our too famous king, Henry V., “being when young of a weak and sickly habit,” was removed from Monmouth, his birthplace, and nursed at Courtfield under the care of the Countess of Salisbury; and some antiquaries have decided that a monumental effigy still seen in the little church of Welsh Bicknor represents the Countess, who lies buried beneath it. The church and the tomb of the noble and gentle-hearted lady may engage our sympathy, but we care little for the conqueror. We would not associate the memory of that man of blood with the holy tranquillity of spots like these, where the very spirit of peace seems diffused over the woods and waters, and all the beauties of this visible world inspire respect for the lives of those who are sent by a merciful and bounteous God to enjoy them and to love one another.

Two miles below Welsh Bicknor, on the left bank of the Wye, and in Gloucestershire, there is another village, called English Bicknor, and near to that point the sublime rocks of Coldwell present themselves with wonderful effect. There the river forms a beautiful little bay, and passengers can land on some rocks and green sward, and contemplate at their leisure a scene which we have seldom seen surpassed, and which is called by Gilpin “the first grand scene on the Wye.” Our wood-cut will give some notion, however imperfect, of this remarkable spot. Continuing the navigation we come to Hunt's Holm Roye, where a small church, backed by the bold hill called the Great and Little Doward, is next seen, and passing other spots and objects of beauty too numerous even to name, we next come to Symond's Yat and the New Weir, which is generally called “The Second Grand Scene on the Wye.” At Symond's Yat we landed and climbed up a towering rocky promontory of great height, which (while seen from below, it is one of the grandest objects met with) affords the finest of all the views of the mazes of the Wye, and a magnificent landward prospect over the counties of Gloucestershire, Herefordshire, and Monmouthshire. Here the turrets of Goodrich, from which we had been wandering so long, again showed themselves. At our feet, on the shelving banks of the river far below us, were some iron forges and limekilns, the ascending smoke of which produced a singular effect, which we might almost call solemn.

Descending from this grand height we came to the New Weir, where the river assumed another character. Hitherto it had moved with a tolerably slow, quiet pace, but here it roared and foamed over a bed of rocks, and became for some hundreds of yards a rapid or a succession of little falls. The scenery, particularly on the left bank, assumes its grandest characters. “These,” says the German tourist, “are craggy and weather-beaten walls of sandstone, of gigantic dimension, perpendicular or overhanging, projecting abruptly from amid oaks, and hung with rich festoons of ivy. The rain and storms of ages have beaten and washed them into such fantastic forms, that they appear like some execrable of human art. Castles and towers, amphitheatres and fortifications, battlements and obelisks, mock the wanderer, who fancies himself transported into the ruins of a city of some extinct race. Some of these picturesque masses are at times loosened by the action of the weather, and fall thundering from rock to rock, with a terrific plunge into the river.”

When we got again into smooth water (and at that particular point the Wye is deep), we saw, for the first time, some fishermen floating and paddling about in their little coracles. These coracles, or truckles, as they are sometimes called, are evidently a remnant of the primitive inland navigation of the ancient Britons, and are probably the same as the portable boats used by the Scots and Picts in crossing the rivers to invade England. In form they are neither canoe-shaped nor ship-shaped, being, on the contrary, like a somewhat oval tub. They are made of pitch canvas or raw hide, stretched over a few slight ribs of wood, or over a
frame of wicker-work, and each of them is only capable of holding one man. The least motion seems to threaten to upset them, and it is very difficult indeed to the inexperienced to get into them and set them adrift at all, as, unless the weight is made to bear exactly on the centre, the coracle rolls over stern uppermost. The men we saw using them, appeared, however, to have very much the same effect as when they went across or down the river, working a paddle with one hand, and fishing with the other. These boats are so light that, when their day's work is done, the fishermen throw them over their shoulders and carry them home. In case of rain, they can be made very effective as impervious hoods or umbrellas. Gilpin told a story, which has been copied in most of the guide-books, of an adventurous fellow who, for a wager, navigated a coracle out of the Wye, and all down the broad and frequently stormy estuary of the Severn, as far as the isle of Lundy, at the mouth of the Bristol Channel.

"When he returned to the New Weir," says the original teller of the story, "report says the account of his expedition was received like a voyage round the world."

During the latter half of the trip from Symond's Yat to Monmouth, rocks and sublimity give place to more gentle declivities, and to mild beauties that partake of the pastoral character. Cattle were sprinkled on green ledges above the river: in some places the meadows sloped down to the brink, allowing the cows to stand and cool themselves in the stream, and flocks of white sheep lent beauty and poetry to the middle distance. The whole valley of the river moreover opened, the hills receded, and the river made longer reaches. The sun was setting when we came in sight of the bridge and town of Monmouth, and then the Wye lay before us like a broad path of burnished gold. We had spent a long summer's day between Ross and the last-named town, and can most cordially recommend every lover of Nature, who has it in his power, to do the same thing at least once in his life.

Monmouth, "delightful Monmouth," is another quiet, romantic town, which seemed to us, what the poet Gray declared it to be, "the delight of the eye and the very seat of pleasure." It stands near the confluent of the Monnow with the Wye, on a gently-rising ground, that throws out the houses like the seats of an amphitheatre, and gives a fine elevated platform for the church with its tall steeple. It is surrounded by smiling declivities and gently-swelling hills, that are mostly covered from the water's edge to the summit with pleasant little woods, or laid out in corn-fields or pasture-meadows. The interior of picturesque towns is not always the most comfortable. Monmouth, however, has a broad and handsome street, a capacious marketplace, and seems clean and neat throughout. The remains of the priory, with an apartment they pretend was used as the study of that splendid romancer (once taken for an historian) Geoffrey of Monmouth, the old Saxon church of St. Thomas, near the Monnow Bridge, and particularly the low, sombre, round-arched interior of that church, will agreeably occupy an hour or two within the town. As for the castle, it is gone—the last of its tottering walls fell down suddenly some years ago. In his time, Gilpin said of it, "The transmutations of time are often ludicrous. Monmouth Castle was once the palace of a mighty prince; it is now converted into a yard for fattening ducks."

But as we found it, this royal pile scarcely afforded room for Gilpin's antithesis, the walls not being sufficient even to restrain the wanderings of a fatted duck. Against one dislocated bit of a wall a shed had been erected for the stabling of cart-horses and ass.

From the summit of the Kymin rock, which rises on the left bank of the Wye, and is situated partly in Monmouthshire and partly in Gloucestershire, there is another extensive and beautiful view, of a totally different character from that obtained on Symond's Yat. This variety, indeed, is one of the great charms of the Wye. From Ross to the river's mouth the character of the scenery is scarcely ever the same for a quarter of a mile. On the one hand it is filled with the ruins of the town of Monmouth and the river, there is a curving pavilion, like an embattled tower, which is made easy of access by means of a walk which winds gently up the acclivity.

When we embarked the next day below Monmouth Bridge, a glorious summer sun lighted up all the scenery, and made it indeed look like a holiday spot of earth. A little below the town the Monnow flows into the Wye with a full stream. For some distance the banks are low, and fine green meadows shelve from the hills to the water-side; and then the banks again become bold, rocks protrude, and woods appear on either side. Troy House, with a solemn forest near it, the romantic church of Penalt, the scattered village of Red-brook, with its iron-forges and its tin-works, White-brook, with its paper-mills, Pen-y-van Hill, Big's Weir House, with the church and the ruins of the Castle of St. Briavels in the distance, are among the beautiful features of this changing picture. In some parts the bed of the river is roughened and stratified by shelves and projecting rocks, which produce ripples and, and here and there, minute falls and rapids. A barge or two, making their way against the stream, had to tack and manœuvre in a curious manner. In several places these shelves of rock lie right across the river, like artificial weirs, having very little water over them. At Big's Weir, where the current is very rapid, the river eddies over fragments of rock, which leave only a narrow open space for the passage of boats. Not far from place a new and very graceful bridge, called Big's weir Bridge, spans the river with a single arch. The road from Chepstow to Monmouth, which runs partly on one side of the river, and partly on the other, is connected by this bridge. From this point a fine bold reach, with Tidenham-Chase Hill rising nobly in front, leads to the lovely hamlet of Landogo, which is situated on a small plain, on the right bank, tufted with woods, and backed by an amphitheatre of lofty hills. The little chapel peeps out beautifully from amidst the trees upon the river, which there forms a smooth and capacious bay. Taken altogether, this is one of the prettiest scenes upon the Wye.

Below this point the Wye becomes a tide-river, and loses one of its great beauties, which is the purity and transparency of its waters. A little farther, on the left bank of the river, the populous village of Brook's Weir presents a scene where utility unites with beauty. There is a compact circle of small houses, and a group of iron-forges, from thirty to eighty tons burden, were discharging or taking in their cargoes. One or two vessels were on the stocks; and the sound of the ship-builder's adze and hammer rang cheerfully and almost musically from the bank. A number of white, comfortable-looking cottages and elegant little villas, scattered about the hills in the neighbourhood, prove the prosperity of the place. Soon after passing Brook's Weir, we rounded the last of its tottering walls fell down suddenly some years ago. In his time, Gilpin said of it, "The transmutations of time are often ludicrous. Monmouth Castle was once the palace of a mighty prince; it is now converted into a yard for fattening ducks."

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passed two delightful hours among the ruins, over whose ivied walls and stately columns a few floating summer clouds, and then the streaming sunshine, produced the happiest and most varied effects. The silence of the holy place (when we had succeeded in suppressing the ignorant garrulity of the man who shows the abbey) was perfect, the only sounds heard being the low, mysterious whisperings of the winds among the trees and the ivies which adorned them, and "the sweet inland murmur" of the River Wye.

As we have given a description of these splendid ruins, and a sketch of the history of the abbey, in the eighty-third Number of the 'Penny Magazine,' we shall go on, and request the reader's attention to the remainder of the tour.

On continuing our voyage, saturated with scenic beauty as we were, we hardly expected to be again thrilled, or roused into enthusiasm, by anything else; but the windings of this wonderful river soon brought us in sight of objects as grand as, and totally different from, any we had seen; and from Tintern to Chepstow our admiration was scarcely left idle for a single moment. In fact, though Gilpin and most of the guide-books pass slightingly over it, and though it is the fashion to recommend tourists to neglect it, we question whether any part of the Wye is grander than the last part of its course, particularly when the river is full, the sludgy shores covered, the sun declining. Here it presents some of the most remarkable of its sudden turns and windings, now making long, narrow promontories on this side, and now on that, and washing, in short reaches, the bases of tremendous precipices of bare, strangely-coloured rock. A little below Tintern, we came upon Banogor Coxes, a long, lofty, perpendicular, and most sublime ruin, bare as a wall except where a few shrubs shoot out, opposite to which the river is skirted by narrow slips of rich pasture rising into wooded activities, on which abruptly towers the Wyndcliff,—a nearly perpendicular mass of rock rudely overhung with thickets, stated to be 800 feet high. At this place the Wye turns suddenly round the fertile, smiling peninsula of Lancaut, having the stupendous amphitheatre of Piercefield Cliffs on the right bank. The little peninsula, sloping down from Tiddenham Chase, ends in pleasant meadows and flats, where a few cottages and a church are crowded up with the cliff, part up from the water's edge, looking like enormous buttresses, and here and there throwing out bold, fantastic projections. Twelve of these projecting rocks have been christened by the country people "The Twelve Apostles," and a thirteenth, which points towards the sky, and has a rude resemblance in shape to a thumb, they call "St. Peter's Thumb." The summit and edge of these cliffs are fringed with the noble woods and plantations of Piercefield; and, as we passed through them, the refreshing breeze had shed the most beautiful harmonious shades and hues on their rough sides. Presently the river again turns, and then the grand ruins of Chepstow Castle rising from the very edge of lofty precipices, the bridge, and part of the picturesque town of Chepstow, present themselves in almost magical combination. The ruins look more like the remains of a city than of a single castle, and, under certain lights, the eye looking upwards from the river does not readily distinguish them from a palace. The reader minds the story of Harry Marten, who, as he ascends from one corner of this court to the battlements and towers, whence a view is obtained of the Wye and part of the estuary of the Severn. A sally-port opens into the fourth or last court, which is the smallest of the four, but shut in by a fine old tower, through which was the western entrance to the castle. The interior of these extensive ruins presents some grand and several beautiful combinations. Ivy and delicately-shaded wild flowers are profusely scattered, and as we walked along the battlements under a bright, cheerful sun, the whole scene was rather gentle and agreeable, than gloomy and awful.

Twenty years in a dungeon has an awful sound, suggesting the notion of an incalculable amount of human suffering, and therefore we were glad to see that Harry Marten's tower was not the horrible place the poet Southey once described it to be; and to recall to our minds the fact that during his latter years his confinement was changed into the whole treatment of him considerate and merciful.

It is scarcely necessary for us to remind our readers that Marten was one of those bold, and in most cases sincere, men who sat in judgment upon Charles I., and signed the warrant for his execution. At the Restoration he was brought to trial, and sentenced to death; but his sentence was afterwards commuted for imprisonment for life. In Chepstow he lived twenty
years, and here he died, at the advanced age of seventy-eight, in 1680. His apartment, instead of being cold and dark, never admitting "the sun's delightful beams," had three windows and two fire-places. His wife was allowed to live with him, and over the good-sized room he occupied there was another room for his domestics. The ceiling and floor that separated them are now fallen in. At the time of Coxe's visit, there was a Mrs. Williams, a very old lady, residing in the castle, who recollected two of his maid-servants who had saved a good deal of money in his service, and who always mentioned Marten as a kind, good master. He was the son of Sir Henry Marten, a distinguished lawyer and judge of the Admiralty, and was born at Oxford in 1602.

After passing an hour in Chepstow Castle, we found our way out by the western tower, and then crossing some fields came upon the Tintern road, which, in a few minutes, led us to one of the lodges and entrances of Piercefield Park, a truly beautiful place, occupying an irregular and very extensive area between the high road and the precipitous cliffs of the Wye. From the woods and plantations, which cover a bold, broken ground, and run close to the edge of the cliffs, the eye commands some of the finest views in England; and these views are varied at almost every step by the windings of the path, the changing foreground,—now of jagged rocks, now of majestic trees,—and by other accidents of elevation or depression. The guide-books set down by name nine particular points, each of which is furnished with benches or rustic seats, but there are twenty more almost equally fine. Looking across and up the river, we saw under a different aspect much of the grand rock-and-cliff scenery we had passed the day before; and, in the earlier part of the walk, on looking down the river, or to the east, the towers of Chepstow Castle,—the town,—the bridge,—the shipping,—the red cliffs on the Gloucestershire Wye, a ridge of hills which conceals the mouth of the river, and then the broad estuary beyond it,—all stood out in most picturesque effect.

These walks extend almost from the most of the castle to the foot of the Wynd Cliff, and are about three miles long, if you follow all their sinuosities. At their farther extremity we issued again forth upon the Tintern road, and were presently climbing up the steep sides of the Wynd Cliff, which would be almost inaccessible on the river side, but for some ladder-like steps that have been arranged, and some zigzag paths that have been cut in the rock. In the rear of the cliff there is a much easier ascent. We mention this, because the fatigue may deter some persons from climbing up in front, and because the view on the summit is too fine and extensive to be lost. There, standing on the edge of the loftiest rock, the eye embraces a considerable part of the counties of Monmouth, Gloucester, Hereford, Brecon, Glamorgan, Worcester, Somersetshire, Wiltshire, and Devonshire,—the river and the estuary of the Severn, with Kingroad and the broad Bristol Channel expanding into the great ocean. The scenery of the winding river, which washes the foot of the mighty cliff on which you stand, is seen to a great extent,—and at this grand point we take our leave of the lovely Wye.

[Chepstow Castle.]
Soho, although essentially appertaining to the great manufacturing town of Birmingham, is situated about two miles from the centre of the town, upon the road to Wolverhampton, and although but a few yards beyond the parish of Birmingham, is in a different county—that of Stafford.

The declivity of the hill which is now covered with the buildings and plantations of this magnificent establishment, was, previously to 1757, a barren heath occupied only by rabbits and by a warrener, whose hut was on the summit. In that year, the spot with some contiguous land, was leased for ninety-nine years to Messrs. Ruston and Evans, who erected a house and a mill for rolling metal. In 1762 the whole was bought by Mr. Boulton, who rebuilt and enlarged the mill, and soon after removed his manufactury thither from Birmingham; but the works not being found sufficient for the vast undertakings upon which his increasing means enabled him to enter, he laid the foundation of the present manufactury in 1764, and it was finished in the following year. Mr. Boulton at the same time erected a handsome private house for his own residence. The manufactories consist of four squares, with connecting ranges or rather streets of warehouses, sufficiently extensive for the accommodation of 1000 workmen, and where upwards of 600 are usually employed.

No expense has been spared to render the works uniform and handsome in architecture, as well as neat and commodious. The same liberal spirit and taste have been displayed in the adjoining gardens and pleasure-grounds, and render Soho much admired for its picturesque beauty. Warner, in his 'Tour through the Northern Counties,' praises the commanding situation of the house, the tasteful disposition of the grounds, and the manufactories "as striking for their neatness as magnificence," and adds, "the different features of the place form a strikingly fine whole, both grand and beautiful; the more interesting when we consider that it is entirely the creation of modern years, formed by the combined operation of taste, science, and wealth, out of a desolate heath inhabited only by a colony of rabbits." We are glad to find the same writer afterwards saying, "As much praise is due to the highly-gifted proprietors of
Soho for their attention to morals as to scientific improvements in their extensive works, which has shown itself in the orderly and citizen-like behaviour of the little army of labourers employed upon them. All is decorum, cleanliness, and decency throughout the works; the pleasing effects of good example and wise regulations." This, which was written in 1801, is not less true now.

At the commencement of this great manufactory its productions were only such as were usually made by the artists in this part of the country, namely, buttons, buckles, watch-chains, trinkets, and articles of a similar description. In a short time, however, the manufacture of plated wares on a large scale was likewise introduced; and when these and other useful branches of manufacture had been firmly established, the proprietors (for Mr. Boulton had by this time been joined by a Mr. Fothergill) began to bring forward works of elegance and grandeur in bronze and ormolu. Partnership with Mr. Boulton commenced: "At the commencement of this Act of Parliament I commenced a partnership with Mr. Boulton, which terminated with the latter's death, but with the advantages he there enjoyed he soon produced inventions of no less novelty and of much more importance than the former. The invention of the steam-engine has been a prominent article among the many necessary to erect, at a convenient distance, an iron tendency of the steam-engine here, but may state a few facts which will illustrate the nature of the connexion of that mighty and universal agent with Soho. When Watt's partner, Dr. Roebuck, became unable to render him the stipulated assistance in his undertakings in consequence of the pecuniary embarrassments which followed the failure of some mining speculations in which he had engaged, Watt was so much discouraged, that he was on the eve of abandoning the further prosecution of his plans. Mr. Boulton had at this time become well known as one of the most intelligent and enterprising manufacturers in the kingdom; and, with the consent of Mr. Watt, a negotiation was opened with him and was brought to a conclusion in 1773, when Dr. Roebuck resigned his share of the steam-engine patent to Mr. Boulton on terms very advantageous to himself. This was one of the most happy events in the career of Watt, for his new partner was a man of wealth and of great personal attractions, a man of great genius and ardent mind," says Playfair, "he adduced an uncontradicted instance for undertaking what was great and difficult. Mr. Watt was studious and reserved, keeping aloof from the world; while Mr. Boulton was a man of address, delighting in society, active, and mixing with people of all ranks with great freedom and without ceremony. Had Mr. Watt searched all Europe he could not have found another person so fitted to bring his invention before the public in a manner worthy of its merit and importance; and, although of most opposite habits, it fortunately so happened that no two men ever more cordially agreed in their intercourse with each other." Watt himself more than confirms this account of the "princely Boulton," whose name occupies no second place among those of the large-minded and honourable men to whom our various manufactures are indebted for the introduction and improvement. When, in 1809, he finally closed his long and active career, Watt took an opportunity of speaking of his obligations to his lamented friend. He alludes in the first instance to the renewal of his patent, which was obtained from Parliament about the time that his partnership with Mr. Boulton commenced: "At the procuring of this Act of Parliament I commenced a partnership with Mr. Boulton, which terminated with the latter's death, but with the advantages he there enjoyed he soon produced inventions of no less novelty and of much more importance than the former. The invention of the steam-engine has been a prominent article among the many necessary to erect, at a convenient distance, an iron plate has been a prominent article among the many rich productions of Soho, to the extension of which far beyond the limits that at first seemed probable the steam-engine has since, in no ordinary degree, contributed.

To the steam-engine we now come, for it was at Soho that Watt was enabled to mature his plans and carry them into full effect. We cannot of course enter into the history of the steam-engine here, but may state a few facts which will illustrate the nature of the connexion of that mighty and universal agent with Soho. When Watt went to Birmingham, part of the establishment at Soho was appropriated to his use, and with the advantages he there enjoyed he soon produced some capital engines. They came but slowly into use, but in time found their way into the mines and manufactories all over the kingdom. It was ultimately found necessary to erect, at a convenient distance, a steam-engine has since, in no ordinary degree, contributed.

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JOHN KYRLE—"THE MAN OF ROSS."

[In our last Supplement we gave an account of the principal works of this eminent benefactor to the town of Ross, and we now add a few notices of his personal habits and character, which we trust will not be uninteresting.]

The Rev. T. D. Fosbroke, in a local guide-book, which is superior to the generality of such works, has collected several little particulars concerning the hearty social old bachelor, on which occasion, but common in the cost of his dinner, he used to walk from his door to the fields and back again several times a day.

He disliked crowds and routs, but was exceedingly fond of snug social parties, and of drinking his friends upon the market and fair days. He was also exceedingly pleased with his neighbours dropping in without ceremony, loved to make a good long evening of it, enjoyed a merry story, and always seemed sorry when it was time to break up. His dishes were generally plain and according to the season, but he dined lightly and went to bed early. He never had roast beef on his table save and except on Christmas day and malt liquor and good Herefordshire cider were the only beverages ever introduced. At his kitchen fire there was a large block of wood, in lieu of a bench, for poor people to sit upon; and a piece of boiled beef, and three pecks of flour, made into loaves, were given to the poor every Sunday. The number he chose at his "invitation dinners" was nine, eleven, or thirteen, including himself and his kinswoman, Miss Bubb; and he never cared to sit down to table without a person of his own estimation there. The following is a fragment of the manuscript which he framed as made one of those numbers. He not only superseded the labours of the road-makers, planters, and gardeners, but commonly took an active part in them himself, delighting above all things in carrying a huge watering pot to water the trees he had newly set in the earth. "With a spade on his shoulder, and a glass bottle of liquor in his hand, he used to walk from his house to the fields and back again several times a day."
The river Salza, or Salzach, rises in the mountains of the Tyrol,—but it is in Austria Proper that it runs the greater part of its course, at first pursuing a westerly direction, parallel with the Noric Alps, and then flowing northward at no great distance from the Bavarian frontier, until it joins the River Inn, which forms the north-eastern boundary of Bavaria.

The tourist who is already familiar with Switzerland would find much to delight and interest him if, after lingering some time in the Tyrol, he were to track the Salza from its source on Mount Brenner to its junction with the Inn, especially as this is not a beaten track with tourists. The valleys of the Tyrol are more extensive and magnificent than those of Switzerland—
seventy or eighty miles long, and sometimes eight to
fifty broad. The climate near the source is
severe, and the snow lies there for several months. In the
summer, about the first of June, it has become very thin,
and the sirocco occasionally penetrates even to these
regions; but it seldom lasts more than a few hours,
and though sensibly felt, its effects are greatly lessened,
and its power is chiefly shown in melting the snows and
causing a sudden flood. The Salza begins to be
navigable at Hallein, about twenty miles above the Inn.
At five miles from its junction it passes by Salzburg, Celebrated for its salt-works. The Waterfall of Golling is
its most picturesque point, a few miles from Hal¬
lein, near a mountain which rises 2572 feet above
the level of the sea. Notwithstanding its grandeur, and the
bold and romantic scenery which surround it, it is com¬
paratively little known, owing to its not lying in the
usual path of tourists. The stream, as is shown in our
view, has perforated the rock in its descent, and falls in
a sort of curtain over the lower part of it into the chan¬
nel at the foot. The annexed view was taken on the spot.

ILLUSTRATIONS OF TOBACCO-SMOKING.

There is certainly no human habit with which so
many curious considerations are connected as with that
of tobacco-smoking. The habit is more perfectly arti¬
cial than almost any other in which man indulges; and
there are few which are more repulsive to the
natural taste. It is generally disagreeable to those
who do not practise it; those who do, have, in the
first instance, acquired it with effort and difficulty; and
many of those who try are unable to acquire it at all.
Now the wonder is, how it happens that a habit of this
description, which seems to contain in itself fewer
elements of propagation than almost any other, should
exceed all others in the extent of its diffusion. In
extent, it embraces the circumference of the globe; it
comprehends every class of people,—from the most
savage to the most refined,—and includes every climate,
from Siberia to the equator, and from the equator to the
extreme south.

What renders this the more surprising is the com¬
paratively recent period within which the habit has
become thus extended: 250 or 300 years is a short
time for a habit to gain all but universal prevalence.
We have given some attention to the history of this
habit, regarding it as a sort of phenomenon well
worthy of the best attention that could be applied to
it; and the result is, that we see no reason to doubt
that America is the source from which the usage has
extended to all other countries. Having witnessed
the devotion to the use of this herb of the entire population
in Turkey, Persia, and other eastern countries, and the
refinements which they have thrown into the art of
smoking, we were at one time disposed to question
whether the usage could be so recent in the East as we
know it to be in Europe, particularly as it seems
difficult to form an idea of a Turk or Persian separately
from the use of tobacco. It is a habit, and which occupies so serious a portion of his time and
attention. It has indeed been contended that the East
did possess the herb before the use of it was imported
from America into Europe; but we are persuaded that
this is an error. Tobacco-smoking is never mentioned
in Oriental works of an earlier date, which minutely
describe the usages of the Orientals—The Arabian
Nights' Entertainments,' for instance; neither is it
noticed by any old travellers, although, from the promi¬

The valley of the Salza is extensive, and the river is
rendered impetuous by passing alternately through ra¬
vines and mountain defiles. The climate near the source
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view, has perforated the rock in its descent, and falls in
a sort of curtain over the lower part of it into the chan¬
nel at the foot. The annexed view was taken on the spot.

ILLUSTRATIONS OF TOBACCO-SMOKING.

There is certainly no human habit with which so
curious considerations are connected as with that
to have been tobacco-smokers for many ages. But there
was probably some misunderstanding here, either on
the part of Bell or his informants. They may certainly
have had the habit of smoking, but hardly of tobacco¬
smoking. They might formerly, as now, have com¬
posed other substances than tobacco; and the assertion, as
made or understood, did not perhaps distinguish
between the general habit of smoking and the par¬
ticular use of tobacco. There is every probability that
the Chinese first received tobacco from India, to which
country the seeds of the plant were first taken by the
Portuguese in the year 1599.

For nearly thirty years subsequently to that period
the Portuguese were in the Persian Gulf, and it appears to have been during this time that the
use of tobacco was introduced into Persia. We may
presume that the Portuguese created the taste, and
supplied the commodity from India; besides which the
Persians themselves had then, and always have had,
much personal intercourse with that country. This is
not merely a matter of conjecture, for, in 1628,
two years after the expulsion of the Portuguese from the
gulf, we find the Persians still obtaining large supplies
of tobacco from India. Sir Thomas Herbert, who
that year in Persia, relates the following circumstance
which occurred at Cashin. "It seems that forty camels,
entering laden with tobacco out of India, (the drivers
being ignorant of a late prohibition, the king some¬
times commanding and restraining as reason of state
invited,) Mamet Ally-beg, the favourite (wanting his
pipach), commanded the penalty to be executed, which
was to crop their ears and snip their noses; offering
therefor his aniseed, which was put into a deep hole that
served as a pipe, and being inflamed, in a black vapour
was given the citizen gratis for two whole days and nights,
unpleasing incense."

The Turks seem to have received the habit and the
commodity immediately from Europe, about the same
time that Persia received it from the East. Indeed,
the inhabitants of Eastern Turkey may have taken it
from the Persians, or in the same way that the Persians
themselves did. Sir Thomas Herbert, when at Bagdad,
(which, a few years before, had been in the possession
of the Persians,) mentioning the coffee-houses, which
he calls "Coho-houses," where the inhabitants assemble
towards evening "to sip coffee, a Stigyan liquor, black,
rich, and bitter," says, that in these houses they also
inherited themselves with arrack and tobacco. Sandys,
an earlier authority, who was at Constantinople in 1610,
is more explicit and satisfactory on the subject, and
expressly describes tobacco as a habit newly acquired
by the Turks. He says, "They also delight in tobacco:
they take it through reeds that have joined unto them
great heads of wood to contain it,—I doubt not but
lately taught them, as brought them by the English;
and were it not sometimes look into (for Morat Bassa
not long since commanded a pipe to be thrust through
the nose of a Turk, and so to be led in derision through
the city), no question but it would prove a principal
fashion amongst the Turks, and so are ignorant therein,
that that which in England is not saleable doth pass here among them for most

Present. It seems that the men neglected to purchase his
convenience.
excellent." This probably means no more than that the Turks did then, as they and other eastern people still do, prefer a milder kind of tobacco than that which has been commonly used in England. The pipes he describes are just the same as those now in common use, except that the large bowl is now of earthenware. We on our part have also retained the use of the original diminutive and slender pipes, the small capacity of which is adapted rather to the extreme dearness of the commodity when first introduced than to its comparative cheapness at present.

In England, the habit of smoking was first introduced about the year 1578, according to Stow, who adds that Sir Walter Raleigh was the person that brought it into use, when all men wondered what it meant. Yet he says, in the same page, that tobacco was brought to England, and made known there in 1566 by Sir John Hawkins. He probably means that it was brought in 1566 as a curiosity, and in 1578 as an article of consumption.

Stow, who speaks of tobacco as "a stinking weed, so much abused to God's dishonour," seems to say that the use of tobacco gained ground but slowly during the reign of Elizabeth; but adds that, when he wrote (1631), it was "commonly used by most men and many women:" at any rate it does not seem to have met with any serious opposition in the Queen's time. Speiser, in the 'Facry Queen,' calls it "divine tobacco," whether he indulged in the use of it does not appear, but he probably spoke thus respectfully of it out of compliment to his friend and patron Sir Walter Raleigh. Tobacco, however, has everywhere had a storm of opposition to encounter at some period of its history in every country. It was not exempt in England from this its peculiar lot. James ascended the throne, and tobacco was called "divine" no more. About the time that the Turkish Vizier was thrusting were to invite the devil to a dinner he was writing a book against the digerature. "The next extract is richly characteristic both of the king and the custom.

"It is not the greatest sin of all, that you, the people of all sorts in this kingdom, who are created and ordained by God to bestow both your persons and goods for the maintenance both of the honour and safety of your king and commonwealth, should disable yourselves in both. In your person that you are not able to ride or walk the journey of a Jew's sabbath, but you must have a reekie coal brought you from the next post house to kindle your tobacco with. * * * Now you are by this custom disabled in your goods, let the gentry of this land bear witness, some of them bestowing three, some four hundred pounds a year upon the precious stink, which I am sure might be bestowed upon many far better uses."

This seems hardly credible, and Brand suggests that Scotch pounds are intended. This is possible; but we are to bear in mind that tobacco was then very costly, and, as it seems, more abundantly used in the upper and middle classes than at present. Besides, it also appears that a person had to provide pipes for visitors and guests, which must have extended his expenses greatly beyond what his own indulgence of the habit required.

The following pious sentence is exquisite in its way:—

"But herein is not only a great vanity, but a great contempt of God's good gifts, that the sweetness of man's breath, being a good gift of God, should be wilfully corrupted by this stinking smoke."

The king, in concluding his fulminations against tobacco-smoking, characterises the habit as—"A custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs, and, in the black stinking fume thereof, nearest resembling the horrible Stygian smoke of the pit that isbottomless." The same monarch was wont to profess that if he were to invite the devil to a dinner he should have the following three dishes,—"1st. a pig; 2nd. a poll of ling and mustard; and, 3rd. a pipe of tobacco for digestion."

We shall give our remaining space to a few other early allusions to the use of tobacco, and anecdotes concerning it, which we have collected from various sources.

In 1616, a Derbyshire gentleman, named Peter Campbell, made his will, bequeathing to his eldest son all his household goods towards housekeeping, on the condition that if thereafter any of his brothers or sisters should take tobacco, that he or she so finding him should become entitled to the said goods or the full value of them in money. The king's 'Counterblast' probably had its effect on this person.

Lilly, in the History of his Life and Times, mentions a clergyman of Buckinghamshire who, according to this account, was a very able person, "but so given over to tobacco and drink, that when he had no tobacco (and I suppose not much drink) he would eat the bell-ropes and smoke them." This is another fact seeming to show that tobacco was a costly commodity at that time.

Francis Quarles, in his 'Emblems' (first printed in 1630), has one hieroglyphic which represents the being [quite an oriental custom this.] No, it is become, in place of a cure, a point of good fellowship, and he that will refuse to take a pipe with his fellows (though by his own election he would rather feel the savour of a stink) is accounted peevish and no good company, even as they do with tippling in the cold eastern countries. Yea, the mistress cannot in more mannerly kind entertain her servant than by giving him out of her fair hand a pipe of tobacco.'

The case being thus, the king had certainly some cause to say, "The next extract is richly characteristic both of the king and the custom."
who with him is the representative of human nature, or of mankind at large, as seated upon a globe (the world), to which he is chained by the leg. He is occupied in smoking from a pipe exactly like the present common pipes of clay. The following is the commencement of the poem which accompanies this cut:—

"Flint-hearted Stoics, you whose marble eyes
Contemn a wretch, and seek to unbind your souls,
To follow nature's too affected fashion,
Or travel in the regent walk of passion;
Whose rigid hearts disdain to shudder at fears,
Or play at fast and loose with smiles and tears.
Come, burst your spleens with laughter to behold
A new-found vanity, which days of old
No dear: a vanity so sweet,
The world, and made more slaves than Mahomet:
That has condemned us to the servile yoke
Of slavery, and made us slaves to smoke.
But stay! why tax I thus our modern times,
Our modern manners, for new-born follies and for new-born crimes?
Are we so guilty, and the first age free?
Or were they smoked and slain as well as we?
What's sweet to honest honor's breast but smoke? What's treasure, but very smoke, and what's more smoke than pleasure?"

And in this strain he goes on to the end of the chapter. The following quaint thought is quoted by Brand from an old collection of epigrams. It is entitled "A Tobacco-conist," a term which formerly described one who used as well as one who sold tobacco.

"A lady's meats I do defy
Which fully, fat as swine;
He is a frugal man indeed
That on a leaf can dine.
He needs no napkin for his hands
His fingers' ends to wipe,
That keeps his kitchen in a box,
And roast meat in a pipe."

We must conclude our illustrations with one more passage, quoted also by Brand, from an imitation of Young by Hawkins Browne, Esq.

"Critics avouch, tobacco is my theme;
Tremble like hornets at the blazing steam.
And you, court insects, flutter not too near;
Frighted, nor buried within its scorching sphere.
Polio, with flame like thine, my verse inspire,
So shall the Muse from smoke elicit fire.
Consumes the tincture of snuff, and all,
Yet all their claim to wisdom is a puff.
Lord Foping smokes not—for his teeth are afraid:
Sir Tawdry smokes not—for he wears brocade.
Fame, of our actions universal spring,
But courtiers hate the puffing tribe—no matter,
Yet crowds remain who still its worth proclaim,
He is a frugal man indeed
That on a leaf can dine.
He needs no napkin for his hands
His fingers' ends to wipe,
That keeps his kitchen in a box,
And roast meat in a pipe."

The quantity of water that continually flowed in by the present mode; for after six hours of hard work below, the additional exercise of an hour's climbing by such a multitude of houses or cottages scattered in every direction, and denoting a considerable population. We occupied some hours in observing the mode of raising the ore, and also the manner in which it is broken or crushed: the process is extremely simple. The larger pieces or blocks are broken with hammers by women, called "Bal Maidens," many of whom are very good-looking; but they seemed to require warmer clothing, and must find their occupation painful and tiresome; they were all at work in stays. When thus reduced to a small size, the ore is crushed by men, and then smelted.

Submarine Mines.—Near the Land's End is a remarkable mine, now no longer worked, at the base of the cliffs, and extending some way under the sea. To show the fearless intrepidity of the miners, I need only state that they blasted the rock upwards till they reached within two feet of the bed of the ocean, and this they ascertained by boring through the rock with an auger. The faces caused by the stones overhead when set in motion by the waves, was represented as quite astounding. The Levant Mine, not very far from this, was equally singular in respect of situation, the cliffs rising from 150 to 250 feet, and being so nearly perpendicular, that ladders are necessary to enable the miners to descend to the shaft. When the wind is high they are compelled to use great caution, for where there are no ladders the path is bad and slippery: it was a curious sight to observe the workmen emerge from the entrance, as they remained so strongly of so many ants quitting their dark abodes. This, as well as the other mines in the neighbourhood, contains copper, iron, tin, &c. Its entire depth is stated at 170 fathoms, and it extends directly under the sea.

As my fellow-travellers were otherwise engaged, I entered it alone, but there was little to excite attention, except the bursting of a boiler belonging to the steam-engine used for pumping, &c., previous to my descent, and a great rushing in of salt water while I was below. The quantity of water that continually flowed in by numerous crevices surprised me, as I could not conceive how an engine of no great power could keep the mine dry enough to admit of the people working. The way in which the guides here, and on this coast generally, approach the edge of a cliff, evinces great nerve. for they will stand on the margin of a formidable precipice, and from it regard the scene around with as much sang froid as if the height were only a few feet instead of being perhaps 200. But occasionally they pay by a dreadful death the penalty of their recklessness; and not unfrequently five or six are killed within the year.

Descending a Shaft.—Twelve miles from the above place is Huel Vor, a tin-mine, into which we descended 1200 feet; an affair of no trivial exertion, as the iron ladders were quite vertical, and their steps a footounder. The machinery for clearing the mine from water was in the same shaft, which rendered it necessary to use caution lest our dresses should be caught by the enormous rods, as an accident of this kind would have consigned one, a mangled corpse, to the bottom of the abyss. It is to be hoped that some plan will eventually be adopted to enable the miners to ascend and descend by a machine, instead of being compelled to undergo the violent labour caused by the present mode; for after six hours of hard work below, the additional exercise of an hour's climbing by such a series of upright ladders, as it were, up a large chimney, is so exhausting, that the health of the people is injured, and the term of their existence shortened. The rushing of water and noise of the machinery, which it may be easily conceived is on a stupendous scale when I state that it raises water from a depth of 1230 feet, together with the reverberation of the reports caused by the blasting of the rock, had an extremely awful effect.

Superstitions of Miners.—Some of the superstitions of miners are curious, and it would be amusing to describe their origin. In Cornwall, for instance, no person is permitted to whistle while beneath the surface.
though he may sing as much as he pleases: such is likewise the case in Mexico. In the former also a miner never says of one being precipitated down a shaft, &c., that he was killed, the out is 
removed or invariably substituted; and in Worcestershire, when an accident attended with death occurs, not a person employed in the pit or mine will work there until the body has been consigned to the grave.

Dangers in Smelting.—At Nant-y-Glo (Wales) we had an opportunity of witnessing the effect produced by the numerous fires at night; and certainly the pitchy darkness was such, that we could not have chosen a more fitting time. The strong variations of light and shade, as the height diminishes from the furnace roof rose and sunk, with the intense glare of the fluid metal, produced an appearance which might almost have justified a spectator in fancying himself in Pandemonium. It is in vain to attempt to convey even the remotest idea of this cyclopean scene by description. A large quantity of the iron ran into a mould, the bottom of which happened to be wet; and the moisture being instantly converted into steam, an explosion took place, by which the metal was thrown nearly to the roof of a loft building, from whence it descended in a fiery shower, somewhat alarming to those unaccustomed to this kind of firework. But the most singular circumstance that presented itself to our notice was the iron flowing under water, which thus occurred:—

To each furnace there are two orifices, one of which is kept closed until the metal is sufficiently fused to be run out into the mounds, the other is for the pipe or nozzle of the bellows. Upon the latter a small stream of water is allowed to fall to prevent it from becoming red hot, and the waste forms a pool. Now, in consequence of the man appointed to tap the furnace at the proper time having neglected to do so, the iron boiled up and run out from behind, beneath the water, which I considered so curious a phenomenon that I called my companions to see it. Luckily a workman observed it also, and desired us to quit the spot immediately, which painful reference to past times of enmity, I have always somehow be as well to describe it.

Another way of Descending a Shaft.—There was nothing particularly worth noticing in the appearance of the mine at Merthyr Tydvil; but we descended one shaft in a way I had not previously seen, and it may be as well to describe it. Let the reader imagine two large iron tubs secured to a strong chain, every village,—recalled most forcibly to my mind my own land, for these are her children, —this race of men, as a race incomparably superior to the other inhabitants of this country. Nor is it possible to travel through the New England states and not perceive, indeed, a spirit (however modified by different circumstances and institutions) yet most truly English in its origin. The exterior of the houses is the most English of all manifestations,—above all, the church spires pointing towards heaven, from the bosom of every village,—called most forcibly to my mind my own land, and presented images of order, of industry, of taste, and religious feeling, nowhere so exhibited in any other part of the Union. I visited Boston several times, and mixed in society there, the tone of which appeared to me far higher than that of any I found elsewhere. A were so sound in the abundant wit and wit to which character, country, and institutions bear to that fact. I added an additional reason to be proud of England,—of Old England, for these are her children,—this race of men, as a race incomparably superior to the other inhabitants of this country.

In conversation with New England people, any passing, temporary bitterness, any political difference, or painful reference to past times of enmity, I have always been struck with the admiring, and, in some measure, tender feeling with which England, as the mother-country, is called upon by the New England states and not perceive, indeed, a spirit (however modified by different circumstances and institutions) yet most truly English in its origin. The exterior of the houses was incomparably superior to the other inhabitants of this country. The exterior of the houses was the most English of all manifestations,—above all, the church spires pointing towards heaven, from the bosom of every village,—called most forcibly to my mind my own land, and presented images of order, of industry, of taste, and religious feeling, nowhere so exhibited in any other part of the Union. I visited Boston several times, and mixed in society there, the tone of which appeared to me far higher than that of any I found elsewhere. A were so sound in the abundant wit and wit to which character, country, and institutions bear to that fact. I added an additional reason to be proud of England,—of Old England, for these are her children,—this race of men, as a race incomparably superior to the other inhabitants of this country.

Dangers in Smelting.—At Nant-y-Glo (Wales) we at Ettingshall Park afforded me an opportunity of exploring the works and mines of coal and iron in this neighbourhood. I observed nothing very different from what I had previously seen, except that the houses and stacks, or chimneys, of the steam-engines used for transporting the coal were situated in a manner that could hardly fail to cause apprehension in a spectator, who, from not being aware of the cause, naturally imagines it impossible that they can long maintain such an apparently unstable position. The reason of the inclination so frequently observed is the sinking in of the ground owing to the excavations made in searching for coal, &c. These being carried under, the buildings sometimes gradually fall in; and I was informed that one morning, found that their habitation had sunk considerably at one end, though it still remained uninjured.

Our correspondent, in conclusion, speaks highly of the amusement and instruction he received during his journey, and warmly recommends a similar extension to those who have the requisite means and leisure.

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THE HYRAX, OR DAMAN.

Placed in the pachydermatous order,—an order which comprehends the hippopotamus, the elephant, the horse, and the hog,—the hyrax, or daman, presents a singular contrast, both as respects its appearance and its habits, to the huge and massive animals with which it is associated. So marked indeed is its affinity to certain of the rodentia, that Pallas placed it among the cavies, under the name of capra Capensis, and Buffon termed it "la marmotte du Cap." Following the received opinion, Hermann, though he constituted the hyrax as an independent genus, still retained it among the rodentia, nor was its true situation in the animal world discovered until Cuvier pointed it out, proving from the characters of the dentition, the skeleton, and the internal anatomy, its strict alliance to the pachydermata, while at the same time it is to be regarded as leading from this order to that with which it was formerly associated. The hyrax is undoubtedly the coney of Scripture; or rather, perhaps we should say, one of the species is the animal thus alluded to, for there appear to be two if not three distinct species, of which one inhabits the rocky parts of Syria and North Africa and the two districts adjacent to the Cape of Good Hope. Of these latter, the hyrax arboreus, or boom-dos of the colonists, differs from its congeners not only in markings, but in the circumstance of its preferring hollow trees for its abode. Whether the Syrian hyrax and the Cape hyrax be truly distinct, admits of a question. At all events they agree in habits, manners, and general appearance, so that what is spoken of one relates to the other also. The hyrax is called klip-dos, by the colonists of the Cape. The localities in which it is found are exclusively the rocky and mountain districts, the fissures and caves of which afford it an asylum. It abounds on the sides of Table Mountain, where it may be seen skipping near its burrow's mouth, or cropping the herbage; on the least alarm, however, it instantly retreats to its strong hold, whence it cannot be dislodged without the greatest difficulty. So seldom, indeed, is the hyrax captured, that its appearance in Europe is very rare,—while animals much more scarce in the countries where it abounds are of common occurrence in our menageries. Quick, watchful, and active as the hyrax is, it is frequently captured by the ferocious animals which lurk around its abode, and still more frequently by the larger birds of prey, which pounce upon it before it is aware of their approach. The eagle, whose nest is on the inaccessible pinnacle of the rock, at the base of which the unsuspicious hyrax is frolicking, marks her victim as she sails around her eyrie, and with a swoop rapid as the fall of an aerolite, lays it prostrate, grasps it in her talons, and mounts with it to her young.

We have seen more than one example of the hyrax...
of the Cape in captivity. Gentle and inoffensive, it exhibited a very limited share of intelligence, but was playful, and not without a demonstration of attachment to those with whom it was familiar. Its actions, and indeed its general aspect, much resembled those of a rabbit, with which animal it agrees in size. The Syrian hyrax we have never seen; but Cuvier says that he can discover no difference between it and its South African relative, and evidently considers them as identical, which is the more probable, as the hyrax from Abyssinia, said to be the same as the Syrian, and which we have seen, is not to be distinguished. In the general contour of its body the hyrax is stout and thickly set. The limbs are short, the toes on each foot are four before and three behind, all being tipped with little slender hoofs, except the inner toe on each hind foot, which is armed with a long crooked nail. The head is large and thick, the eyes of a moderate size, the ears short and rounded; the teeth consist of molars and incisors, the former bearing a close resemblance in miniature to those of the Rhinoceros. The incisors are two above and four below; the two in the upper jaw are strong, elongated, and pointed, having a great resemblance to canines; their situation being lateral, a wide interval separating between them. The incisors of the lower jaw are in pairs, separated by a small interval; they are flat, with indented edges. It has no tail. The general colour of the fur, which is soft and thick, is a dark greyish brown, becoming paler beneath. Our sketch is from nature.

BATHING AND SWIMMING.

Although the external use of water for the purposes of health and cleanliness must have been common in all ages and nations, the practice of bathing, as a luxury or as a remedy, appears to have been entirely confined to the polished nations of Europe and Asia. In the early records of antiquity, mention indeed is made of bathing, either as a religious ceremony or as the means of fortifying the body against the hardships and fatigues of war; but with these views the cold bath alone, to which we shall confine our attention, must in the first instance have been employed. The practice of bathing was strictly enjoined under the Mosaic laws. On various occasions it is mentioned in the Scriptures as a remedy for certain diseases*. In the capital of the Roman Empire there were many public baths, some of which were capable of containing a great number of persons. These establishments were regulated by the legislature, as they were among the Greeks and Spartans. The latter in particular did not deem it expedient to intrust bathing to the caprice of individuals, but considered it as a public institution, which was governed and arranged according to positive laws. We learn also from sacred history that, among the Jews, at a much earlier period, persons under certain circumstances were pronounced unclean, and consequently unfit to hold any intercourse or communion with others till they had performed the appointed ablutions. The Greeks, according to their own historians, learnt the practice of bathing from the Egyptians, as the Romans learnt it from the Greeks. With those celebrated nations public and private baths formed an important branch of useful and ornamental architecture: many opulent individuals courted the favour of the people by lavishing their treasures in the establishment of public baths, and to this day are frequently discovered the valuable remains of these national edifices. Among the Romans, the baths were in time converted into regular and luxurious dwellings, in which the sons of the patricians, or noblemen, and of the wealthy, were educated.

The change which the contact of cold water produces on the body naturally leads us to inquire into the physical nature and properties of the cold bath. But as this subject has been fully considered in the article Bathing in the *Penny Cyclopædia* we shall touch but lightly upon it here. The lightest water is at least 800 times heavier than air, from which it has been concluded that the former presses upon the human body with a force proportionally great. If, therefore, the column of air which presses upon our body with a weight of 39,000 lbs. could be converted into water, the whole weight of that pressure would amount to 31,200,000 lbs. Yet, as our health is affected by a difference in the pressure of the air, occasionally varying from 3000 to 4000 lbs., it may be easily understood that the human body is not calculated to sustain, for any length of time, the great pressure of water. For this reason, the most experienced negro-divers dare not venture beyond a certain depth of the sea, well-knowing it would be impossible to rise up against the additional pressure of water incumbent on their bodies.

Sixty-five degrees of Fahrenheit is the temperature which is most generally employed for the cold bath in this country. Now, when a person in the ordinary state of health is immersed in a cold bath, he first experiences a general sensation of cold, which is almost immediately succeeded by a general sensation of warmth, the latter rapidly increasing, so as to cause the surrounding water to feel of an agreeable temperature. This warm glow, or increase of animal heat, which so generally follows the sensation of cold experienced on the sudden application of the cold bath, is to be ascribed to the reaction of the system, which enables it to resist an external impression by which it might be injured: this reaction is in proportion to the intensity of the cause by which it is excited, and to the vigour of the vital powers, of which it constitutes a peculiar effort. It is this reaction of the system which enables the body to derive advantage from the application of the cold bath; and where the reaction does not take place, or takes place only in a small degree, the cold bath has been injudiciously employed; hence, where the system has been debilitated by long-continued exertion or disease, the cold bath should be avoided; and when, after the use of the cold bath, a person feels heavy, inactive, or chilly, or finds himself affected with head-ache, or tightness across the chest, it is evident it does not agree with him, or that he has continued it for too long a time.

From what has been premised, it appears that the use of the cold bath is attended with the following effects:—a sudden and powerful shock is given to the body on the first immersion;—a sudden abstraction of heat takes place from the surface, and a sudden increase of blood to the interior parts;—a reaction of the system counteracts the shock and restores the diminished temperature. In its general and primary effects, therefore, the cold bath, judiciously used, acts as a powerful stimulus to the whole system by rousing the vital powers to exertion, and thus to effect its advantages as a remedy are chiefly to be ascribed.

The best method of cold-bathing is in the sea or a river. While in the water, we should not remain inactive, but move about in order to promote the circulation of the blood from the centre of the body to the extremities. After immersion, the whole body ought to be wiped as quickly as possible with a dry and somewhat rough cloth.

Dr. Franklin is of opinion that it is never too late to learn the use of the bath; and in this opinion he is amply borne out by the specific gravity of the different parts of the human body. The legs, arms, and head, being solid parts, are specifically somewhat heavier than fresh water; yet the trunk, particularly the upper part, from...
its hollowness, is so much lighter than water, as that the whole of the body, taken together, is too light to sink wholly under the water, but some part will remain above until the lungs become filled with water. This happens from drawing water into them instead of air, when a person in his fright attempts breathing while the mouth and nostrils are submerged. The legs and arms are specifically lighter than salt water, and will be supported by it; but that a human body could not sink in salt water, even though the lungs were filled with water, if it were not for the greater specific gravity of the head; consequently a person throwing himself upon his back and extending his arms may easily lie so as to keep his mouth and nostrils free for breathing, and, by a slight motion of his hands, may prevent his body turning, if he should perceive any tendency towards it. But in fresh water, if a man throws himself upon his back near the surface, he cannot long continue in that situation but by a proper action of his hands on the water; if he uses no such action, the legs and the lower part of the body will gradually sink till he comes into an upright position, in which he will continue suspended, the hollow of the chest keeping the head uppermost. But if, in this erect position, the head is kept upright above the shoulders, as when we stand on the ground, the immersion will, by the weight of that part of the head that is out of the water, raise the lower part of the body and nostrils, perhaps a little above the eyes, so that no one can long remain suspended in water with his head in that position. But with the body suspended in this manner and upright, if the head be thrown quite back, so that the face looks upwards, all the back part of the head will then be under water, and its weight being in a great measure supported by it, the face will remain above water quite free for breathing. It will rise an inch higher at every inspiration and sink as much at every expiration, but never so low as that the water may come over the mouth. When a person who is unacquainted with swimming accidentally falls into the water, if he could summon up sufficient presence of mind to avoid struggling and plunging, and to let the body take this natural position, he might thus remain for a long time safe from drowning,—till, perhaps, assistance might arrive. For, as regards the clothes, their additional weight, while immersed, is very inconsiderable, the water supporting it, although they are very heavy indeed when taken out of the water. But it is not advisable for any one to depend on having this presence of mind on such an occasion, and he should fairly learn to swim. He would then, on many occasions, be the safer for having that skill, and on many more the happier, as being more free from painful apprehensions of danger, to say nothing of the enjoyment in so delightful and wholesome an exercise. Independently of its being an useful exercise, it has the additional advantage of a cool motion. The motion and muscular exertion which it requires increase its utility: some rules and precautions, however, must be attended to. Some of these have already been stated, and it is only necessary further to remark, that no one who prefers a plunge should enter the water with the feet, but with the head foremost,—the body should neither be too warm nor too cold;—dangerous rivers and ponds should be avoided for this exercise, nor ought the water to be entered into the rays of the sun have in some degree warmed and rendered more temperate.

One very great danger to bathers proceeds from cramp. When attacked with this spasmodic sensation, the means of obtaining relief are, to give the affected limb a few sudden, vigorous, and violent shocks, out of the water if possible; and, if this does not succeed, the swimmer must turn on his back and continue these exertions. Friction, or rubbing the limbs, before going into the water, with a coarse towel, is a preventive of cramp. It is often observed that the best swimmers are frequently drowned; and it is true that they often are lost in their efforts to save those who cannot swim. In order that a swimmer may not become a victim to his humane efforts, he must guard against approaching the drowning person in front that he may not be grasped by him, for a drowning person holds with convulsive force. He ought to seize him from behind, and let him loose immediately if he turns upon him. If the space to be passed be great, he should seize him by the foot and drag him, turning him on his back. If the drowning person has seized the swimmer, there is no other resource than his dropping to the bottom and there to wrestle and disengage himself. The drowning man endeavours to keep the surface, and instinctively quits his hold when drawing under water.

It is no less a subject of remark that, to whatever excellence men may attain in swimming, or if it be natural to them to swim, that almost all persons are drowned while they are coming into the water if they are not rescued by others, or if they have not previously learnt to swim. Terror is the obvious cause of this. We have already shown that the human body, on physical principles, must float if not prevented by our own exertions; and that a man lying perfectly quietly on his back, with his arms extended, in salt water, will float with his mouth and nostrils above the surface free for respiration; and he can equally do the same in fresh water by a slight motion of his hands. If, therefore, a person who finds himself immersed in the water and cannot swim would endeavour to become tranquil and quiescent, instead of being pressed by terror to make use of exertions calculated to exhaust and drown him, he would be safe. The suddenness and force of the fall in the water will at first sink him, but immediately afterwards he rises to the surface, and generally has then an unfortunate propensity to look down, and in a manner to embrace the water,—or he keeps throwing his arms above the water, as if to catch at something, by which means he loses all the buoyancy of his arms, which are one-tenth of the whole body. Individuals thus circumstances should, by every means, keep themselves in an upright standing position, with the head thrown back, reclining on the surface, and they will easily float with the face entirely above the water.

The only difficulty they will find will be to preserve the due balance of the body, which, however, may be effected by placing one leg before the other, as if in the act of beginning to walk, and by extending the arms laterally under the surface of the water, always keeping the head resting backwards on the water.

THE ALHAMBRA.

The city of Granada, in Andalusia, the most southern province of Spain, was built in the tenth century by the Moors; and in 1235, after having previously belonged to the dominion of Cordova, it became the capital of a new empire. It stands under the shelter of the Sierra Nevada, at the extremity of a plain which is described by the Arabian writers as having been in their time a terrestrial paradise. It was watered by rivers and brooks, and in every direction appeared villages and gardens, adorned by elegant buildings and the most beautiful trees and plants. Of the city itself they say language could with difficulty describe how delightful it was rendered by the softness of the air, the mildness of the climate, the bridges over the river, the splendour of the temples, and the convenience of the market-places. There was a garden attached to every house, planted with orange, lemon, citron, laurel, myrtle, and other odoriferous trees and plants, whose fragrance was diffused through the air, and...
promoted the health of the inhabitants. All the houses were supplied with running water, and in every street, through the munificence of successive sovereigns, there were copious fountains for the public convenience, and for the performance of religious ablutions. In short, it is added, whatever could tend to promote convenience and comfort was to be found in Granada. But Granada was not only noted for its pleasantness, its comforts, its abundance, and the glories of its architecture, but as the principal seat of Arabian learning, art, and science. Its library was highly celebrated, and the names and works are on record of 120 persons whose literary talents gave dignity and reputation to the university of Granada.

This was the noble city where the Moors of Spain made their last stand for empire, or rather for a continued existence in the country which long possession had endeared to them as their own. The rest of their large possessions had been torn piecemeal from their grasp, and Granada, the city of their love and pride, alone remained. They held it out for a year against Ferdinand and Isabella, but were compelled by their privations to yield up the town in 1492. The inhabitants obtained favourable conditions in the first instance, and were allowed to remain in possession of their property and dwellings. But some of the most important stipulations being afterwards infringed by the Christians, who also began to coerce them on the
The Moorish palace of the Alhambra, the object of their most cherished recollections, and most intense desires; and every Friday they have been accustomed to offer up their supplications to Allah for the recovery of that blessed city. The descendants of the last Sultan of Granada were absolute paupers in the town of Fez little more than a century after the fall of their ancestors' kingdom. Although the glory and prosperity of Granada may be said to have departed with its old inhabitants, yet happily it still retains in pretty good preservation what formed its chief ornament in the time of the Moors.

This is the Alhambra, the royal alcazar, or fortress and palace, which was founded by Muhammad Abū Abdillāh Ben Nasr, the second sovereign of Granada, who defrayed the expense of the works by a tribute imposed upon his conquered subjects. He superintended the building in person, and when it was completed he made it the royal residence. He also fortified the mountain on which it stands, and, during the whole of his reign, devoted an ample portion of his revenues to its completion and improvement. The immediate successors of this prince also took delight in embellishing and making additions to the fabric. Since the conquest of Granada by the Christians, the Alhambra has undergone some alterations. It was for a time occasionally inhabited by the kings of Spain. Charles V. probably intended to make it his constant residence: he caused it to be repaired, the roof was renewed, the fountains ceased to play. "The walls remain unaltered, except by the injuries in its perfect state, must have seemed like a scene of enchantment or a dream; halls and galleries, porticoes, arches, mosaics, with plants and flowers, which the ancients' king of Spain, makes an interesting comparison between its condition and that of the Moorish palace. He says that like the rest of the Alhambra, it is falling rapidly to decay through neglect. "At present the walls are defaced, the paintings faded, the wood-work is decayed, and festoons of cobwebs are seen hanging from the ceilings. In the works of the Arabs, on the contrary, the walls remain unaltered, except by the injuries inflicted by the hand of man. The colours in the Alhambra are derived from various hues, being seen in various extensive views, in the work of the masons, or the effect produced when the pure inferior current forced upwards. Also the governor himself has resided in the city, and the fortress is merely occupied by a few invalid soldiers, whose principal duty is to guard some of the outer towers which are occasionally used as a state prison. The French, much to their credit, did what they could to put the building in repair, and arrest the further progress of decay. "The roofs were repaired, the saloons and galleries protected from the weather, the gardens cultivated, the water-courses restored, the fountains once more made to throw up their sparkling streams; and Spain may thank her invaders for having preserved to her the most beautiful and interesting of her historical monuments."

We have hitherto spoken chiefly of the Alhambra as a palace; but it is to be understood that in the extensive sense the name applies to a fortress, a sort of city in itself, and was indeed considered one of the four quarters into which the city of Granada was divided, and it is said to have afforded accommodation within its walls for a garrison of 40,000 men. This may be doubted; but the fortress is still a little town containing several streets of houses, with a parish church and a Franciscan convent. The palace, situated upon the northern brow of a steep hill, overlooks the city of Granada on one side, and on the other commands an extensive view over a most charming country. All the wonders of this palace lie within its walls. Externally, according to the account of Swinburne, it appears as a large mass of irregular buildings, all huddled together without any apparent intention of forming one habitation. The walls are entirely unornamented, of gravel and pebbles coarsely over-daubed with plaster. The result of this is, in the end, rather satisfactory to the visitor than otherwise, as it enhances, by contrast, the effect which the elegance and splendor of the interior is calculated to produce. We cannot trace the successive courts and apartments through which the visitor passes as he penetrates to the interior, or attempt to enumerate its separate claims to notice. Something of this sort has already been done in the article Alhambra in the 'Penny Cyclopædia,' where there are also woodcuts of one of the gates and the principal hall. We shall therefore limit ourselves to a general statement, mainly derived from 'The History of the Mahometan Empire,' which serves as an introduction to Murphy's splendid work on the 'Arabian Antiquities of Spain.'

The general arrangement of the buildings which compose the palace is exceedingly simple. The courts, for instance, which in our mansions are dull and uninteresting, are here so planned as to seem a continuation of the series of apartments; and as the whole is on the same level throughout, the prospect through the building, in its perfect state, must have seemed like a scene of enchantment or a dream; halls and galleries, porticoes and columns, arches, mosaics, with plants and flowers, variegated hues, being seen in various extensive views through the haze arising from the miasmata and the floating miasma, and tempering the aridity of the atmosphere; and in others spreading out in the midst of the court in a large oblong sheet, reflecting the surrounding objects and the serene blue sky.

In every apartment two currents of air were continually in motion, apertures being formed near the ceiling to discharge the warm and unwholesome air which the pure inferior current forced upwards. Also by means of tubes of baked earth placed in the walls, warmth was diffused from subterraneous furnaces, not...
only through the whole range of the baths, but to all the contiguous apartments where warmth was required. The doors were large, but rather sparingly introduced; and, except on the side towards the precipice, where the prospect is very grand, the windows are so placed as to confine the view to the interior of the palace. The object of this is declared in an inscription in one of the apartments, which says:—"My windows admit the light, but exclude the view of external objects, lest the beauties of nature should divert your attention from the beauties of my work."

In this "mansion that in beauty surpasses all others"—the delightful mansion," as another inscription describes it, the elaborate arabesques and mosaics, which cover the ceiling, walls, and floor, give a consequence and interest even to the smallest apartment. Instead of being papered or wainscotted, the walls are pervaded with that peculiar ornament which, from the Arabs, has been denominated "arabesque," and which had been cast in moulds and afterwards joined together, although no separation appears. The receding ornaments are illuminated in just gradation with leaf-gold, pink, light blue, and sky blue; the first colour is the lightest, the last the most distant from the eye; but the general surface is white. The domes and arcades are also covered with ornamented casts, which are almost as light as wood and as durable as marble. The accuracy with which these most elaborate and extensive arabesques have been fitted into each other, the almost endless multiplication of geometrical forms produced by their combination, and, perhaps more than all, the perfect state of the most delicate parts of the workmanship, and even of the finest wood-work, suffice to demonstrate that arts of ornamental architecture have existed of which we know little and can but imperfectly imitate.

The lower part of the walls, to the height of about four feet, is covered with porcelain mosaics of various figures and colours: and it appears from a few remaining fragments, that the floors and walls of some of the apartments were also covered with similar mosaics. "The Arabs," observes Murphy, "took great pleasure in these decorations, a luxury unknown to their Gothic contemporaries, who skirted their halls with mats, and covered their floors with bulrushes."

THE 'PANCHA TANTRA.'

This is the name of the most ancient collection of Indian fables, which has formed the groundwork of the various modifications in which the fables of Pilpay—more properly Bidpai—have been presented to the world. There is indeed, even in India, an epitome or summary in the Pancha Tantra. It is indeed one of the delightful mansions," as another inscription describes it, the elaborate arabesques and mosaics, which cover the ceiling, walls, and floor, give a consequence and interest even to the smallest apartment. Instead of being papered or wainscotted, the walls are pervaded with that peculiar ornament which, from the Arabs, has been denominated "arabesque," and which had been cast in moulds and afterwards joined together, although no separation appears. The receding ornaments are illuminated in just gradation with leaf-gold, pink, light blue, and sky blue; the first colour is the lightest, the last the most distant from the eye; but the general surface is white. The domes and arcades are also covered with ornamented casts, which are almost as light as wood and as durable as marble. The accuracy with which these most elaborate and extensive arabesques have been fitted into each other, the almost endless multiplication of geometrical forms produced by their combination, and, perhaps more than all, the perfect state of the most delicate parts of the workmanship, and even of the finest wood-work, suffice to demonstrate that arts of ornamental architecture have existed of which we know little and can but imperfectly imitate.

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This is certainly a good apologue of its kind as one will readily meet with in any collection.
The second section, relating to the Acquisition of Friends, describes the process by which a warm friendship was formed between a crow, a rat, a tortoise, and an antelophe, and the mutual services by which they became endeared to each other. This part, in all the different copies, seems to be more sentimental, controversial, and literary than any of the others. The beasts in Hindoo fables certainly eclipse those of western fabulists in their education and acquaintance with books. The principal distinction between the western and oriental fabulists, in their use of animals, seems to be that the actions of the animals in the latter are more natural than in the former, while their speech is much less so. In the Indian fables no erudition is considered unsuitable for any beast to utter.

The third section, on Inveterate Enmity, has its fables linked together by the account of a war between the crows and owls, occasioned by the successful interference of a crow in preventing the owl from being chosen king of the birds, and ending in the destruction of the owls by their more crafty adversaries. It contains one story which has been imitated by European writers; and the corresponding section in the 'Hitopadesa' contains a fable of an ass in a tiger's skin, analogous to that of the ass in a lion's skin in our own well-known fable. The same fable also occurs in the following section of the 'Pancha Tantra' itself. The fables which Mr. Wilson gives as specimens of this section, and the fables in the 'Hitopadesa' and in the Arabic version, which he points out as taken from 'Pancha Tantra,' are either too long or pointless, or otherwise unsuitable for our pages.

The fourth section relates to 'The loss of that which has been gained,' and inculcates that the acquisition of a desired good is often attended with less difficulty than the means of preserving it. The leading actors in this part are an old monkey and a tortoise, according to the original, and in the Arabic version; but in the original, the latter is the monkey, a fabulous aquatic animal, corresponding in form with the Capricorn of the Greek zodiac. This section contains one story which we may quote from Sir W. Jones's translation of the 'Hitopadesa,' where it is also found. It is a neat fable, illustrating, as we would say, the indiscretion of "throwing pearls before swine."

"On the banks of the Nermada, at the foot of a mountain, stands a large samula-tree, in the middle of which some birds had built their nests, and lived with pleasure for many years. One of the nestlings, feeling that their mantle, became obscured with thick clouds, and a heavy shower began to fall, when these birds saw a herd of monkeys running under the tree, trembling with the pain of cold. They were moved with compassion and said, "Halloo! monkeys, we have made nests with herbs brought in our bills; why do you join your hands and feet together with such affliction? Why don't you invent something to protect you from the rain?" The monkeys, hearing these words, said among themselves, 'Oh, these birds who sit happily in the middle of their nests, secured from the wind, are deriding our exposed situation. Be it so; the shower must soon cease.' When the rain at last was over, the monkeys climbed up the trees, and broke all the nests on the branches, so that the bird's eggs were thrown to the ground. The moral of this is conveyed in the sentence, 'Let a sensible man be admonished, but not a fool, for, being admonished, is provoked and not benefited.'

The fifth and last section is entitled 'Inconsiderateness.' As there is little that corresponds to it either in the 'Hitopadesa' or in the Arabic version, a very full account of it is given by Mr. Wilson. Visnna Sarma begins with remarking, "That a man should never attempt a business which he has imperfectly seen or understood, transacted or investigated;" and with this for his general text, he proceeds to illustrate it by a series of stories concatenated in the usual way. It is a very interesting section, from the analogy between many of the stories and some that are perfectly familiar to ourselves. One of the stories closely resembles that of the dog, which in common story, and the ballad of 'Bath Gellert,' is said by his enraged master on the unfounded suspicion that he had killed the child in the cradle, whereas in truth he had only killed a snake in the defence of that child. In the tale of the 'Pancha Tantra,' however, the place of the dog is occupied by the weasel, which is a pet of the Hindoos, among whom the dog has never been a domestic animal. Another story, which is told with considerable humour, relates how the ass brought himself into trouble by his musical pretensions; on which subject we have also a fable. One story has some resemblance to the story of the troublesome old man who made Sinbad carry him upon his shoulders on his fifth voyage; and one other story of this section has been very closely imitated in the story of 'Alnaschar,' in the 'Arabian Nights' Entertainments.' As a specimen of this section we give the following capital fable, which in our judgment has not, in its point and dry humour, been excelled by any western apologue.

"There were four Brahmins residing in the same village,—all intimate friends. Three were men of great acquisitions, but destitute of common sense. The fourth was an intelligent fellow, but equally destitute of learning. As they were poor, they determined at one of their meetings to go to some country where learning was patronised, and where, they were satisfied, they should speedily be enriched by presents from the king. They accordingly set off; but when they had gone some way, the eldest cried out, 'It never occurred to me before that our fourth friend here is illiterate. He is a man of sense to be sure, but that will not entitle him to any rewards from the king; we shall have, therefore, to relinquish to him a part of our earnings, and it would be fairer, I think, for him to remain at home.' The second agreed in this opinion, but the third opposed it, saying, 'We have always been friends and companions from infancy, and let him, therefore, participate in the wealth we shall acquire.' This sentiment prevailed, and they all went on in harmony.

"As they passed through the forest, they saw the scattered bones of a dead lion. 'I have met,' said one, 'with an account of a method by which beings can be reanimated; what say you? shall we try the experiment?' The third opposed it, saying, 'We have always been friends and companions from infancy, and let him, therefore, participate in the wealth we shall acquire.' This sentiment prevailed, and they all went on in harmony.

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HALLEY'S COMET.

Professor Airy has communicated the following interesting account of Halley's comet to the 'Cambridge Chronicle':—

"This remarkable body has at length made its appearance. As early as the 6th of August it was seen at Rome; but though carefully sought, it was not discovered in this country so late as Thursday the 20th of August. Early in the morning of Sunday and Monday last (August the 22nd, 15h. and August the 23rd, 14h.) it was seen by Sir James South, at Kensington, and (at very nearly the same times) by a well-known observer, near Bromley, in Kent. The account of the former observations is published in the 'Times' of Monday last; for that of the latter we are indebted to private communication. The admirable mounting of the telescopes employed, especially that of Sir James South's powerful achromatic, rendered the search much less troublesome than it would be with an unmounted telescope. The large telescope presented to our (Cambridge) Observatory by the Duke of Northumberland is not yet mounted, and could not therefore conveniently be employed for seeking the comet. Of the place of the comet, as observed at Rome, we have no further account than that it agreed nearly with the place predicted by M. Damoiseau. On the 22nd of August, 15 hours, Sir James South found its right ascension to be about 5 hours 42 minutes 31 seconds, and its declination 23 degrees 43 seconds north; at Bromley, at nearly the same time, the determinations were 5 hours 42 minutes 20 seconds, and 23 degrees 45 seconds. On the 23rd of August, 14 hours, Sir James South found its right ascension to be 5 hours 43 minutes 18 seconds, and its declination 23 degrees 50 seconds. The right ascensions do not differ materially from those of M. de Pontécoulant's Ephemeris, but the declinations are less by about 1 degree. The time of perihelion-passage calculated by M. de Pontécoulant is the 7th of November: the observations of right ascension would correspond better with the time of perihelion-passage, the 10th of November, and those of declination would be best represented by supposing the time of perihelion-passage the 16th of November. The latter determination is liable to a much smaller error than the former; and we may probably, with much confidence, fix on the 15th of November as the day when the comet will be nearest to the sun. On that supposition the comet will be nearest to the earth about the 11th of October, and its distance will then be less than one-fourth of the sun's distance. For the first ten days of October the comet will not set to this country; and on the 6th or 7th of October it will probably be seen within the square formed by the four principal stars of the Great Bear, or Charles's Wain. The yet imperfect observations make it impossible to predict its place at present with greater accuracy. It is remarkable that, from the accounts of all the observers, the comet at present exhibits not a tail: in all its former appearances it is described as having a tail of considerable length. There is, however, reason to believe that all comets diminish in splendour on each successive appearance. The comet is only visible at present with a telescope of at least six inches' aperture.

"The near agreement of the observed time of reappearance with the predicted time (the error not exceeding nine days in seventy-five years) must be considered an astonishing proof of the accuracy which has been introduced into astronomical calculations. The neglect of the most trifling disturbing cause would have many times increased this error, as is evident from the circumstance that the periodic time of this comet has once been increased more than a year by the attractions of the planets. The nearness of the agreement also proves that there is no unknown planet of great bulk (as has sometimes been suspected) near which the comet has passed. The next inquiry among astronomers will be, What is the cause of the trifling disagreement which exists? It is: probable that it is entirely due to small errors in the observations of former appearances."

[Course of the Comet among the Fixed Stars, according to the Theories of M. Pontécoulant, M. Damoiseau, and Mr. Lubbock.—From the 'Nautical Almanac.']
THE EGYPTIAN VULTURE, OR PHARAOH'S CHICKEN.

Although the parallels which, in the present day, some distinguished naturalists have attempted to draw between mammalia and birds are for the most part overstrained and visionary, there are certainly some instances in which they are truly indicated by Nature. This analogy is perhaps in no instance better established than between the vultures and the hyæna, jackal, or wolf. Alike scavengers of the earth, they...
clear it of its dead, they remove its offal,—its noisome
rejectamenta, which would otherwise corrupt the air
with pestilential exhalations. The vultures, however,
have far less ferocity in their disposition than the
analogous quadrupeds. The latter are more active,
and strong appetite for blood, whilst the former exclusively gorge upon the carcasses of
the dead, and never make the living their victims.
Happily for them, they are seldom at a loss for a meal
in the countries where they abound. The unburied
slain on the field of battle attract them in flocks from
a great distance;—the death of any beast in the field
calls an assembly to the banquet. Sailing on their
wide and ample wings, they sweep from the higher
regions of the atmosphere, and in their descent upon
which they attack and gorge themselves till unable to rise from the spot.
It is only when impelled by hunger that the vulture
proceeds in quest of his carrion-food, and roves from
his apathy to traverse the air. Mounting aloft till
almost out of sight, he skimms in large circles, sustained
on outspread but motionless pinions, scanning the
surface of the earth. Often, indeed, the sky seems
quite clear, and not the least trace of any bird can be
discovered by the eye;—but no sooner does an animal
fall, or a hunter has the better stroke of his quarry,—than, as if called at once into existence,
multiplicities of vultures seem pouring from the sky, and
flocking to the feast.

Is it by the powers of sight or of smell that these
birds, afar off in the air above, or on the very verge of
the horizon, are thus led to their booty? This is a
question not yet settled. The ancient classic writers
seem with passages attributing to the vulture a keen
and discriminating scent; and certainly the develop-
ment of the organs of this sense would seem to favour
the opinion, which is supported by Mr. Waterton
and others, but which Mr. Audubon considers to be
erroneous. This latter observer of Nature maintains
that it is by the extraordinary powers of sight that the
vulture perceives his prey, and Le Vaillant explains the
circumstance upon the same theory. " Desirous,"
he says, "of observing how so great a number of vul-
tures could congregately together in so short a space of
time, I concealed myself one day near a gate, having killed a large gazelle, which I left upon the
spot. In an instant a number of ravens made their
appearance, fluttering about the animal, and making
a great croaking. In less than a quarter of an hour
these birds were reinforced by the arrival of kites and
buzzards; and immediately afterwards I perceived, on
raising my head, a flight of birds at a prodigious height,
wheeling round and round in their descent. These I
soon recognised to be vultures, as seems, if I may
so express myself, to escape from a cavern in the sky.
The first comers fell immediately upon the gazelle,
but I did not allow them time to tear it in pieces. I
left my concealment, and they betook themselves slowly
and heavily to flight, rejoining their comrades, whose
numbers seemed to increase. They seemed almost to
precipitate themselves from the clouds to share the
spoil, but my presence caused them speedily to dis-
appear. Thus it is, then, that the vultures are called
upon to participate in their prey,—the first carnivorous
birds that discover a carcass rouse the others which
may happen to be in the environs by their cries and by
their motions. If the nearest vulture does not spy
his prey from the lofty region of the air in which he swims
by means of his wide-spread wings, he perceives at
least the subaltern and more terrestrial birds of prey
preparing to take possession of it; but perhaps he has
brought with him a sufficient power of vision to enable him to
discover it. He descends hastily and with a wheeling
flight, and his fall directs the other vultures who witness
his evolutions, and who no doubt have their instinct
sharpened with regard to everything that concerns
their food. A concourse of carnivorous birds speedily
takes place in the neighbourhood of the carcass sufficient
to attract the vultures of the whole district, nearly in
the same manner as the disturbance created by a
number of men running along a street. In a crowded
town attracts the whole population to follow in their
train."

Notwithstanding all this, and the experiments of
Mr. Audubon, we do not think the conclusion by any
means demonstrated, that the vulture is not guided
by his scent, as well as by his powers of vision, according
as the case may be. The great family of vultures
(culturidae, Vig.) is extensively spread throughout
the globe, and in Europe, Asia, Africa, and America,
where their utility in removing carrion and all putrid
animal substances, from the fields, the villages, and
even the towns, has been universally acknowledged.
As we recede from the hotter climes to the more tem-
perate regions, we gradually lose the presence of the
vultures, till at length the boundaries of the race are
passed. Their extreme boundaries, however, are more
northerly, or rather are carried out more nearly to the
higher latitudes of the globe than might at first be
suspected. The slender vulture (cathartes aura) ranges
from Terra del Fuego to Nova Scotia, and the black
vulture (cathartes aura) is common in Carolina. Species are found in southern and central
Europe, without reckoning the lammer-geyer (gypaetus
barbatus) which forms a connecting link between the
timid, indolent, and glutinous vultures on the one
hand, and the fierce, rapacious eagles on the other.
We may enumerate the vulture cinereus and the griffon,
or vultur fulvus, both of which occur in the mountain
chains of the central Europe, and are tolerably
common in the southern districts, being spread over
most parts of the old world. To these we may add
the remarkable bird of which we give a figure, and
which is very common in Spain, viz., the Egyptian
vulture, or Pharaoh's chicken (neophron percnopterus).
The genus neophron may be regarded as equivalent
can be seen in Italy and Switzerland, and has once been
seen in England. This circumstance occurred in 1825,
at Kilve, in Somersetshire; the specimen was that of an
immature bird, probably not more than a year old; it
was accompanied by a second individual, which was
too young to allow itself to be approached within gunshot.
In Egypt the utility of these vultures in clearing
the streets of filth of every description (a task which
they undertake in common with the pariah dogs) has
been frequently noticed. Nor were the services of this
bird less valued in ancient than in modern times; it
was among the number of the sacred animals, and
is often represented pretty accurately on the early monu-
ments of Egypt. Hence its appellation of Pharaoh's
chicken. A constant attendant on the caravan, as it
pursues its way from town to town,—an assiduous fre-
counter of the shambles,—an industrious searcher for
carrion, it merits, as far as at least its public utility
is concerned, the regards of the community; nor are its
services overlooked,—if not now adored as a deity, it is
at least esteemed as a benefactor. In the neighbour-
hood of Gibraltar, and in the south of Spain generally,
flocks of this vulture are annually seen; most proba-
ably they winter in Africa, but of this we have no decided
information. Capt. S. E. Cook says that he saw them.
irrigate the country. Besides these they have an innumerable, sluices are opened which convey the superfluity into a finite number of reservoirs and channels by which it is conducted to different large towns, or employed to the moment it happens. When the water rises too high, a canal, which is 300 leagues in length, is dug. It is constantly visited by inspectors, and hosts of workmen are stationed along it to repair any damage the great wall of China could have accomplished an undertaking whose immensity is only exceeded by the great wall. These gigantic embankments are sometimes carried through lakes of several miles in diameter, between which the water is forced up to a height considerably above that of the lake; and in such situations we sometimes observed this enormous aqueduct gliding along at the rate of three miles an hour. Constant labour and the most unremitting attention are employed for the preservation of this magnificent canal; it is constantly visited by inspectors, and hosts of workmen are stationed along it to repair any damage the moment it happens. When the water rises too high, sluices are opened which convey the superfluity into small canals without inundating the country, and keep the stream in the main channel to its proper elevation, which allows a depth of a fathom and a half, quite sufficient for the vessels that navigate it. The canal is surrounded by small canals for the conveyance of the water and other purposes. It is furnished with locks, or something equivalent to them; and here it is curious to compare the contrivance of the Chinese with our own.

"I have myself," says Father Kircher, "counted upon the grand canal above twenty cataracts or water-falls, made of hewn stone, firm and nobly artificial, with a passage for ships, where they dam up the waters with a sluice, which is easily heaved up by benefit of an engine with a wheel, and an immense quantity of water is carried forward to the ships, and if they want water for great vessels, then in the middle passage, before you come to Cining, they let in from the lake Cang, through the greatest cataract, as much as they please, timely closing the passage to prevent an inundation. These cataracts are commonly called Tung-pa, because they sustain the force of water flowing from

near Seville, following the track of the plough, like rocks, in order to devour the grubs in the upturned soil. The long and ample wings of the Egyptian vulture give it amazing powers of flight, and enable it to soar with great buoyancy. Like the rest of the family, however, when forced to repulse with its foul diet, it becomes so sluggish and unwieldy as scarcely to be able to raise itself from the ground, and indeed in this state may be easily captured; not that the task would be very pleasing, for so strong and disgusting is the effluvium with which it emits. Bruce considers this bird to be the rachasham of Scripture, (see the appendix to his Travels,) such being the name by which it is now known in Egypt.

In size the Egyptian vulture somewhat exceeds a raven, its length being two feet five or six inches, and the expanse of its wings about five feet eight or nine inches. When in complete plumage, it is of an uniform white, with the exception of the greater quill feathers, which are black. The forehead, cheeks, neck and throat are naked, the skin being of a livid yellow. The eyes are dark. The bill is slender and straight,—abruptly hooked at the tip. This state of plumage is acquired by successive changes, the first lining being unberown, which is gradually exchanged, at each moult, for lighter and lighter tints till the purity of the white is complete. It breeds in the clefts of rocks, and on elevated places, but its eggs have never been described.

CHINA.—No. IV.

The Canals of China.

Even the wonders of the grand wall of China are surpassed by the innumerable and long canals, the utility of which is a matter of doubt than the artificial boundary which has been so often set at nought by invaders. Availing themselves of the great number of rivers and lakes that exist in their country, the industrious Chinese have almost everywhere opened communications by water, and for this purpose, and for the object of irrigation, have dug so many canals that much of China is like a vaster Holland. The traveller finds almost everywhere a large canal of fine, deep, clear water, flanked by two causeways, caked with flat stones or marble slabs, set in the ground and fastened by groves made in posts or columns of the same materials. From this main canal there shoot off, at certain distances, numbers of smaller canals, the waters of which are again let off into innumerable rivulets that are conducted to different large towns, or employed to irrigate the country. Besides these they have an infinite number of reservoirs and channels by which they can lay the fields under water, to produce rice, their principal food, and which requires almost constant humidity.

But nothing in China or in any other part of the world is to be compared with the Yun Leung, or Royal Canal, which is 300 leagues in length. It was dug by an almost incredible multitude of men, and at a prodigious expense, under the Emperor Chi-tson, (about the year 1280,) the founder of the dynasty of the Western Tartars. "This canal," says Du Halde, "traverses the provinces of Pe-te-the-li and Chin-tong; then it enters the province of Kiang-nan, and discharges itself into the great and rapid Yellow River. Down this river you sail for two days, when you come to another river, where you find again the canal, which leads to the city of Hoai-nan; from thence it passes by many cities and large towns, and arrives at the city of Yang-tscheou, one of the most famous ports of the empire; and a little beyond this place it enters the great river Yang-tse Kiang, which divides the province of Kiang-si nearly into two equal parts, and runs as far as Nan-nang, from whence you go by land to Nan-hiong, the chief city of the province of Quang-tong, where you embark upon a river that leads to Canton, so that you may travel very commodiously, upon the rivers or canals, from the capital to the remotest part of China, being saved all insuperable difficulties, by water.

In Purchas's Pilgrims: this extensive canal is styled "a hand-made river," and is described with his usual quaintness and effect. "This work is goodly and wonderfull for the site and length, and more for the profit thereby to the cities. There are also causes made to goe on land by those waters commodiously," &c. Mr. Barrow, in his Travels in China, gives, in a few words, a general idea of the principles on which this grand undertaking was carried on:—"All the rivers of China fall from the high lands of Tartary, which lie to the northward of T'aihet, crossing the plains of this empire in their descent to the sea from west to east. The inland navigation being carried from north to south, cuts these rivers at right angles, the smaller streams of which terminating in it afford a constant supply of water; and the three great rivers intersecting the canal carry off the superfluous water to the sea. The former, therefore, are the feeders, and the latter the dischargers, of the great trunk of the canal. A number of difficulties must have arisen in accommodating the general level of the canal to the several levels of the feeding streams; for notwithstanding all the favourable circumstances of the face of the country, it has been found necessary in many places to cut down to the depth of sixty or seventy feet below the surface; and in others, to raise mounds of earth upon lakes and swamps and marshy grounds of such a length and magnitude that nothing short of the absolute command over multitudes could have accomplished an undertaking whose immensity is only exceeded by the great wall. These gigantic embankments are sometimes carried through lakes of several miles in diameter, between which the water is forced up to a height considerably above that of the lake; and in such situations we sometimes observed this enormous aqueduct gliding along at the rate of three miles an hour. Constant labour and the most unremitting attention are employed for the preservation of this magnificent canal; it is constantly visited by inspectors, and hosts of workmen are stationed along it to repair any damage the moment it happens. When the water rises too high, sluices are opened which convey the superfluity into small canals without inundating the country, and keep the stream in the main canal to its proper elevation, which allows a depth of a fathom and a half, quite sufficient for the vessels that navigate it.

A canal of such magnitude must be furnished with locks, or something equivalent to them; and here it is curious to compare the contrivance of the Chinese with our own.

"I have myself," says Father Kircher, "counted upon the grand canal above twenty cataracts or water-falls, made of hewn stone, firm and nobly artificial, with a passage for ships, where they dam up the waters with a sluice, which is easily heaved up by benefit of an engine with a wheel, and an immense quantity of water is carried forward to the ships, and if they want water for great vessels, then in the middle passage, before you come to Cining, they let in from the lake Cang, through the greatest cataract, as much as they please, timely closing the passage to prevent an inundation. These cataracts are commonly called Tung-pa, because they sustain the force of water flowing from
the lake: now when ships arrive, that they may not be forced to sail through the lake, they have cut a trench or channel on the bank, fortified with ramparts, by which all ships do easily pass. At each cataract are persons maintained at the public charge, to attend the ships until they have passed the cataract.

This method, however, could not be adopted, owing to the great difference in their elevations, and the inequality of the soil in many of the canals. Between Yang-fou and Tchu-san, for example, where two canals meet, the difference in the level of their waters is above six feet. To pass the vessels from the one to the other, the most simple plan has been resorted to. A glacis or an inclined plane, at an angle of about forty degrees, but very smooth, is always kept in order, raised up at the end of the canal, and the vessel that has to pass from the lower to the upper water, is dragged up, having cables attached to her, by means of two or more (sometimes as many as six) enormous capstans, which are placed by the sides of the canals above the inclined plane. Each windlass has four bars, manned by from twelve to sixteen men. Having once made the ascent, the vessel descends by the force of gravity into the upper canal by means of another but shorter inclined plane, the apex of the two planes being always somewhat above the level of the water in the upper canal. When the vessel has to pass from the upper to the lower canal, the labour is of course less, as she has only to be dragged up the shorter inclined plane, when she slides down the longer one of herself. According to Dr. Dinwiddie, who had an opportunity of examining more at leisure both the common canal and the other canals whose communication is maintained by means of this glacis or inclined plane, the flood-gates of the Chinese are preferable to English locks, in every situation where the canal is nearly level, and are constructed at a quarter of the expense. The inclined plane down which the boats are launched, and up which they are drawn, is a mode superior to our practise, for besides their being cheaper they are much more expeditious. The time employed in one instance observed, was only 2½ minutes, in another about 3 minutes.

In every account of China the description of the Grand Canal is prominent from its importance. "This magnificent work," says Marco Polo, whose descriptions here, as in so many other instances, have been confirmed by modern and most authentic authorities, "is deserving of all admiration, and not so much from the manner in which it is conducted through the country, or its vast extent, as from its utility and the benefit it produces to those cities which lie in its course. On its banks, likewise, are constructed strong and wide terraces, or chaussées, upon which the travelling by land also is rendered perfectly convenient." This was written in the thirteenth century, and perfectly agrees with the account we have already given. "It is an inland navigation of such extent and magnitude," says Mr. Barrow, "as to stand unrivalled in the history of the world." "There are no undertakings of utility and invention for which the Chinese are more celebrated than for these wonderful communications by water through the interior of their vast empire,"—says Lord Macartney.—"These have excited general admiration among foreigners. As a considerable part of our journey was upon what is usually called the Grand or Imperial Canal, I am enabled to give some account of it. This great work was executed for the purpose of laying open to each other the northern and southern provinces of the empire. It is more properly an improved river than an entirely artificial canal, according to our general acceptation of the term, for it has a descent almost in every part, and generally runs with a considerable velocity." His lordship then goes on to describe how the Chinese, who he supposes to be ignorant of the principles of levelling, had sagacity to avail themselves of every natural advantage offered by the elevation or depression of the ground over which the water was to be conveyed. He traces the communication between the rivers Eu-ho and Hoang-ho, which is continuously navigable for 200 miles through the middle of the empire. "The beds of these two rivers are nearly on the same level, but the interjacent country rises from each of the rivers with an imperceptible ascent, and is highest about mid-way. The Chinese had no instrument or other means of art to ascertain this point of elevation, but nature seems to have indicated it to them by the course of another river, which, rising to the eastward, and running westward in the intermediate space between the Eu-ho and Hoang-ho, is obstructed in its passage, and then divides into two branches, of which takes a northern course and falls into the Eu-ho, the other pursues a southern route and descends into the Hoang-ho. The northern stream seems to have been generally traced according to all its windings, the bed of it enlarged, and formed with a uniform descent, and its navigation improved by flood-gates thrown across at certain distances, sometimes of two, three, or more miles asunder, in order to prevent too great or too sudden a fall of water."

Lord Macartney then describes the flood-gates, which we have already noticed. They only consist of a few loose planks, sliding between two grooves, cut in the stone piers or abutments, which project on each side from the banks of the canal, and approach so near, as to leave in the middle only a sufficient space for the passage of the largest sized junk. His Lordship then proceeds:—"A few miles before the northern branch joins the Eu-ho, instead of following, as formerly, the natural windings of the stream, it is carried straight forward in one direction, by a deep cut of forty feet through a partial elevation of the surface of the ground. The task was not difficult, as the soil is a mixture of light sand and clay, entirely free from rocks or any sort of stone. But the southern branch required more management and address, as its progress was to be directed over a great extent of swampy grounds and lakes, and from thence through an ascending country to the Hoang-ho. On approaching this morass, the canal is nearly level, and are constructed very deep below the surface of the ground, for the purpose of giving the water a velocity sufficient to force itself between two high banks raised above the inundated country with incredible labour and expense. In one place it traverses a vast lake, whose surface is far below its own, and there its banks are riveted with enormous blocks of marble, clasped together at the top with iron; and lest the body of water in the canal should prove too strong for the resistance of the banks, they are intersected with sluices at certain distances, through which the superfluous water passes into deep ditches or hollows formed on each side in the middle of the banks themselves. The surface of the water let into these ditches or hollows being kept at a mean height between the surfaces of the canal and the lake, the pressure of the body of water is diminished by one-half, and the danger of disruption proportionally diminished. The canal then proceeds through a rising country, being often thirty and forty feet below the surface of the ground, and falls into the Hoang-ho with a current of two to three miles per hour. From this account it may be inferred that the Chinese in flat or nearly flat countries, are chiefly directed by the apparent course of the natural streams, follow it as nearly as possible, without regarding the labour or expense attending such a system, and when they come to a difficulty not easily surmounted by these means, they have recourse to a glacis, up and down which the vessels are passed between two canals of different levels."
The North Foreland is a promontory in the Isle of Thanet, and is so called to distinguish it from another promontory called the "South Foreland," between Deal and Dover. It was well known to the Roman seamen under the name of Cantium Promontorium. The lighthouse, which has long stood on this point, is not a very picturesque or striking object; but as the dangerous neighbourhood of the Godwin Sands, which lie off the promontory, renders it one of the most useful of our lighthouses, and as, from its situation near the mouth of the Thames, it is better known to a greater number of persons than any other, we present an engraving of it to our readers.

A full account of the Eddystone Lighthouse, with engravings, has been given in a former Number of the 'Penny Magazine.' The history of the present structure is not without interest, but its interest is of a different kind from that of the former, arising almost entirely from the intimations it contains of the improvements gradually introduced in the mode of effecting the object for which it was established.

The necessity for a lighthouse at this place must have become apparent when the Godwin Sands became dangerous, and when it was found that in directing their course so as to keep clear of this land, which extends so far into the sea, ships were extremely liable to strike on the sands at night before they were aware. There was probably some sort of a beacon at an earlier period, but the first distinct intimation concerning a lighthouse on the North Foreland is in the year 1636, when Charles I., by letters-patent, granted to Sir John Meldrum licence to continue and renew the lighthouses then by him erected on the North and South Forelands. It seems that the lighthouse erected by Sir John consisted merely of a house, built with timber, lath, and plaster, on the top of which a light was kept in a large glass lantern, for the purpose of directing ships in their course. This house was burnt down by accident in the year 1688; after which, for some years, use was made of a sort of beacon on which a light was hoisted. But near the end of the same century a strong octagonal structure of flint was erected, on the top of which was an iron grate quite open to the air, in which a good fire of coals was kept blazing at night.

About the year 1732 the top of this lighthouse was covered with a sort of lantern, with large sash windows, and the fire was kept bright by bellows, with which the attendants blew throughout the night. This contrivance is said to have been for the purpose of saving coals; but it would seem more probable that it was in order to preserve the fire from being extinguished by rain. However the plan did not work well, and great injury resulted to navigation, as many vessels were lost on the sands from not seeing the light, and so little was it visible at sea, that mariners asserted that they had often in hazy weather seen the Foreland before they could discover the light. They added, that before the lantern was placed there, and when the fire was kept in the open air, the wind kept the fire in a constant blaze, which was seen in the air far above the lighthouse.

Complaints of this sort were so loud and frequent, that the governors of Greenwich Hospital, to whom the lighthouse belonged, sent Sir John Thomson to examine and make arrangements on the subject. He ordered the lantern to be taken away, and things to be restored to nearly their former state, the light to continue burning all the night until daylight.

Towards the end of the last century the North Fore-
Land Lighthouse underwent some considerable alterations and repairs, which brought it into nearly its present state. Two stories of brick were built on the original structure, which raised it to the height of about 100 feet, including the room at the top in which the lights are kept. This room, which may be described as a dome raised upon a decagon, is about ten feet in diameter and twelve in height. To prevent accidents from fire, it is coated with copper, as is also the gallery around it. This gallery is much frequented by the visitors to Margate on account of the extensive views which it commands, some idea of which may be formed from the fact that the lights are visible in clear weather at least 20 miles distant.

The building is white-washed, except the light-room at the top, and the several other rooms which it contains are occupied by the persons who have it under their charge.

The two sides of the decagon towards the land are walled up; but at the time of the above alterations the end-fire was discontinued, and in each of the other faces of the decagon was placed a patent lamp with a reflector and a magnifying lens. These lenses were two pieces of glass, and cost £20 each, and were recommended as curiosities to the notice of visitors in the "Margate Guides." These, however, seem to be the same lenses which are mentioned with great disapprobation by Lieutenant Drummond in his evidence before the Committee of the House of Commons, in April, 1834. Having previously stated incidentally that he thought it not improbable that a vessel might run against the lighthouse without seeing the light, and that he had been informed that such an event had occurred, he was requested by the Committee to explain this matter more particularly. He then said:—

"It is a mode of lighting which has been discontinued in this country. About three years ago I saw it in the North Foreland Lighthouse, then under the management of Greenwich Hospital. The mode there adopted was a combination of the lens with the reflector; a lens not similar to the French, but consisting of one solid piece of glass, very thick and very bad. The result of this arrangement was entirely to destroy the effect of the reflector; and, in fact, it was absolute, it putting a shade before a good light. In ordinary cases a window of the lantern is of thick clear plate-glass; but here, instead of the plate-glass, they put a lens in front of each, which destroyed the parallelism of the beam of light from the reflector and entirely injured its effect. The reflector, it is true, did not interfere with the lens; but from the thickness and badness of the glass, and other causes of an optical nature, the effect of the lens was far inferior to that of the reflector when unsubstructed by the lens." When the Trinity House, soon after this, acquired the management of the lighthouse, these costly lenses were immediately removed, and plate-glass was substituted, in consequence of which the light, though otherwise unaltered, appears much more brilliant than before.

The grant of Sir John Meldrum, who originally established the lighthouse in the North Foreland, was for fifty years, during which he was empowered to demand 1d. per ton on all British ships that passed the lighthouse; but a subsequent act of Parliament, taking away the crown a reserved rent of 20l. a year. This grant was renewed from time to time to private persons, the last of whom, Mr. Osbolston, bequeathed with all the remainder of his interest to Greenwich Hospital. When this remainder expired in 1733, the crown renewed the grant to the Hospital for ninety-nine years, on the termination of which in 1832 the lighthouses were transferred to the Elder Brothers of the Trinity House, who agreed to give 8366l. in compensation to the Hospital, and at the same time to reduce the dues in future to 3d. per ton on British ships, and 3d. per ton on foreign vessels.

At the time of the grant to Greenwich Hospital in 1733, the Foreland lighthouses yielded together about 1200l. per annum, and in some years 1400l. In 1831, the dues remaining the same, the gross receipts of the lighthouses amounted to 12,010l., an increase which affords a curious incidental illustration of the extension of maritime commerce within the last hundred years. Of this sum 2124l. was expended in collecting the dues and maintaining the lighthouses, and 20l. was paid as rent to the crown, leaving 9866l. profit to the Hospital. The Trinity Board calculates that under the diminished duties, the lighthouses will amount to 2350l., leaving, after all expenses, 900l. to compensate the Board for the outlay of capital; the resulting profit being for the benefit of merchant seamen.

To these particulars concerning the North Foreland Lighthouse we may add a few general remarks concerning the management and revenues of such establishments in this country. There are ample statements on this subject in the Report which was delivered last year by the Select Committee of the House of Commons appointed to inquire into the state and management of Lighthouses. From this mass of documents we collect that the shipping interest has been made to pay dearly for the convenience and security which the lighthouses afford; and we find abundant matter to justify the bitter complaints which a person who takes a passage by sea is sure to hear from his captain on the subject, particularly if that captain happens to be the owner of the vessel. A few simple statements will make this matter clear to our readers. We give a few extracts:

"Your Committee has learned with some surprise that the lighthouse establishments have been conducted in the several parts of the United Kingdom under entirely different systems; different as regards the constitution of the board of management, different as regards the rates or amount of the light dues, and different in the principle on which they are levied. They have found that these establishments, of such importance to the extensive naval and commercial interests of this kingdom, instead of being conducted under the immediate superintendence of the government, upon a uniform system, and under responsible servants, with proper foresight to provide for the safety of the shipping in the most efficient manner, and on the most economical plans, have been left to spring up as it were by slow degrees, as the local wants required, often after disastrous losses at sea; and it may perhaps be considered as a matter of reproach to this great country, that for ages past, as well as at the present time, a considerable portion of the establishments of lighthouses have been the means of heavily taxing the trade of the country, for the benefit of a few private individuals, who have been favoured with that advantage by the ministers and the sovereign of the day."

The subjoined table, which condenses the statistics of this subject, will render clear the preceding and following observations. It shows the number of the public lighthouses maintained in the United Kingdom, the amount of light dues received, the sums expended, and the net surplus in 1832.

<table>
<thead>
<tr>
<th>No.</th>
<th>Gross Collection</th>
<th>Maintenance</th>
<th>Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>By Private Individuals</td>
<td>79,676</td>
<td>10,608</td>
</tr>
<tr>
<td>13</td>
<td>By Commissioners of Bal.</td>
<td>83,041</td>
<td>35,501</td>
</tr>
<tr>
<td>38</td>
<td>By Commissioners of Bal., Ireland</td>
<td>1,960</td>
<td>1,595</td>
</tr>
<tr>
<td>104</td>
<td>Gross</td>
<td>291,364</td>
<td>151,845</td>
</tr>
</tbody>
</table>

This account leaves the local harbour-lights out of view, and, as to the number of lighthouses, somewhat...
differs from another, which states that there are in all 219 lights in the United Kingdom; namely, 105 public general lights on land, and 17 floating lights; 98 local or harbour-lights on land, and 4 floating lights. In particular reference to the facts which the above abstract of our lighthouse-statistics exhibits, the Edinburgh Review, which had an article on this subject in its April Number, thus states the results which it affords:—

1. The enormous sum of 240,304l. is annually levied from the shipping interest of Great Britain and placed at the disposal of irresponsible boards, or used for the benefit of private individuals. 2. The annual sum actually applied to the purpose for which the whole sum is levied is 74,832l.

3. The net surplus, or the sum unnecessarily levied, amounts to 142,436l.
4. The expense of collection, amounting to 22,133l., is little less than one-third of the expense of maintaining all the lights in this kingdom, and is twice the expense of maintaining all the French lighthouses.

It is to be borne in mind that this large sum unnecessarily levied for light-dues is not a matter merely affecting the masters and crews of vessels, or indeed the shipping-interest at all. It is a question in which the public at large are interested, because those who pay the sum in the first instance necessarily indemnify themselves by raising in proportion the price to the purchaser of the articles with which the vessels are laden. The lighthouse-dues are therefore, as the Edinburgh Review remarks, "paid by every consumer of foreign and domestic produce carried coastwise;—every child that sucks an orange, and every dandy that smokes a cigar, is a contributor to the lighthouse-revenues as well as to that of the customs."

The dues are particularly heavy upon every foreign vessel, from which a double rate is required; and it is thus taxed not only when it proceeds with goods or money to our harbours and returns laden with our produce and manufactures, but "it is equally taxed when, on its way to more distant kingdoms, it is driven by stress of weather into the shelter of our bays and headlands, and the captain is called to pay a heavy penalty for attempting to save the property of his employers and the lives of his shipmates. The same absurd and cruel regulation is applicable also to British vessels; and there can be no doubt that ships and lives are frequently lost in their attempts to shun the Scylla of the lighthouses when they are escaping from the Charybdis of the elements."

The mere pecuniary pressure of the light dues is, however, by no means the only evil of the system now in operation. The number of boards and individuals by whom the lighthouses are held, and who have no mutual understanding among themselves, and have no determined rules for their guidance, occasion these vexatious and perplexing inequality of dues and discordance of legislation. Even the pressure of the same dues now operates unequally, as between sailing and steam-vessels. This matter is thus noticed by the committee:—

"The present rates are made without reference to the peculiarities attending on the navigation of that class of vessels (steamers) which appear to warrant a reduction of the dues. A vessel under sail is driven by winds and tides that lie in her course, and, in tacking, derives much benefit from the lights; but steamers move in straight lines, and are not exposed to the rapidity of their movements, soon pass them. Besides, the people who navigate them acquire, from the frequency of their trips, such an intimate acquaintance with the coast as renders the lights of comparatively little use to them. Again, steamers are obliged generally to sail at fixed times, full or not full; and the carrying tonnage of a steamer is not so capacious as that of another vessel, the best part of the hold being occupied by machinery. By the return of the voyages of fifteen steam vessels, between the River Clyde and Liverpool, Belfast, Dublin, and Londonderry, in one year (1833), there was paid for light dues 3261l., a very heavy charge on such vessels; and many similar instances might, if necessary, be stated."

The system, the principal features of which we have attempted to delineate, is censured in the strongest terms by the committee of the House of Commons. The remedial measures which they suggest are principally the following:—That all the public general lighthouses should be placed under one board resident in London, and conducted under one system of management. That the light dues should in every case be reduced to the smallest sums requisite to maintain the existing lighthouses and floating lights, or to establish such new ones as may be required. The committee had considered whether the lighthouses might not be maintained out of the public treasury, in the same way as the consular charges are defrayed; and also whether it might not be better to levy a tonnage duty on ships entering our ports, whether British or foreign, once every six months, or yearly, instead of on every voyage as at present; but they decline to give an opinion on either of these plans. They recommend that the double duty on foreign vessels should be removed, and that vessels driven into port by stress of weather should not be obliged to pay the light dues, if they do not break bulk or take in cargo at such port. It is also their opinion that, in the peculiar circumstances of steam-vessels, there ought to be a modification of the dues at present levied upon them.

MINERAL KINGDOM.—SECTION XLIV.

Zinc.

This metal was first described under the name of Zincum by the celebrated alchemist Paracelsus, a native of the canton of Schweiz, who lived in the early part of the sixteenth century; but it was probably known long before, for it enters into the composition of some kinds of ancient brass. The name is supposed by Leonard to be of German origin, and derived from the word Zinke, which signifies a sharp point or pinnacle, the metal assuming, in the furnace, a footed or jagged appearance, from shooting into crystalline forms. In England it is known in commerce by the name of Speller.

When pure, zinc is of a bluish-white colour, with a bright metallic lustre, but it is speedily tarnished by the air. It is of a low specific gravity, viz., 7.10, that is, about seven times as heavy as an equal bulk of water. It is very brittle at ordinary temperatures, but when heated to that of boiling water, or 212°, it becomes malleable, and may be beat or rolled out into tolerably thin plates; and that property continues until the heat goes beyond 300°, when it again becomes brittle, and if it be raised to about 400°, it may be easily reduced to powder. It must be heated also in order to show its property of ductility; but if the wire be properly annealed, it retains, when cold, a considerable degree of elasticity.—Zinc never occurs in a metallic state, and can be made to exist in a mass supporting a weight of 26 lbs. It melts at a heat equal to 773° of Fahrenheit: by a moderate increase of temperature, it is volatilised unchanged in close vessels, but exposed to the air it forms a white oxide called flowers of zinc; and if the heat be raised to 911°, it burns with a brilliant white light: it is little altered by exposure to air and moisture.

Zinc has never been found in the pure or native

* Edinburgh Review.
state, but always in combination with oxygen, carbonic acid, sulphur, water, earthy and other metallic bodies; but there are not many varieties of its ores. The most commonly met with are those called Calamine and Blende. Calamine (the Lapis Calaminariss of old medical books) is a compound of about 65 per cent. of oxide of zinc and 35 of carbonic acid; and some varieties of it are composed of 72 of oxide of zinc, 18 of carbonic acid, and 10 of earthy matter. Blende is made of zinc and sulphur; the proportions of the zinc and sulphur varying much in the ore of different situations, and almost all of them contain a portion of iron, earthy matter, and water. Blende is found in the primary and in the older of the secondary stratified rocks, and very frequently accompanies ores of lead and copper, but especially the former. Calamine is more commonly met with in the secondary strata, and principally in limestone. The ores of zinc have not hitherto been found in the igneous or unstratified rocks, and only sparingly in the sedimentary deposits superior to the coal-strata. They are met with in Germany, Belgium, France, and Sweden; and in Great Britain, in Cornwall, especially in Huel Hope mine, in the parish of Gwennap; in a conglomerate or puddingstone-rock of the Mendip Hills in Somersetshire; abundantly in the limestone of Derbyshire, where the lead-mines are situated; and also at Holford in Flintshire; at Aldstone Moor in Cumberland; and at Wanlock Head and Lead-Hills on the borders of the counties of Dumfries and Lanark. But all the zinc that is now produced in the United Kingdom is trifling in quantity, and quite insufficient for the demand, so that a large amount is imported annually, chiefly from Germany and Belgium. In the year 1833 the importation was 65,115 cwts., of which rather more than a half was retained for home consumption, the chief export being to the East Indies.

To obtain the metal, the ore, whether it be calamine or blende, after being raised from the mine, is carefully picked, to separate any impurities, and roasted in a furnace in a moderately red heat, by which the carbonic acid is driven off from the calamine and the sulphur from the blende. An oxide of zinc remains, and this is intimately mixed with powdered coal by their being reduced in a mill. The mixture is now put into large earthen crucibles, about four feet high, having an iron tube in the interior, one end of which rises near to the top, the other passing through the bottom of the jar and the floor of the furnace into a cistern of water underneath. Covers are firmly luted to the crucibles; they are surrounded with fuel in the furnace, and an intense heat is kept up for several hours. The carbon of the coal combines with the oxygen of the ore; and the metallic zinc, thus set free, rises in a melted state to the top of the crucible, descends through the iron tube, and is condensed in the water in the form of drops. These drops, being collected, are again melted, and poured into moulds to form the bars or ingots in which the metal is brought to market. Eight tons of calamine and twenty-two tons of coal yield about two tons of zinc.

Uses of Zinc.—The chief consumption of this metal is in brass, which is a compound of copper and zinc. The ores, after undergoing the process of roasting near the mines in England, are chiefly smelted in the neighbourhood of Birmingham, Sheffield, and Bristol, where there are large manufactories of brass. The proportions of the two metals are very different in the brass made in different places. The common brass of Paris contains about 15 per cent. of zinc, that of England rather more; and a remarkably fine brass made at Genova for the nicer parts of watchmaking contains as much as 25 per cent. The brass of England is far inferior to that made in many parts of the continent, and that used for philosophical instruments is chiefly obtained from Holland. Zinc, rolled out into sheets, has been used for covering houses instead of lead, and it has of late been manufactured into vessels for culinary and other domestic purposes. It is very unsuitable, however, for kitchen-utensils, because it combines very readily with acids, and such combinations act as violent poisons on the digestive organs. Zinc is used in China for coinage. When oxygen it forms a white powder, which is used in oil-painting. White vitriol, a substance employed in many processes of art, and in medicine, is a compound of zinc and sulphuric acid.

Prelombs.—Some will preamble a tale impertinently, and cannot be delivered of a jest till they have travelled (travelled) an hour in trivialities; as if they had taken the whole tale in stenography, and now were putting it out at large. —Owen Feltham's Resolves.

Regulation of Expenses.—In expenses I would be neither pinching nor prodigal; yet, if my means allow it, not rather thought too sparing than a little profuse. Saving inclines to judgment, but lavish expenses to levity and inconsiderateness. With the wise 'tis no disgrace to meet a man, and look him all over by the light he gives you; and to exceed it, for them that are not wise, is to be sure to exceed them as well in folly as expense. He is equally ridiculous that will burn out his taper while the sun doth shine, as he that will go to bed in the dark to save his expenses. It is my part to think first for others while others look only at the stream, but are not concerned how the fountain may supply it. Though the look to what I spend is grateful to them, yet I ought to care for what is convenient for me. He that spends to his proportion is as brave as a prince, and a prince exceeding that is a prodigal.
The fortress represented in the foreground of our view (which is from an original drawing by Mr. Delamotte) is the Castello Nuovo, or New Castle of Naples, rather improperly so called if we consider the antiquity of its first foundation. It was built by Charles I., commonly called Charles of Anjou, in 1266, immediately after he had defeated the good King Manfred and conquered the Neapolitan kingdom. It was erected after a French model, and filled by a garrison of French and Angevins, who sorely oppressed the people. It was then styled the New Castle, to distinguish it from an old castle, near the Capuan gate, built by the Suabian dynasty of Naples after a German model. Being placed close on the sea-shore, at the head of the great mole, it was intended to defend the port of Naples, and to serve as a sure point at which to receive succours from France in time of need. If our readers will look back to Number 33 of the ‘Penny Magazine’ they will find an outline plan of Naples, which shows the situation of the castle. During the reign of the Angevin princes it frequently served as a royal palace; and within its walls some of the most tragical events in the lives of the Queens Joanna I. and Joanna II. took place. Under the first of these two princesses, Petrarch was a frequent visitor at the Castello Nuovo. About the year 1480 Alfonso of Aragon greatly enlarged the castle, and brought it nearly to the form and condition in which it is now seen. The only parts of the works of the Angevins that remain are a strong round tower near the sea, called La Torre di San Vincenzo, the massy basements of some walls, some curious dungeons, and certain dark passages underground, which now lead nowhere, but that seem once to have opened on the sea-shore. According to popular tradition, a crocodile once crept in by one of these passages and lived there a long time, feeding on soldiers; and they even show the identical “alligator stuffed,” which is, or at least was a few years ago, hung over the arch of one of the interior gates of the castle. But, whether alive or dead, the animal must have been conveyed there by human means, as we need not inform our readers that crocodiles are not found in Europe, and that it is not in the habits of those creatures to put to sea, or cross the Mediterranean from Egypt or the Moorish coast. According to the soldiers, with whom the writer of this article has often conversed, all the old parts of the fortress are dreadfully infested with spirits and goblins; and if deeds of blood could give existence to such unreal essences, doubtless they are to be found in this ancient stronghold of tyranny. But the Neapolitans have no notion of ghosts, or “spectres all in white,”—their superstitions only recognise spirits and goblins; and their monastello, their head-hobgoblin, is such a strange creation, being rather farcical...
than “horrible and awful,” that, on some future occasion, we may amuse our readers with an account of him. The notion is among the singular aberrations of intellect and feeling; and it is interesting to see how superstitions that are varied by climate catch and retain the salient points of national character. The ghastly spirit of the cloudy misty North is little more than a buffoon—a spiritual Policicnello under the gay sky of Naples.

In 1454, Ferdinand I., who enlarged the city and extended its walls and fortifications, strengthened the Castello Nuovo; and in the early part of the sixteenth century, the last works of any consequence were added to it by the Emperor Charles V., which included Naples and Sicily in his vast dominions. Shortly after, the Spanish viceroys built a palace,—the present Palazzo Renè,—close to the castle, to enjoy its protection in case of popular tumults, which were very often excited by their bigotry and oppression. Shut up within these gloomy walls, with not an inch of ground to stand upon beyond the lines of this and other fortresses, more than one Spanish Don has trembled before the irresistible might of a whole people moved by one determined feeling and the passion of revenge. A memorable instance of this is found in 1547, when the viceroys of the bigoted Philip II. attempted to establish the Inquisition, to which detestable tribunal the Neapolitans never would submit, and never have submitted. Another instance was at the revolt of Mas' Aniellos, the wonderful fisherman of Amalfi, in 1647, when the people of Naples rose to a man against their haughty oppressors, and, after five days’ fighting, expelled them from the streets of the city.

Since the modern improvements in the art of war, the fame of the Castello Nuovo, the Castello dell' Ovo, the Carmine, and all the forts in Naples, with the exception of the castle of Sant' Elmo, on the hill behind the city, is to check the people, and to serve as barracks for troops. Commanded on all sides, and open to a bombardment by sea, they are contemptible as a means of resisting a foreign enemy. At the sanguinary counter-revolution of 1799, the Castello Nuovo, as well as Sant' Elmo, served as a state-prison for the patriots or republicans; and many of the nobles and best families of the kingdom, with men of mature age, and men at the extreme period of old age, were dragged from its dungeons to the scaffold.

These and other recollections may give a melancholy interest to the castle, which in itself is a stark, formal, straight-lined, unpicturesque edifice. The ivy and the moss that we look for on old towers and battlements have not been allowed to grow there; and the last time we saw the castle (in 1827), the late King Francesco and the monks of Saint Martin's were celebrated for having not once allowed the enemy to destroy the spurious publications of their Abbey. The popular notions about monastic luxury in the good old times, and about jocund abbots “rosy as their wine,” which are misconceptions if applied too generally, seeing that many of the monastic orders were always poor, and of necessity abstemious, would, we fancy, be correct enough with reference to the conduct of this priory. Softness, sloth, and idleness have yet alive who remember their pomps and state, and their glorious revellings, in which some of those persons have often partaken. But a mighty change, at which the very walls of the abbey might be astonished, has taken place there. The spacious building has been converted into a military hospital, and its beautiful marble-paved oriental-looking courts, its long echoing corridors are filled with moping invalids.
Now the bell
calls sickly soldiers to their scanty dinner;
And sure through hall, refectory, and cell,
Glide slowly forms much sadder and much thinner.
—Oh! for the good old times—for them the Friars' dinner!

The estates were sequestered shortly after the French Revolution, and King Ferdinand even deprived the monks of their church-plate and jewels. After the French Conquest in 1806, the order, in common with all others that were wealthy, was suppressed, and the members of it who had lived in luxury, and sumptuously every day, were turned loose on the world to starve on a pension of about 10l. sterling per annum, which, in most cases, was very irregularly paid. The church is, however, still rich in works of art, and in published within these few weeks. It is the account beautiful and rare stones. Agate, amethyst, lapis-lazuli and other stones were suppressed, and the event. History descends to notice the appearance of the eagle, as anomen of victory of the appearance of the eagle, as anomen of victory to the Roman armies. And we need not go back to early times. Take the following instance from a book published within these few weeks. It is the account published by the Barão de Los Vallos, of the 'Career of Don Carlos,' whose entrance into Spain after his escape from England is thus signalized:—

'This is a good omen,' said I to the king, pointing out to him that symbol of victory which seemed to have been placed as a sentry to welcome the return of the King of Spain to his dominions.' A greater number of people than at any former time will now smile at puerility; but the solicitude of such a circumstance by an educated man in a grave historical document, is a curious instance of the continued existence of that principle of error which we are attempting to illustrate. The absurdity is not lessened by the fact that eagles are not very uncommon in the Pyrenees; and whether the circumstance had any real weight in the minds of Don Carlos and the Baron or not, the latter must have calculated that there were minds on which it would have effect. These instances merge into superstition, as indeed do a large proportion of the errors arising from this source. The following is a more familiar example of the manner in which the principle operates.

It was observed that rooks descended in large numbers on newly-sown corn-fields, and combining their appearance with the recent sowing, it was not doubted that they were attracted by the grain, and doleful were the complaints of their depredations, and the war waged against them; when all the while the poor birds were actually benefiting the future crop, by destroying the grubs which the recent processes had turned to the surface. Here, in a matter where a very slight degree of attention would have been sufficient to ascertain the truth, men were content to rest in what seemed to them an obvious conclusion, but which occasioned no small anxiety to themselves and great destruction to most useful races of birds.

Another 'modern instance' is quite fresh, having offered itself to our notice in a newspaper over which we have looked since commencing this article. This it is:—'On Friday week, as Duckham, belonging to the lace manufacture of John Heathcote, Esq., M.P., at Tiverton, was at night-work therein, one of the firemen complained that something had clogged the wheel. 'Ah!' said the poor fellow, 'that's a sign of fire.' 'Why, Sam,' said the foreman, 'the gas went out just now; what's that a sign of?' The reply was, 'deaf,' and the foreman, not hearing except for_exclamation, exclaimed without a groan.' If we consider the philosophy of this melancholy anecdote, we perceive that simultaneously with the information to which he thus replied, he felt within himself that the sentence of death had gone forth against him; and by a sudden act of mind connected the two circumstances together; not perhaps that he considered his death as the consequence of the extinction of the gas-lights, but that the gas-lights had been extinguished to furnish an open field for it.
in the ground, when, although it was a dry hawthorn the change consisted in the omission of eleven days in 1752.

When the new style was introduced in 1752, the alteration seems to have been very generally disliked by the mass of the people: the use which was made of the Glastonbury thorn to prove the propriety of the change is not a little curious. The alteration in the Christmas Day was particularly obnoxious, not only as disturbing old associations, but as making an arbitrary change from what was considered the true anniversary of the birth of Christ. In several places, where real or supposed slips from the Glastonbury thorn existed, the testimony of the plant against the change was anxiously sought on the first Christmas Day under the new style. As the special distinction of the thorn arose from its supposed connexion with the great event commemorated on that day, it was argued that it must indicate the true anniversary, and that its evidence should be conclusive on the subject. The event of one of these references (at Quainton in Buckinghamshire) is thus recorded in the 'Gentleman's Magazine' for 1753:— "Above 2000 people came here this night (December 24th, 1752, n.s.) being the first Christmas Eve under the new calendar) with lanterns and candles, to view a black-thorn which grows in this neighbourhood, and which was remembered (this year only) to be a slip from the Glastonbury thorn; that it always budded on the 24th, was full-blown the next day, and went off at night. But the people, finding no appearance of a bud, it was agreed that December 25th n.s., could not be the right Christmas Day, and accordingly refused going to church or treating their friends as usual. At length the affair became so serious that the ministers of the neighbouring villages, in order to appease the people, thought it prudent to give notice that the old Christmas Day should be kept as usual. The slips of the thorn seem to have been everywhere unanimous in this opposition to the new style. This fact is thus alluded to in an amusing article in the 'World':— "It is well known that the calendar was enacted by Pope Gregory XIII., and that the reformed churches have, with a proper spirit of opposition, adhered to the old calculation of the Emperor Julius Caesar, who by no means a Papist. Near two years ago the Popish calendar was brought in (I hope by persons well affected). Certain it is that the Glastonbury thorn has since that time observed its old anniversary. Many thousand spectators visited it on the parliamentary Christmas Day: not a bud was to be seen! 'On the true nativity it was covered with blossoms. One must be an infidel indeed to spurn such authority.'

This devoted belief in the existence of a designated connexion between a natural phenomenon and a particular anniversary affords throughout a very rich specimen of the class of errors which we have endeavoured to illustrate.

* It will be recollected that, as far as this point is concerned, the change consisted in the omission of eleven days in 1752. Following September 2, eleven days were thrown out of account; so the next day was not September 3, but September 21st, because September 1st, 2nd, and 3rd, had been omitted. The thorn, therefore, being in existence during the whole of that last year and since a day which would have been January 5 if the calendar had not been disturbed.
Kingston is the principal commercial town, and actual capital, of Jamaica, although the seat of government
is at S. Jago de la Vega, or Spanish Town, about ten
miles inland. Kingston was founded in 1693, the year
after that most awful earthquake by which the island
was shaken to its centre, and the town of Port Royal
was destroyed with 2000 of its inhabitants. The sur-
vivors thought it would be better to establish themselves
elsewhere, and the site of Kingston was selected as
most suitable for their purpose.

Kingston is situated upon a gentle slope, which is
about one mile in length, and is bounded on the south
by a spacious basin through which all vessels must
advance under the commanding batteries of Port Royal.
The extended inclined plane, upon the verge of which
Kingston stands, is enclosed on the north by the loftiest
ridge of the Blue Mountain chain, termed Liguanea,
which rises to the height of near 5000 feet at the dis-
tance of four miles behind the town. This ridge forms
a semicircle, which terminates in the east at the narrow
The situation of Kingston is highly favourable, rising from the sea, with sufficient activity to give it the command of the sea-breezes, which blow regularly during the greater part of the year, and also to afford a view of the ships coming down the coast to the port. Dr. Madden describes two views of the town—one from the mountains and another from the sea, which exceed anything that can be imagined by one who has not seen Constantinople from the sea-side, and Jerusalem from the Mount of Olives. The distance between the sea and the mountains is pleasingly diversified with country residences, and near the mountains, with sugar-estates. The dryness of the soil on which the town stands, together with the slope, prevents any inconvenience from the lodgment of water in the heaviest rains, while the town is well ventilated by the daily sea-breeze. But although the slope prevents any water from stagnating in the town, it is attended with one great inconvenience, for it admits an easy passage to great quantities of sea-water which collect in the gulleys, at some distance towards the mountains, after a heavy rain, and sometimes rush so impetuously down the principal streets as to make them almost impassable by wheel-carriages, and carry accumulations of mud and rubbish to the wharfs. The front foundations are undermined by the same cause, in consequence of which many of the houses have a shattered appearance, which in some measure gives to the town the aspect of a ruined city.

The original plan of the town, as drawn out by Colonel Lilly, an experienced engineer, was a parallelogram, one mile in length by half a mile in breadth, regularly traversed by streets and lanes, crossing each other at right angles, except at the upper part, where a large square was left; but the town has now extended so far beyond the limits assigned it in this plan, that the square is at present nearly in the centre of the city. The streets in Lower Kingston are long and straight, and laid out with a regularity which Martin attributes to that of the new town at Edinburgh.

Here, the comparison ends. The houses are generally built of brick, and are high, having the fronts shaded by a piazza below and a covered gallery above. The English and Scotch churches are, perhaps, the most elegant structures in the town, particularly the former, which is built on a picturesque spot, commanding a splendid view of the city, the plains around it, the amphitheatre of mountains, and the noble harbour. The church itself is a large and elegant building, with four aisles, and having a well-constructed tower and spire, which form a great ornament to the town. The other public buildings are the court-house, a free-school, a theatre, the barracks, the public jail, and an asylum for destitute negroes.

Col. Lilly, in his 'Tom Cringle,' has described the town in his usual happy manner. We shall therefore give his account of it in his own words. He says—

"The appearance of the town itself was novel and pleasing; the houses, mostly of two stories, looked as if they had been built with cards, most of them being surrounded with piazzas, from ten to fourteen feet wide, gaily painted with green and white, and formed by the roofs projecting beyond the brick walls or of the houses from them. The ground-floor, these piazzas are open, and, in the lower part of the town, where the houses are built contiguous to each other, they form a covered way, affording a most grateful shelter from the sun on each side of the streets, which last are unpaved, and more like dry water-courses than thoroughfares in a Christian town. On the floor above, the balconies are shut in with a sort of movable blind called "jealousies," like large-bladed Venetian blinds fixed in frames, with here and there a glazed sash to admit light in bad weather, when the blinds are drawn. Up the upper part of the town the effect is very beautiful, every house standing detached from its neighbour in its little garden, filled with vines, fruit-trees, and stately palms and cocoa-nut trees, with a court of negro-houses and kitchens being detached buildings, and there are wells and springs in the midst of them.

A view of the ships coming down the coast to the port of Rock Fort, from whence a long neck of land stretches far away to Port Royal, forming the southern barrier of the excellent haven. The semicircle terminals in the west at a narrow pass, upon the edge of an impracticable lagoon, from whence the main-land sweeping round Port Henderson and the projecting salt-pond hills secure one of the most superb mercantile havens in the world, and in which the whole fame of English navigation is founded mainly and safely ride. The entrance of this harbour is defended on the east point of the delta of Port Royal, by the formidable ramparts of Fort Charles, and on the west side by the cannon of Rock Fort, while the low raking shot from the sixty pieces of large cannon on the long, level lines of Fort Augusta would blow a hostile navy out of the water before it could pass the narrows to get up to the anchorage at Kingston. To the above statement, which incorporates the accounts of Mr. Montgomery Martin and Captain Basil Hall, the latter, a most judicious and competent judge on such points, adds, that the haven is completely land-locked; and, even independently of its fortifications, may be deemed almost impregnable towards the sea, as it would be little short of a miracle for an invading squadron to wind its way through the labyrinth of shoals and reefs which lie off its mouth, and among which the channels are so narrow and intricate, that the sinking of a sand-barge would effectually block up all ingress.

The town is found to be as healthful as any in Europe.
The Travels of Mirza Itesa Modeen in Great Britain and France.

The book was written in the Persian language by a Mohammedan man of letters, and was translated into English, about eight years since, by Captain Alexander. The Mirza was in this country about seventy years since, and some of his observations are therefore not now applicable; but the interest is great as it shows how the town was the same then as they are now. The book is especially interesting for the unique and character of the差异； but we pass by to express the completeness of the difference between our institutions and those to which he has been accustomed, and between his own personal and mental habits and those which are brought under his notice. From these circumstances the observer is led to state the differences more broadly, and to express his views more strongly than a person of any neighbouring nation would think of doing; and we thus obtain a singularly-curious view, not only of the country which he describes, but of that to which he himself belongs.

The remarks of the Mirza upon the things he observed during the voyage are occasionally very curious and characteristic; but we pass by to express the completeness of the difference between our institutions and those to which he has been accustomed, and between his own personal and mental habits and those which are brought under his notice. From these circumstances the observer is led to state the differences more broadly, and to express his views more strongly than a person of any neighbouring nation would think of doing; and we thus obtain a singularly-curious view, not only of the country which he describes, but of that to which he himself belongs.

England, as described by an Eastern Traveller Seventy Years Ago.

There are perhaps few books more generally interesting than those which contain the observations of strangers on our own country. They are also useful, for while we make allowance for some of the prejudices and distorted views of the stranger, we are obliged in some degree to neutralize our own, and in this way obtain a medium estimate more profitable, if less agreeable, than that unmitigated complacency with which we are but too much accustomed to regard ourselves and the things that belong to us. Perhaps the interest, if not the instruction, which such works afford, is proportioned to the distance of the writer's country from our own, and to the completeness of the difference between our institutions and those to which he has been accustomed, and between his own personal and mental habits and those which are brought under his notice. From these circumstances the observer is led to state the differences more broadly, and to express his views more strongly than a person of any neighbouring nation would think of doing; and we thus obtain a singularly-curious view, not only of the country which he describes, but of that to which he himself belongs.

These remarks have been suggested by a perusal of a book entitled, *Shigurf Namah-i-Velaët*; or, *Excellent Intelligence concerning Europe: being the vanished.* The Mohammedans of India being mostly descended from Persians and Afghans, are not black like the Hindoos, but of a brown or olive complexion, more or less dark according to their rank in life and degree of exposure to the sun.

Here he must mean the streets in which the ground-floors of the houses are occupied as shops.
the streets are spacious. On both sides are houses, three and five stories in height, which are uniform, resembling the Calcutta barracks. They are neither crooked nor deviate from a straight line, therefore strangers and ignorant people are apt to commit mistakes. To prevent errors, the owner of a house causes his name to be engraved on a brass plate, which is affixed to the upper part of the door. Artisans and tradespeople have the sign of their occupations painted on a board attached to their doors: as, for instance, if he be a shoemaker, there is the figure of a shoe;—if a baker, the figure of a loaf;—if a fruiterer, different kinds of fruit.

That which is here said on the way in which houses and shops are distinguished is scarcely now applicable. Shop-signs have almost entirely disappeared, and private houses are rarely distinguished in any other way than by being numbered, except among persons in business and professional people, to whom it is of importance that their residence should be easily discovered by strangers. The Mirza does not appear to have considered a sufficient distinction seems to denote that people have ceased to care what mistakes "strangers and ignorant people" may commit. The Mirza proceeds:

"The streets are paved with stone, and their breadth is such that three carriages are able to pass one another; besides, for foot-passengers on both sides of the streets, there is a space of two yards and a half in width. Horsemen and quadrupeds are not permitted to go upon the pavement, which is reserved for foot-passengers and gown-dressed ladies. On both sides of the street, with an interval of thirty cubits, posts are erected near the walls of the house, and of the height of eight or nine cubits; on every post a glass vase is suspended in an iron ring, and in every district of the city men are appointed; one of these during the day cleans the glass vases, and goes along placing a wick and oil in them; the other in the evening comes with a torch in his hand, and quickly lights the lamp, and all at once, to the distance of an arrow's flight, the streets of the bazaars are lighted up and gleam; to the sight the light is considerable. In this way the whole city and streets are lighted up; the people walk about until the second watch of the night, and they have no need of torches or lanterns. It is customary in Europe for noblemen and princes to walk on foot both during the morn and day, and the doorways were not considered to be attended by grooms, servants, or torch-bearers."

As Asiatic towns are not lighted all at and, as London was, even seventy years ago, the best-lighted city of Europe, we can understand the approbation with which strangers generally spoke of the light by which our fathers walked in the night time, although we are now enabled to look back upon that light as upon the things that belong to darkness. A person, however, who at night looks down from the blaze of Fleet Street upon the "dim religious light" of Serjeants' Inn (which continues to be illuminated on the old plan), will be slow to admit that there was no need of lanterns under the oil and wick system. They were, in fact, greatly needed; and within our own recollection it has been a common thing for people to go about the streets with lanterns in their hands, or preceded by persons bearing lanterns for them. The Mirza next discourses of the houses of condition in this country (Bengal) the rooms are lofty, in order that there may be a current of air in hot weather; but in consequence of the cold and frost in Europe, they are low. The floors are wooden, the ceilings are painted white, and the walls are covered with coloured paper. When the wind blows the walls of the houses shake, and strangers are afraid of their falling; but there is no cause for fear, though I myself was alarmed.

The people of condition in this country (Bengal) inhabit the first and second floors of the houses; the fourth floor is appropriated to servants; the ground-floor is rented as a shop. In the shops are glass-cases, in which the different articles are arranged."

In this he dwells chiefly on those points in which the houses were distinguished from those of his own country; "wooden floors," for instance, not being used in India. After a stay of three months in London, the Mirza was taken to Oxford, where he was treated with much attention by the learned Orientalist Dr. Hunt, and by Mr. (afterwards Sir William) Jones. They showed him the Persian and Arabic manuscripts in the libraries of the University; and he says that, in order to examine him and try his abilities, they put different books into his hands, and to the best of his ability he explained their meaning, which, he seems to say, had not before been well understood. He says indeed, towards the end of his book, that there was no person in England who could read or write Persian. But there were many who desired to learn; and in the end he was himself importuned to stay in England as a teacher of that language, with the assurance that he might realize a handsome income in this way. But he declined most decidedly, saying, "Poverty in my own country is much better than wealth in this."

Here we must take leave of the Mirza for the present, but shall probably consider his observations upon the institutions, character, and customs of the English of that day, sufficiently interesting to claim another paper from us.
Errmologists seem to have been rather puzzled about the signification of the name of Glasgow. M'Ure, the first historian of the town, says that the word signifies in Gaelic a greyhound, and also a gray-smith; subsequent historians take no notice of the greyhound, but adopt the gray-smith, and conjecture that a person of this description, eminent in his profession, had taken up his residence in the place, and that in compliment to him it received this name. Others again suppose that, as the word also signifies a dark glen, it alludes to the glen at the east end of the church, where stood the cell of St. Kentigern, of whom more hereafter. We confess that none of these etymologies satisfies us, and we will therefore afford our readers an opportunity of making a better for themselves. In Shaw's 'Gaelic Dictionary,' the word Glas has the various significations of grey, green, pale, wan, poor; and we see it thus used in combination, as glasghort, a green plot; glasnaigh, a green field. The other portion of the compound does not occur in Shaw; but on turning to Jamieson's 'Etymological Dictionary of the Scottish Language,' we find him considering the word Gow, as allied to the old Teutonic word gow, a country or region, and hence gay, forms the termination of some names in Germany. Now, by thus combining either of the epithets grey, green, pale, wan, poor, with the word place, country, or region, it seems to us that a more reasonable etymology may be obtained, according to the reader's preference, than either of those which we have adduced.

Like other towns in many parts of the island, Glasgow seems indebted for its origin to its ecclesiastical establishment, or place of worship, which existed on or near the spot which the High Church now occupies. This seems established by the fact that in the early periods of the Scottish history, the town, then very inconsiderable, was almost exclusively possessed by the clergy and by their dependents connected with the establishment in question. It also seems that all the houses which composed the town in those early times were situated upon the high ground in the immediate vicinity of the site of the cathedral, which served as the nucleus of the town, and from which, in the course of time, its buildings extended down the hill and over the gently-ascending ground between the hill and the river. The hill still continues to form a marked distinction between the ancient and modern portion of the city.

The ecclesiastical establishment to which we have alluded was founded here in 560 by St. Mungo, or Kentigern. To this the origin of the place is attributed, the sanctity of this holy person's residence naturally inducing religiously disposed people to take up their abode near him. He died in 601, and was buried at
the east end of the ground where the church now stands, and where his tomb is still shown. He was succeeded by his disciple Baldred, but of the time of this person's death, of the names of his successors, and of the state of the place there are no accounts that can be relied on for nearly 800 years subsequent. It seems that, previously to 1109, the church was a very mean building, constructed chiefly with timber, and that it had at that time gone to decay.

When David I. ascended the throne of Scotland in 1124, he founded, or, as some say, re-founded the see of Glasgow, endowed it with ample revenues, and bestowed the bishopric upon John Achaius, a man of great learning, who had formerly been his tutor, and was then his chaplain. As a consequence of this foundation of its stately cathedral, which he consecrated in 1136, in the presence of his royal pupil and king, who took the opportunity of making an addition to the previous endowment. Joceline, the third bishop after Achaius, procured in 1174, from William the Lion, a charter, erecting Glasgow into a burgh royal, and also another for holding an annual fair of eight days' duration. 'From this time forth,' says M'Ure, 'the place had and assumed something like the face of business.' It is in 1266 that we first hear of the town being by a present and baillies, having then a distinct seal from that of the bishop. To entitle the place to privileges of this sort, it must previously have become a considerable village. It doubtless also obtained still further increase about this time in consequence of a papal bull enjoining the whole inhabitants of the diocese to visit the cathedral, as their mother church, at least once every year. The same Bishop Joceline enlarged and adorned the church. M'Ure says that he built it of larger size and greater splendour than before, seeming to infer this from the fact that the church was then re-consecrated; but we believe this ceremony was always considered necessary where a church was so altered or enlarged, that ground not previously consecrated was brought within its limits.

We are not, however, to exaggerate the effect of these circumstances in accelerating the progress of the town to consideration, for so long afterwards as 1397 it was not of sufficient consequence to be named among the caustionary towns assigned to Edward of England for the ransom of David II. Previously to this date, however, Glasgow had been the scene of some stirring incidents in the conflict between Edward I. of England and the party of Bruce. Edward's plans having been much opposed by Robert Wishart, Bishop of Glasgow, who was one of the lords of the regency appointed on the death of Alexander III., he was seized by the English King's order, and kept in prison north and south from the cathedral to the Clyde under instruction to all up on the rear of the English, and in the surprise succeeded in dividing their column. This was no sooner perceived by Wallace than he rushed to the spot where Wishart was, and with one stroke of his broad-sword cleaved his head in two. Thus the resistance of English then became general, and Bishop Beck himself did not deem it prudent to remain behind.

From this time until the middle of the fifteenth century the minute historians of Glasgow find no events of greater importance to record than the substitution of a stone tower to the cathedral for the previous wooden spire, which was destroyed by lightning in 1387,—the wooden bridge also having, some years before, been put down. About 1400, a mint-house was erected in the Drygate Street, in the time of Robert III., at which coins were struck. The erection of the bridge is stated to have had the effect of occasioning the new buildings that were added to the town to be extended in the direction towards it. Its increase must, however, have been very slow; for at the second great epoch of its history, which occurred in 1450, the number of inhabitants did not exceed 1340.

A new impulse was given to its increase and prosperity at the period mentioned by the establishment of a university by Bishop Turnbull, whose interest at Rome enabled him to obtain a bull for the purpose from Pope Nicholas V. In this the university by Bononius (Bologna) in Italy is mentioned as the model of the new establishment, and the bishop himself is constituted chancellor. Nothing that had previously been done contributed so much to the extension and improvement of the city as the establishment of this seat of learning. The population increased, and the revenues increased on the plan partly west than was occupied at the period in question, although it seems that the other street was then of the same extent as at present. It appears then that the original streets formed a huge cross, the angles of which have been filled up by the subsequent increase of the city.

Bishop Turnbull was undoubtedly a great benefactor to the town; but his benefactions were not wholly without price to the citizens, since he obtained a charter from the king, vesting in him the right of appointing and removing the municipal officers, from the highest to the lowest. From that time to the Reformation,
this power was exercised by the bishops, or by noblemen acting in their right. When, however, the turn which the Reformation took induced Archbishop Beaton to withdraw to Paris, taking with him the charters, relics, and every moveable of value belonging to the see, the citizens availed themselves of the disturbances of the times to resume the exercise of their municipal franchises. They do this was, however, afterwards frequently challenged and infringed by the Protestant bishops, and by the nobles whom the disturbances of the time had enabled to appropriate the temporal powers and properties of the see. And although the parliament in 1633 declared Glasgow to be a royal burgh, with freedom of election, we find Cromwell and the privy council afterwards interfering; and the right has only been enjoyed without disturbance since 1690, when the town was declared free by a charter of William and Mary, with power in the town-council to elect the magistrates as fully and freely in all respects as Edinburgh, or any other royal burgh in the kingdom. M'Ure says, that Sir John Houston, provost in 1607, was the last country gentleman who occupied that office; the subsequent provosts down to his own time (1736) having been "creditable burgesses and trading merchants in the city. When the provost first assumed the title of "Lord Provost," and to be styled "Honourable," does not appear; but we know that, after the important event of 1690, the corporation felt encouraged gradually to assume the outward and visible symbols of consequence. Thus we find it recorded that in 1720 the lord-provost first began to wear a velvet court-dress;—that in 1767 the provost, bailies, magistrates, dean of guild, and convener, first wore chains of gold;—that such chains were also assumed in 1810 by the bailies of the river, and in 1812 by the bailies of the barony of Gorbals.

In the contest between the Regent Arran and the Earl of Levenoxx, during the minority of Queen Mary, Glasgo suffered considerably, being alternately occupied by the contending parties. The unfortunate Darnley (father of James I. of Great Britain) resided, some years afterwards, in the town, immediately previous to his mysterious death. And it was in the neighbourhood of Glasgow that the battle of Langside was fought, so decisive of the fate of Mary, after her escape from Lochleven Castle. Murray, who stood upon a hill during the engagement; and under the shelter of huts until better accommodation could be provided for them. This was on Thursday; by Saturday evening most of these unfortunate people had returned; but on Sunday morning the fire broke out anew, and continued to rage with almost its former violence for several hours. The whole of the inhabitants were then so completely terrified, that, after withdrawing what moveables they could from their houses, they hastened to the field of battle for several miles, until all apprehensions of further danger had subsided. The loss, which was estimated at 100,000l. sterling, was too great for the town to bear; the inhabitants were therefore obliged to apply to other towns for assistance; and Cromwell, when he heard of this unhappy event, exerted himself in promoting a subscription for their relief. It seems

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* Other accounts say that the request was for leave "to pistol the scoundrel," and the answer, "He is one fool, and you are another."

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THE PENNY MAGAZINE.
that the houses were chiefly of timber before this fire, to which, however, alluding at the time, the town is indebted for the erection of stone buildings, and for a more regular arrangement of the streets. Nearly a century after this event, however, most of the houses were still covered with thatch. It is worthy of notice that the expressions on this occasion, that a third of the city, containing the habitations of 1000 families, was consumed, and if we calculate five persons to a family that the population must then have amounted to 15,000 persons, being double what it had been in 1610, when it did not exceed 7644. This duplication of the population within so short a time is confirmed on other authority, and is accounted for by the statement, that Glasgow during that period carried on the most considerable inland trade in Scotland, as well as an export trade in salmon and other articles, the produce of the country. From this time Glasgow has increased with a rapidity almost without a parallel. In 1695 it was expressly ranked as the second city of Scotland, and assessed accordingly. Yet at that time (whether from deficiency of registers, or from the effects of the civil war consequent upon the attempts of Charles II. to establish episcopacy in Scotland, does not appear) its population is stated as less than it had been forty years before. The progress which it made before and after this period from an incompleteness to a city not exceeded by any capitals of Europe, will be best illustrated by the following table, which may be here inappropriately introduced for the sake of showing its relative importance at the different periods to which our statement refers.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600</td>
<td>4,460</td>
</tr>
<tr>
<td>1610</td>
<td>7,644</td>
</tr>
<tr>
<td>1620</td>
<td>9,678</td>
</tr>
<tr>
<td>1638</td>
<td>11,948</td>
</tr>
<tr>
<td>1674</td>
<td>12,766</td>
</tr>
<tr>
<td>1712</td>
<td>20,754</td>
</tr>
<tr>
<td>1755</td>
<td>23,546</td>
</tr>
<tr>
<td>1763</td>
<td>28,300</td>
</tr>
</tbody>
</table>

When Charles II. had obtained the concurrence of a subservient parliament in his design to establish episcopacy in Scotland, the archbishopric of Glasgow was revived, and measures of great severity were resorted to in order to induce the steady adherence of the town to presbyterianism. Not to mention other grievances, we may notice that in 1666 many citizens were hanged in the streets because they would not conform to episcopacy; and in January, 1678, the city was abandoned for five days to the cruelty and extortion of a body of 8000 Highlanders, who were sent to make the inhabitants sign a bond renouncing their faith. As the fire happened to be near the jail, which was then crowded with persons imprisoned for conscience' sake, the citizens, under the pretext of saving lives, broke open the doors and set them all at liberty.

The persecutions to which they were exposed on account of their religion, overcame in the minds of the people of Glasgow the attachment they naturally entertained for the native dynasty of Stuart, and it does not appear that any town in Britain hailed the Revolution of 1688 with more heartfelt satisfaction than this. No sooner had James fled the country than the citizens raised a troop of 500 men, which they sent to Edin-
a solemn dignity to the more ancient district. The college buildings, the finest in Scotland before the erection of those of Edinburgh, and still possessing the superior merit of more nearly resembling the splendid models of Oxford, have also a highly dignifying effect. The Trongate, which with its continuations intersects the whole city from east to west, is a noble piece of street scenery,—indeed one of the noblest things of the kind perhaps in Europe*. Few of the streets are irregular or mean, while many of them may be called fine; and what must add greatly to the pleasure of a stranger in contemplating them is, that all are filled during the whole day by crowds of prosperous and happy-looking people, who walk at a lively pace, and in whose eyes some animating purpose of business or of pleasure may constantly be read."

from the Cross. The statue is that of William III.; the curiously projecting steeple belongs to the Trongate Church, of which Dr. Chalmers was for many years minister.
To this we have only to add, that the public buildings and the tenements fronting streets are mostly built with hewn stone and covered with slate. The greater part of the private buildings, particularly in the ancient part of the town, are, as in Edinburgh, built in what is called flats, by which two or more families are accommodated under the same roof, each floor being as it were a separate house for domestic purposes. This plan certainly contributes to give a town a grand appearance by encouraging the erection of spacious and lofty buildings; it however seems to detract in some degree from individual comfort and independence. The people of Glasgow seem not disposed to enter into the views of the English on this point, as the houses in the more modern part of the town are generally so formed that one family possesses the whole.

We learn, from the pleasant work of Mr. Chambers, that the Clyde, the Cathedral, the Green, and the Trongate, are the points upon which the native of Glasgow principally grounds his ideas regarding the consequence of the city, and which he would defend from any species of violation, as if it were a personal instead of a public property. We will therefore give precedence to the Clyde and the Cathedral in our account of the more noticeable objects in the city; but for the Trongate we must content with the general notion which our large wood-cut and some passages in the preceding statements will have conveyed. As for the Green, we can only say that it is in the highest degree worthy of all the praise which the people of Glasgow claim for it, particularly since the improvements which it has of late years undergone and the extension it has received.

There is, we believe, no town of equal size in the empire that possesses such a great public esplanade as this, whether its extent (about 140 imperial acres), its utility to the inhabitants, or its picturesque effect, be considered. It is on the banks of the river, adjoining the south-east side of the town, being a continuation of the plain on which it is built. This extensive piece of grass-ground is bordered with trees, among which there are gravelled walks for an extent of about four miles. The views from the Green are interesting and finely diversified. It is of course a favourite resort of the inhabitants, to whom it serves the useful purposes of a promenade and a bleaching ground. At the west end of the Green there is a tall and handsome obelisk in memory of Lord Nelson, completed in 1806, at an expense of 5875.

The Clyde.—The modern "men of Glasgow" (as they proudly call themselves, and as distinguished from the "folk" of Greenock and the "bodies" of Paisley) are not peculiar in their admiration of the Clyde. Their fathers of old, who hailed forth by the neck the "idolatrous" statues in the Cathedral, yet did not forbear to idolize their noble river. That curious old twaddler, M'Ure, whose "View of Glasgow" was published in James Cleland, the eminent historian and statistician theyear 1736, has sundry verses in praise of the river. of Glasgow. It is from a design of the late Mr. Chambers, a great flood,--furplentious fish rejoiced, And gentle streams that cheer the fruitful ground; Nor stately mitre,—cause of all thy woe, Spreads round the riches of her noble tide.''

The curious motto of the city arms would almost seem to have been devised in a spirit of prophecy. The armorial bearings are an oak-tree, with a bird perched upon the top, and a salmon suspended from the lower branch, with the motto, "Let Glasgow flourish." In former times, "through the preaching of the word" was added to the motto, but it was in the end restored to its primitive form.

In the beginning of the sixteenth century, the channel of the Clyde, for thirteen miles below Glasgow, was so incommoded by fords and shoals as to be scarcely navigable even for small craft. We cannot here enumerate the progressive improvement, by which the harbour of the Broomielaw has been brought to its present condition. Many of these improvements have been effected very recently. Only a few years ago the harbour was but 730 feet long: it is now 3340 feet long on the north side of the river, and 1260 on the south. It is only since 1831 that vessels drawing 13 ft. 6 in. water were able to come up to Glasgow. Before that time, vessels of 7 or 8 feet water only were able to go up, the rest being obliged to discharge and receive their cargoes at Greenock or Glasgow. At present, the river for seven miles below the city is confined within narrow bounds; and the sloping banks, formed of whinstone, are unequalled in the kingdom, whether their utility or beauty be taken into account. The quay, extending down the river, is perhaps better known under its denomination of the Broomielaw than any similar locality in the country. Mr. Chambers quotes two lines of an old ballad, which show that it was early of some consequence under this name—

"At Leith comes in auld meal, And herin at the Broomielaw."
light construction; but on the rebuilding of the Hut-cheson Bridge it was removed, and a new one was erected lower down the river, in 1832, at Portland Street. This new timber-bridge is thirty feet wide within the railing, and has a carriage-way and two side pavements.

The Cathedral.—We may hereafter have occasion to give a separate cut of this other pride of the "men of Glasgow," which is undoubtedly the most splendid and entire specimen of ancient architecture that now exists in Scotland, and the only cathedral, except that of Orkney, which was allowed to survive the Reformation. We shall therefore at present abstain from a detailed account, and confine ourselves to a brief general view. For this we shall again be obliged to Mr. Robert Chambers, whose general descriptions are commonly the best that can be found, and who in the present instance has, we perceive, adopted, with some modification, the description given by Sir Walter Scott in "Rob Roy."

"It is a stupendous dusky fabric of Gothic architecture, and placed upon unequal ground, somewhat higher at the eastern than western extremity. The general aspect is gloomy rather than elegant; but its peculiar character is so well preserved, and so well suited with the accompaniments that surround it, that the impression of the first view is awful and solemn in the extreme. Though situated in a populous city, it has the appearance of the most sequestered solitude. High walls divide it from the buildings of the city on one side; on the other it is bounded by a ravine, however, both the Inner and Outer Churches have been fitted up anew, with better taste, and in a style suited with the accompaniments that surround it, that makes Rob Roy appoint the assignation with Frank the impression of the first view is awful and solemn in Osbaldistone."

In the first fervour of the Reformation, the following order was issued by the general government at Edinburgh, to all magistrates and persons in authority:—

"To our trust friends:—

"Trust friends, after maist harty commendacion, we pray ye fail not to passe incontinent to the Kirk [Glasgow], and tak down the hail images thare, and bring forth to the Kirk-yard, and burn thaire openly. And sickly cast east on the altars, and purge the Kirk of all kind of monuments of idoles. And this so fall not to do, as we will do singularly empesand; and so commit ye to the protection of God.

"From Edinburgh, the xii of Aug. 1560.

(Signed.)

AGNES, JAMIE STEWART, RUTHVEN.

"Fall not, but so tak gold heyd that neither the daskes, win-docks, nor durtis be any ways hurt or broken, either glassin or iron work."

In the zeal which was then rise to destroy every edifice that had been consecrated to the service of the Roman Catholic faith, small heed was paid to the limitations contained in this order, which was only regarded as in some measure authorizing what would have been effected without such authority. The Cathedral of Glasgow was at this time, however, spared through the sensible advice of the provost, who recommended the zealous to wait till a new church was built before they pulled down the old one. The building seems, however, to have been stripped of its valuable contents, and even of the leaden roof; and ultimately, in 1579, the Principal of the College and the clergy of the city prevailed upon the magistrates to consent to the destruction of the stately fabric. Accordingly a numerous body of workmen were engaged for this service; but when they were assembled by beat of drum, and were about to commence their labour, the craftsmen of the town, headed by their "deacons," appeared upon the scene, and swore that the man who pulled down one stone of the building should not live to bring down another. From the previous conduct of the magistracy, we may be allowed to suppose that they were glad of the excuse which the spirited conduct of the crafts afforded for recalling the consent which had been drawn from them. At any rate, the provost promised that no harm should be done to the Cathedral, and the craftsmen then quietly dispersed.

Having escaped these dangers, the interior was formed into three Protestant churches. The choir was divided by a stone partition, and the western portion formed into a place of worship under the name of the Outer High Church. Another church, called the Inner High Church, was formed out of the nave; and the spacious half-subterranean sequephral vaults underneath the nave were fitted up as a third church, for the Danny Parish, and in which Sir Walter Scott suggests the impression with Frank O'Heathstone. These alterations seem to have been made without any pretensions to taste of any kind, and with utter disregard of the original plan and style of the building. Within the present century, however, both the Inner and Outer Churches have been fitted up anew, with better taste, and in a style which in a considerable degree corresponds with the magnificent external architecture of the Cathedral. Since 1804 some vaults under the nave have been abandoned as a place of worship, and restored to their original destination as a cemetery.

Several of the other ecclesiastical structures of the town are numbered among its principal architectural ornaments; but the design of this article, and the limits to which we are restricted, does not allow us to enumerate, and much less to describe them.

The University.—The origin of this establishment has already been noticed. It was founded to meet a demand of the magistracy, we may be allowed to suppose, that the building was formed into a park or green, interspersed with trees and hedges, and always kept in grass, to be used by the students as a public walk or place of exercise or amusement. As the students do not reside on the premises, but lodge in the town, the importance and efficacy of such an establishment as the University of Glasgow must be estimated by far other considerations than the

* There are two principal courts one behind the other; and two small courts, one on each side of the front quadrangle, and entered by separate gates in the streets front.

† Chambers' "Picture of Scotland,"
form and quantity of the stone and masons forming the apartments in which its teachers give instruction, and in which collections are preserved. Of the collections belonging to the establishment the most important is the Hunterian Museum, preserved in a modern building at the back of the Institute. The magnificent donation to this museum was made by the celebrated Dr. William Hunter, who was born in the neighbourhood of Glasgow, and who, at his death, bequeathed to the college his splendid collection of books, coins, paintings, anatomical preparations, &c., together with the sum of 8000l. for the erection of a building for their reception. The collection is valued at 65,000l. in the following proportions: medals, 30,000l.; books, 15,000l.; pictures, 10,000l.; miscellaneous, 10,000l. The collection has been considerably increased of late years, and the benefits of it are not limited to the students, any person being allowed to inspect it on the payment of one shilling.

Municipal Structures.—The Town Hall buildings, which appear in our larger wood-cut, were finished in the year 1636. This structure is situated on the north side of the Trongate, at the east end near the Cross. The basement was originally formed into an arcade with a rusticated front, over which rises a range of fluted Ionic pillars. The Town Hall is fitted up in an elegant style, and contains portraits of all the monarchs of Great Britain, with a bust of George III., and a statue, by Flaxman, of William Pitt. The ground flat of this building contains the Tontine Coffee-room, a place of public resort, and which was, until of late, the public Exchange of Glasgow. For building this coffee-room and hotel a subscription was opened in 1781, by way of tontine, in 107 shares of 50l. each. The architect evinced considerable skill in throwing the arcade of the Town Hall into an extensive portico, retaining the upper part of the building as the main facade of the structure, within which the room is 74 feet long, and of proportionate breadth and height. It is furnished with Scotch, English, Irish, and foreign newspapers, magazines, reviews, and other periodical publications. Strangers are admitted without introduction, and may enjoy all the privileges of subscribers for four weeks without any subscription, a liberality not equalled (as Dr. Cleland believes) in any other great town in the island. This establishment is managed by some of its subscribers, by subscription of one shilling each, paid by each student in successive years.

In concluding this Supplement, it may be necessary to remind our readers that it does not profess to include, even in substance, all the information, or even all of the interesting and important information, which so large a subject as Glasgow offers. This could not have been done within our limits without reducing the account to the dry simplicity of an index. We have therefore rather chosen to confine our attention to some prominent points in the external history and condition of this important city. In performing this intention we have not forgotten the equal claims to notice of the facts illustrating the internal history of its past and present condition, and of the social ameliorations which have been effected or are in progress. To these subjects, together with its trade and manufactures, we shall give our attention in another Supplement.

The authorities of which we have chiefly availed ourselves in the above account are,—M'Ure's 'View of the City of Glasgow'; Denholm's 'Historical and Topographical Account of the City of Glasgow'; Cleland's 'Annals of Glasgow'; Chamber's 'Picture of Scotland'; and the articles 'Glasgow' in the 'Edinburgh Encyclopaedia' and in the 'Encyclopedia Britannica.'

LONDON.—CHARLES KNIGHT, 59, LUDGATE STREET.

PRINTED BY WILLIAM GLOWE, AND SONS, STANFORD STREET.
CASTLES romantically situated occur very frequently among the mountains of the Tyrol, and being mostly in ruins and overgrown with ivy, they form one of the most picturesque features of scenery which is almost everywhere picturesque or striking. The view we have engraved in our present Number represents Castel-Val or the Valley Castle, which travellers admire as a fine specimen of these hoary mountain-fortresses. It stands on a lofty overhanging rock, in the upper part of the beautiful valley of Meran, which we have already described. We find nothing particular related of it beyond its bold situation and frowning aspect. Its history is probably in the main just the same as that of most of these edifices: at first the strong-hold of a feudal baron who lived and died in it; then, on the decline of the feudal system and the extension of the royal power, a garrison held for the sovereign of the country, or occupied merely as a dwelling-house by its titled owner; then, as the art of war advanced, and artillery, bombs, and shells, rendered many a place, though built on a mountain rock, as weak as if it had been erected on a plain, it was abandoned as a military position; and then, as the whole state of society changed, and the nobility took up their permanent abode in courts and cities, and felt a taste for more commodious and luxurious domestic arrangements than the interior of most of these rude hill-fortresses could afford, the castle, finally, was altogether abandoned, ceasing even to be an occasional country-residence to its owners, and time and the tempest doing their work, it generally became, in the course of a century or two, a complete ruin, where the bat flitted and the owl roosted.

It was the same story everywhere. In England...

[View of Castel-Val.]
where the increase of population and cultivation was so rapid, and subject to so few checks, the immense majority of these feudal castles wholly disappeared from the face of the earth; the walls were knocked down, the best of their materials being used in building farmhouses and cottages, and the plough passed over their foundations from barbacan to donjon-keep. But in poorer and thinly-peopled mountainous countries, where the pastures were not wanted, and the ground would be of no use, the towers and battlements were rarely molested by the hand of man; and in many parts of Europe they still frown “along the steep” in numbers almost incredible. In the Tyrol, in Savoy, in many parts of Switzerland, in all the passes leading into Italy, in the valley of Piedmont, along the whole Apennine chain, and in every mountainous district in the Italian peninsula, these ruins of the middle ages abound,—a positive fact which upsets a pretty sentiment of Madame de Staël, who said that this classical land would only retain traces of the classical ages, and rejected from her bosom the gloomier relics of barbarism and feudalism.

In our preceding Numbers we have said something of the character and habits of the Tyroleans, and we will now add a few more traits and circumstances the better to enable the reader to form a notion of this very interesting people. The martial nature of the illustration at the head of this article suggests that we should in the first place speak of the military qualities of the Tyroleans, of which, however, our sketch of Hofer’s extraordinary campaigns against the French must have given some idea. Like most mountaineers they have been distinguished by their bravery in actual service, but they have at all times evinced even more than the usual dislike of mountaineers for the rigour and routine of military discipline. The Austrian system, with its stiff unbending rules and interminable details, tends probably more than any other to convert the soldier into a mere machine; but, though constantly acting with the Imperial troops, and loyal beyond measure to the emperor, the Tyroleans not only never would submit to be made machines of, but they persisted in maintaining their own loose and light system of discipline, and in being commanded by officers of their own nation, who for the most part associated freely with their men, and were endeared to them by old ties and old acquaintanceship. They moreover would enter the army and serve only as volunteers, stating (what was true enough) that whenever an enemy set foot on their soil, or their emperor stood in need of their service, they were always ready to take up their rifles, and march without any impressment or compulsion. In 1785 the Emperor Joseph endeavoured to subject them to regular forced levies, in the form of the conscription introduced by the French and their dependent Bavarians, that contributed more than anything else to make the Tyroleans rise almost to a man against the tyranny of Napoleon. In a country like theirs, abounding with chamois and other game, nearly every peasant contrives to buy a rifle and becomes a sportsman; and then, for many ages, one of their national sports and their favourite amusement has been, to meet in parties for rifle-exercise, and to rival each other in the art of firing at targets. These matches of the said goods. At the return of the travellers, who

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country and a mountain warfare, but though they laugh at the unfortunate tactics of the Austrians, who lost most of their great battles according to rule, it may be questioned whether the Tyroleans could have done much beyond their frontiers, if left unsupported by a more regular army or organized system.

M. Mercey gives one of their epigrams, of which the sense is,—“To gain a victory, say the Austrians, without the practice of war; the Tyroleans, who would rather beat our enemy without tactics, than be beaten with them.” As a component part of an army, and that, too, a most important part, no men are superior to the Tyroleans, who have every quality proper to light infantry and tirailleurs (sharp-shooters). Even in the most disastrous campaigns, their activity, boldness, and quickness of resource have commanded the approbation of all parties. We never saw merrier and lighter-hearted soldiers than some of these rifle-brigades that were employed in Italy a few years ago. They were nearly all young men, who had voluntarily engaged for a determinate number of years, and who carried their national habits and amusements, and almost their country’s costume, into the very midst of the severity and rigmarole of an Austrian army. On certain fixed days, and on every Saint’s day or holiday, these men used to be exercised at firing at the target. The officers took the rifle as well as the common soldiers, and the surgeon and assistant-surgeon, even the chaplain of the corps, generally carried like true Tyroleans in this contest of skill, which, for the time being, seemed to bring about a perfect equalization of rank and dignity. An odd farcical fellow, the Merry Andrew of his corps, used to take his stand near the target, and every time that a good shot was made, he gave a shout of applause, but every time that a want of dexterity and steady aim were shown—no matter whether by man or officer—he made all kinds of grimaces and antics to deride the failer. The word thing used to look more like an amusement than the performance of a military duty, but in this way the young men acquired or kept up an extraordinary degree of perfection in their particular mystery.

We have mentioned the pastoral migrations of the poor peasantry in another paper. But the Tyroleans do not migrate merely as soldiers and shepherds, but become great travellers as venders of toys and small articles of furniture and cabinet-making, which are manufactured at home, and as retailers of simple medicines and nostrums that are made out of the herbs, roots, and flowers that grow on their own mountains and in their native valleys. They generally call these simple decoctions “Teas.” Thus they have, for example, a “tea for coughs and catarrhs;”—a “tea for pains of the chest;”—another tea, sovereign as a remedy for the bile, and so on through the cases of fever, rheumatism, sprained ankles, &c., &c. Some of these simples are far from being contemptible in effect, and they are much used at the army as universal cures. They also carry on a foreign trade in coarse leather gloves, and the Tyroleans contrive to get a share in the business of the people of the north of Italy as builders and plasterers.

The commercial operations of these poor and simple mountaineers are nearly always carried on by partnerships, the inhabitants of a village uniting to form a stock of goods, and then agreeing that certain of their number shall be appointed to travel for the disposal of various goods. At the return of the traders, generally form a considerable portion of the whole speculative body, seeing that, in most cases, they are mere packmen, carrying the goods on their own backs, the profits are divided among the villagers who contributed to the stock in proportion to their several adventures.
MINERAL KINGDOM.—SECTION XLV.

ANTIMONY.

The properties of this metal were first investigated and described by the alchemist Basil Valentine, who is supposed to have flourished about the early part of the fifteenth century. There is an absurd story of its having been called anti-moine by him (anti-monk), in consequence of its having proved fatal to some of his brother-monks, to whom he administered a dose of it in order to recover them from a state of emaciation into which they had fallen from long fasting. But, as Basil Valentine was a Benedictine monk of Erfurt in Germany, and wrote in high German and Latin, it is not very likely that he should give a French name to his newly-discovered metal; and, moreover, the word Antimonium is used by Constantinus Africanus, a medical writer of the eleventh century, who is supposed to have derived it from an Arabian word of similar sound applied to the metallic substance known to the ancients by the name of dulmen.

Pure antimony has a dull whitish colour, between that of tin and iron, but when fresh melted, or recently broken, it has a considerable lustre, tarnishing soon by exposure to the air. Its specific gravity is only 6.70, and so brittle that it can neither be hammered out into plates nor drawn into wire. It melts at a temperature of about 810° of Fahrenheit, but, if air be excluded, it does not rise in vapour even though exposed to a very intense heat: in an open vessel it burns, at a high temperature, with a bright flame, and is volatile; the vapour condensing on the surrounding cooler bodies in the form of brilliant crystalline needles, of a snowy or silvery white, which have obtained the name of argenteum flowers of antimony, or snow of reguline antimony.

This metal is sometimes found in the pure or native state, but it is rare. The most common form in which it occurs is in combination with sulphur, in the proportions of about 74 per cent. of antimony and 26 of sulphur, forming a mineral not unlike lead, but so fusible that a small fragment of it may be melted in the flame of a common candle. Another ore consists of antimony, sulphur, and oxygen, and a third of antimony, oxygen, and a little earthy matter, but these last are comparatively rare. The ores are found in the primary and more ancient secondary strata, never in the sedimentary deposits above these, nor in the unstratified or igneous rocks. They are found in Cornwall alone in the United Kingdom, and not very abundantly there, so that the most abundant mines of this metal used in the arts is imported. The largest supply is from the East; a considerable quantity is shipped at Bombay, and Burmese speaks of its being found in Caucaub; but the most abundant mines of antimony in the world are in the island of Borneo; the produce of these is chiefly shipped at Singapore for the European markets. There are mines of this metal in Hungary, Germany, and France, but they are far from being sufficiently productive to supply the demand in those countries. The ore is obtained by first heating the ore in a furnace with charcoal; and, from its very fusible nature, the earthy impurities with which it is mixed are easily separated; what remains is the common or crude antimony of the shops, a combination of the metal with sulphur. This last is got rid of by exposure to a gradual heat, and the residue being mixed with tartar and subjected to a full red heat, the metallic antimony separates in a melted state, when it is known by the name of regulus of antimony,—an old term, still kept up in commerce, which was used to be applied in those cases when a metal and one of its ores happened to be called by the same name.

Uses.—The chief consumption of antimony is for the alloy of which printers' types are made, which is a composition of four parts of lead, four of antimony, and a little copper. The peculiar adaptation of this alloy to this purpose is its property of expanding when it congeals from the melted state, by which it insinuates itself into the minutest parts of the mould. The metal on which music is engraved is an alloy of tin and antimony, and it enters into the composition of the finest qualities of pewter. Oxides of antimony are employed to give a yellow colour to glass and earthenware. Some preparations of it are powerful medicines; it is the principal ingredient in tartar emetic, and in the well-known James's powders.

BISMUTH.

This metal is supposed to have been known to the ancients: it is described in the works of George Agricolus, the celebrated metallurgist of Saxony, who flourished in the first half of the sixteenth century, but its properties were not fully investigated and made known for more than two centuries afterwards. It is of a reddish-white colour, and a considerable lustre, and has a specific gravity of 9.82; forms a brittle, white, brittle, and therefore possesses neither malleability nor ductility. It melts at a temperature of 476°; in a stronger heat it ignites, burns with a blue flame, and when exposed to a high temperature in a close vessel, it sublimes entire. It unites readily with other metals, rendering them more fusible. A mixture of nine parts of bismuth, five of lead, and one of antimony, is used as a paint, when it goes by the name of Spanish red. Another ore consists of antimony, and more ancient secondary strata, never in the sediments of antimony, but consisting of a deposit of fat, which deposite is formed of a deposite of a deposite of fat, which is used for the sake of the practical joke of presenting one to a person, who is surprised to see it disappear in his tea or soup.

Bismuth is found in the pure or native state, as an oxide, and in combination with sulphur. These ores are met with in primary rocks in different parts of Germany, Sweden, Norway, and France, and sparingly in Cornwall, and in Connecticut in the United States. The metal is easily obtained from them in consequence of its great fusibility. It is little employed in its metallic state, except in the best kinds of plumber's solder, which is composed of five parts of lead, three of tin, and two of mercury, forming what is called the fusible metal. As it melts at a heat of about 130°, it is made use of for the sake of the practical joke of presenting one to a person, who is surprised to see it disappear in his tea or soup.

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THE AMERICAN BISON.

(4brided from the Penny Cyclopaedia.)

The American male bison, when at its full size, is said to weigh 2000 lbs.; though 12 or 14 cwt. is considered a good weight in the fur countries. Dr. Richardson gives eight feet, and a half, as its height at the withers, which is twenty inches, and upwards of six feet as its height at the fore-quarters. The head is very large, and carried low; the eyes are small, black, and piercing; the horns are short, small, sharp, set far apart, for the forehead is very high, and directed outward and backward; and the nose is large, and subject to considerable swelling, with a slight curve towards the outward pointing tips. The hump is not a mere lump of fatty secretion, like that of the zebu, but consists, exclusive of a deposite of fat, which varies much in quantity, of the strong muscles attached to
the highly-developed spinous processes of the last cervical and first dorsal vertebrae, forming fit machinery for the support and movement of the enormous head. The chest, breadth, and the legs are strong; the hind parts are narrow, and have a comparatively weak appearance. The tail is clothed with short fur-like hair, with a long, straight, coarse, blackish-brown tuft at the end. In winter the whole body is covered with long shaggy hair, which in summer falls off, leaving the blackish wrinkled skin exposed, except on the forehead, liump, fore-quarters, under-jaw, and throat, where the hair is very long and shaggy, and mixed with much wool. Catesby observes that on the forehead of a bull the hair is a foot long, thick and frizzled, and of a dusky black colour, that the length of this hair, hanging over their eyes, impedes their flight, and is frequently the cause of their destruction, but that this obstruction of sight is in some measure supplied by their good noses, which are so small as to be of no small safeguard to them. A bull, says he, in summer, with his body bare and his head muffled with long hair, makes a very formidable appearance. In summer the general colour of the hair is between dark-umber and liver-brown, and lustrous. The tips of the hair, as it lengthens in winter, are paler, and before it is shed in summer much of it becomes of a pale, dull, yellowish-brown. In the female the head is smaller, and the hair on the foreparts is not so long as it is in the male.

Bison Americanus. A bull.

When the affrighted beasts perceive the fire approaching, they retire in confusion to the centre of the multitude, say Lewis and Clarke, speaking of an assem-


Congregating in vast herds, these animals are said to cover the wide-extended savannahs of the more southern districts of the north for miles in extent. 'Such was the multitude,' say Lewis and Clarke, speaking of an assem-

bliage of bisons as they crossed the water, 'that although the river, including an island over which they passed, was a mile in length, the herd stretched, as thick as they could swim, completely from one side to the other.' The same travellers, speaking of another of these grand spectacles, say that 'it was impossible to calculate the moving multitude which darkened the whole plains, we are convinced that 20,000 would be no exaggerated number.' Catesby, after stating that they range in droves, feeding on the open savannahs in large numbers, says, that in the sultry time of the day they retire to shady rivulets and streams of clear water gliding through thickets of tall canes. Dr. James had an opportunity of observing them on such occasions, and he thus describes their march:—"In the middle of the day countless thousands of them were seen coming in from the quarter to the stagnant pools; and in another place he says, that their paths are as frequent, and almost as conspicuous as the roads in the most populous parts of the United States.

The bisons, in truth, are a wandering race, the motive of their restlessness being, either disturbance by hunters or change of pasture. After the fire has cleared the prairie of all the old herbage, the delicately tender grass which springs up in the room of the old wiry bents that fed the flames, is the most grateful food to the migratory bisons. Such spots are well-known to the hunter as points of attraction to these animals. In the winter, when the snow lies deep over the vegetation, they scrape it away with their feet to get at the grass. Fierce and terrible are the fights among the bulls in the rutting season, and perilous is the condition of the man who then approaches them. For the greatest part of the year the bulls and cows live in separate herds; but at all seasons, according to Richardson, the two old bulls generally accompany a large herd of cows.

These powerful beasts are in general shy, and fly from the face of man till they are wounded; they then become furious, and pursue their enemy with the most vindictive spirit for a whole present occasion. But it is not until they receive a word or two on some of the different modes of hunting them. Du Pratz and Charlevoix give several particulars of the chase of these animals by the Indians. If the rifle be used the hunter is careful to go against the wind, for the sense of smelling is so exquisite in the bisons that it will otherwise get scent of him and precipitately retire. If he gets within rifle-distance he is careful to take his aim effectual wound. Therefore the hunting is, or rather was, somewhat after the manner of the Scottish 'tinchel.' A great number of men divide and form a vast square. Each band sets fire to the dry grass of the savannah where the herds are feeding. When a terrible beast is seen, the fire approaches on all sides, they retire in confusion to the centre of the square, where the bands close upon them, and kill them as they are huddled together in heaps without hazard; 1500 or 2000 beeves have been given as the produce of such an expedition.

Captain (now Sir John) Franklin gives us the following information. After stating that the Stone Indians are so expert with the bow and arrow that they can strike a very small object at a considerable distance, and shoot with singular force to pierce through the body of a buffalo within twenty yards; these were intended to represent men, and to deter the animals from attempting to break out at the side. Within fifty or sixty yards from the pound, branches of trees were placed between these stakes to screen the Indians, who lie down behind them to await the approach of the buffalo. The principal dexterity in this species of chase is shown by the horsemen, who introduce a round the herd in the plains so as to urge them to enter the roadway, which is about a quarter of a mile broad. When this has been accomplished, they raise loud shouts, and pressing close upon the animals, so terrify them that they rush heedlessly forwards towards the snare. When they have advanced as far as the men who are lying in ambush, they
and, rushing furiously on the horse, frequently succeeds in curing at their posts on the Red River and Saskatchewan:

wounding it, or dismounting the rider. Whenever the headds, that one bison-cow in good condition furnishes goes off in another direction. 'For,' says Catesby, 'when wounded they are very furious, which cautions the Indians how they attack them in open fields; whereas there are none in the province which he endeavours to separate from the rest. If he succeeds, he contrives to keep him apart by the proper management of his horse, though going at full speed. Whenever he can get sufficiently near for a ball to penetrate the beast's hide and nerves, and seldom fails of bringing the animal down; though, of course, he cannot rest the piece against the shoulder, nor take a deliberate aim. On this service, the hunter is often exposed to considerable danger from the fall of his horse in the numberless holes with the broken ground on which he often travels from the range of the buffalo, which, when closely pressed, often turns suddenly, and, rushing furiously on the horse, frequently succeeds in wounding it, or dismounting the rider. Whenever the savage does succeed and meet and give pursuit, he will readily perceive, he immediately pulls up his horse and goes off in another direction. 'This chase of the bison is not attended with danger, for,' says Catesby, 'when wounded they are very furious, which cautions the Indians how they attack them in open savannahs, where no trees are to screen them from their fury. Their hooves, more than their horns, are their offensive weapons, and whatever opposes them are in no small danger of being trampled into the earth. The same author further proceeds as follows:—Other fine and beautiful cloth; and that, in the colony of Osno- boyana, on the Red River, a warm and durable coarse cloth is formed of it.

The fat bulls yield a great quantity of tallow; and Du Pratz records that a hundred and fifty pounds weight have been procured from a single beast. Catesby says that when a bison is usually scared, it generally becomes the prey of wolves, for, by reason of their great wildness, they cannot keep up with the herd, and, on the authority of Du Pratz, gives the following account of their sagacity in defending themselves against the attacks of their fierce persecutors:—When they smell the approach of the enemy, the Indians first surround the bison, by crawling towards them from leeward, and in favourable places great numbers are taken in pounds.

Though the risk of the chase be considerable, the reward is great: for there are few animals that minister more largely to the wants and even to the comforts of man than the American bison. The horns are converted into powder-flasks; the hide, which, according to Catesby, is too heavy for the strongest man to lift from the ground; it is valuable, and is used for a variety of purposes. Purchases relates, that in old times the Indians made the best of targets of it; and Catesby says that they make their winter mant coats of it also, but that, being too heavy for clothing, it is not put out to that purpose. The hide, says he, wasblank, but that the hide of the wild buffalo is smooth, white, and soft. Dr. Richardson confirms the latter account, for he says in the work above quoted, 'The fine wool which clothes the bison renders its skin, when properly dressed, an excellent blanket; and that it is said, to be more durable and last for three or four pounds in Canada, where they are used as wrappers by those who travel over the snow in carioles.' Thomas Morton (in his New English Canaan, Amsterdam, 1637) observes, that 'their fleeces are very useful, being a kind of wolle, as fine almost as the wolle of the beaver, and the salvages do make garments thereof.' Catesby says that
THE TRANSMISSION OF BIDPAI'S FABLES TO PERSIA.

IIiving given in a former Number an account of the Indian collection of fables, called Pancha Tantra, and having intimated to what extent that collection has, with various modifications, been diffused throughout Asia and Europe, it seems to us that the history of its entrance into Persia has sufficient interest to deserve being briefly stated to our readers. It will be recollected that the king of Persia, in the person of a very rich robe of Khorassan, such as kings were in the library of an Indian king. "You will," proceeded Nousheerwan, "make the best use of your talents and judgment in the prosecution of this undertaking, which will extend also to the acquisition of any other writings hitherto unknown amongst us, constantly bearing in mind the great advantage which your success will procure both to us and yourself." The Indian, however, on hearing these words, and having been most amply supplied with funds from the royal treasury, Barzouyeh departed on a day which the astrologers had pitched upon as peculiarly auspicious. On arriving at his destination, he lost no opportunity of seeking the acquaintance of the principal persons at court, as well as the men of letters of the country. Among the persons with whom he thus associated, there was one person whose more particular intimacy it seemed expedient to cultivate on account of the peculiar opportunities he seemed to enjoy of assisting the objects of the Persian. To this person, therefore, he attached himself with peculiar zeal; and at last when he felt convinced that his friend was one on whom he could entirely rely, he declared to him fairly his whole design, and implored his assistance.

The Indian declared that he had already suspected this to be Barzouyeh's object; and, in the end, he expressed himself willing to render him assistance so far as he could do so without compromising his own personal safety. Shortly after this the Indian brought to Barzouyeh from the king's library the book of which he was principally in search, as well as some others of great importance. He spared no pains, either of mind or body, in immediately translating the works into the Persian language;—working hard at it night and day. as he was afraid that the king might possibly ask for the books before they were finished, and that his plan would be discovered and frustrated if it should be found that they were missing from the library. At last his work was accomplished, and he then wrote to Persia to receive the further commands of the king, who directed him to hasten home with all convenient speed.

On his arrival he waited on the vizier, who was affected on perceiving the alteration which anxiety and fatigue had made in his appearance, and endeavoured to hearten him with the prospect of the distinctions which would reward his exertions, and advised him to go to his own house and repose himself for a few days, after which he should be introduced to the king.

Against the day of his introduction, Nousheerwan required the attendance of all the emirs and learned men, and directed Barzouyeh to read aloud the contents of the book which had formed the principal object of his mission. The persons who were present, say the Oriental narrators, were so struck at the profound lessons of knowledge it contained that they could not be discovered and frustrated if it should be found that they were missing from the library. At last his work was accomplished, and he then wrote to Persia to receive the further commands of the king, who directed him to hasten home with all convenient speed. On his arrival he waited on the vizier, who was affected on perceiving the alteration which anxiety and fatigue had made in his appearance, and endeavoured to hearten him with the prospect of the distinctions which would reward his exertions, and advised him to go to his own house and repose himself for a few days, after which he should be introduced to the king.

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Thus instructed, and having been most amply supplied with funds from the royal treasury, Barzouyeh immediately translated the works into the Persian language;—working hard at it night and day. as he was afraid that the king might possibly ask for the books before they were finished, and that his plans would be discovered and frustrated if it should be found that they were missing from the library. At last his work was accomplished, and he then wrote to Persia to receive the further commands of the king, who directed him to hasten home with all convenient speed.

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Against the day of his introduction, Nousheerwan required the attendance of all the emirs and learned men, and directed Barzouyeh to read aloud the contents of the book which had formed the principal object of his mission. The persons who were present, say the Oriental narrators, were so struck at the profound lessons of knowledge it contained that they could not be discovered and frustrated if it should be found that they were missing from the library. At last his work was accomplished, and he then wrote to Persia to receive the further commands of the king, who directed him to hasten home with all convenient speed. On his arrival he waited on the vizier, who was affected on perceiving the alteration which anxiety and fatigue had made in his appearance, and endeavoured to hearten him with the prospect of the distinctions which would reward his exertions, and advised him to go to his own house and repose himself for a few days, after which he should be introduced to the king.

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There was formerly an old woman, extremely gaunt and meagre, that lived in a little cottage as dark and gloomy as a fool's heart. She had a cat that never saw any other thing but the likeness of bread,—neither beheld the face of a stranger,—and was forced to be contented with only smelling the mice in their holes, or at length the man grew weary of being alone, and took my own mice for all the raroities in the king's kitchen may I lose all my nine lives at once.'

The version made by Barzouyeh into Pehlevi, the old language of Persia, was translated into Arabic with alterations and additions. This version was conceived by the Moslems to be so much superior to the original, that when the Pehlevi was getting out of use the Persians chose rather to translate this, with further alterations and additions, than to make use of their own original version. In this, its fourth form, the work was commonly considered to have been still further improved. There are considerable differences between the original Sanscrit work and the Persian and Arabic versions; and by comparing Mr. Wilson's account of the 'Pancha Tantra' and the translations of the 'Hitopadesa', it is easy for even the English reader to discover the modifications which the work has received in the various hands through which it has passed.

A great proportion of the fables in this collection possess such a resemblance to fables well known in Europe, and commonly considered to be European, that the remarks which we formerly made on the fables between the Persians and the English are confirmed. Every one will recognise the familiar fable of the 'Town and Country Mouse' in the following story of the 'Two Cats,' which, so far as we can at present ascertain, is one of the additions which the Persians made to the Indian original. It is quite in the Persian style.

There was formerly an old woman, extremely gaunt and meagre, that lived in a little cottage as dark and gloomy as a fool's heart. She had a cat that never saw any other thing but the likeness of bread,—neither beheld the face of a stranger,—and was forced to be contented with only smelling the mice in their holes, or to see the prints of their feet in the dust; or if by any extraordinary chance she happened to catch a mouse, she was like a beggar that discovers a treasure,—her visage and her eyes were inflamed with joy,—and that body served her for a whole week together. Nevertheless, because the cottage was still the mansion of the cat, she still bewailed the loss. One day she was walking upon the house top, ready to perish with hunger, when she espied from thence another cat upon a neighbouring wall, stalking along like a lion, as if counting her steps, and so fat that she could hardly go. The old woman's cat, astonished to see a creature of her own species so plump and large, called to her with a loud voice, saying,—'You look as if you came from one of the Khan of Khatta's feasts: tell me, I conjure you, how you got into such good condition.'—At a king's table,' replied the other. 'I go to the house every day about dinner time and there I lay my paws upon some nice morsel or other which serves me till the next day.'

After some further discourse, the fat cat takes pity upon the lean one, and engages to conduct her to the king's house on some future day. Meanwhile the deprivations of the cats had been so remarkably outrageous the evening before the old woman's cat went thither, that orders were given to the servants to kill all the cats that could be found. In an evil hour, therefore, was it that our puss went thither, and seized a piece of meat from a dish when she thought herself unobserved; for while quietly solacing herself with such unwonted fare under the dresser, the meat was missed,—she was discovered in her hiding-place,—and one of the men threw a knife at her, which wounded her severely in the breast. However, as a cat has nine lives, she made a shift to escape notwithstanding her wound; but in her flight, observing the blood streaming from her breast, she said, 'Well, let me but escape this time, and if ever I again quit my old haunts and my own mice for all the rarities in the king's kitchen may I lose all my nine lives at once.'

The fine fable of the 'Gardener, the Bear, and the Fly,' as known in Europe, is taken from the Persian modification of the 'Pancha Tantra,' and it affords a curious instance of the alterations and additions which fables undergo in their transmission from one country and language to another. The principle of the fable is doubtless taken from the Indian work, but has been completely changed in its persons and details by the Persians. The man in the original is a prince, not a gardener; the beast a monkey, not a bear; and the insect a bee, not a fly. The fact that monkeys are not animals of Persia, in some degree accounts for this change to the Persian author.

In the original work it is a pet monkey, who is set to watch the slumbers of a prince; a troublesome bee settles on the Rajah's face in spite of all the monkey's efforts to drive it away, till at last the animal becoming incensed in the highest degree, snatches up his master's word, and making a blow at the bee, cuts off his lord's head. In the new cast of thought and circumstances with which the Persians have invested this fable, the monkey is the Rajah's gardener, and the bee is changed to a troublesome fly. In the original work it is a monkey, who is set to watch the slumbers of a prince; a troublesome bee settles on the Rajah's face in spite of all the monkey's efforts to drive it away, till at last the animal becoming incensed in the highest degree, snatches up his master's word, and making a blow at the bee, cuts off his lord's head. In the new cast of thought and circumstances with which the Persians have invested this fable, the monkey is the Rajah's gardener, and the bee is changed to a troublesome fly.
In the common collections, the fable of the 'Bear and the Bees' is but poorly told. The following, from Dodsley's edition (1764), is as good as any we can find:

"A Bear happening to be stung by a bee, the pain was so acute, that in the madness of revenge he ran into the garden, and overturned the hive, vowing the destruction of the whole race. This outrage provoked their anger to a high degree, and brought the fury of the whole swarm upon him. They attacked him with such violence, that his life was in danger, and it was with the utmost difficulty that he made his escape."

There are several other fables in which bears are prominent characters. One seems to be the original of the well-known fable of the 'Bear and the Bees,' which our present engraving illustrates. It has an Indian air, and although we do not recollect that it is included in Mr. Horace Wilson's specification of the fables in the 'Pancha Tantra,' it does not appear to have undergone much alteration in the hands of the Persians. We may state the substance of it, in order that our readers may compare it with that which we subjoin.

"A great number of monkeys lived in a delightful country stored with all manner of pleasant fruits. A bear travelling that way by accident, and considering the beauty of the residence, and the sweet lives the monkeys led, said to himself, 'It is not just or reasonable that these little animals should live so happy, while I am forced to run through forests and mountains in search of food.' Saying this, he ran among the apes, and killed some of them for very madness. But, uniting their forces, they fell upon him, and bit and mauled him with such effect, that he was soon covered with a gore of blood, and did not escape without great difficulty." The fable then goes on to relate subsequent wars between the bears and monkeys, ending in the triumph of the latter; but the story is complete without this continuation.

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Among the whole Order of the Rodentia animals,—abounding as it does in groups of high interest to the naturalist, and of species remarkable for their appearance and their habits—none are so universally attractive as the squirrels:—they combine in themselves neatness and delicacy of form with great activity and address. To the woods and parks of our own country the common ground squirrel is an acknowledged ornament. Its gambols with its mate,—its sprightliness and rapidity of motion,—its arch looks, as it peeps from its retreat with its full, expressive eye,—its twig-built nest,—its storehouse of winter food,—are familiar to the commonest observer. Our squirrel may be regarded as the type of one of the groups into which the family (Sciuridae) is naturally divided. This group is characterized among other things by the general fullness of the fur, the bushiness of the tail,—of which the hairs proceed from each side as the webs of a feather,—and especially by the essentially arboreal nature of their habits. The trees are their dwelling and their refuge. There is however another and not less interesting group of the Sciuridae, which differs from the preceding in many remarkable details,—a terrestrial group of burrowing squirrels; having, in accordance with that habit, short fur, and cheek-pouches in which to convey food to their subterranean magazine. It is to this group, which has received the generic title of Tamias, that we now direct attention. The ground squirrels, as they are popularly designated (or rather the genus Tamias), are almost exclusively limited to the northern and temperate regions of both continents. It is true that the palm squirrel of India and the Barbary squirrel may seem an exception, but these, though they have been associated with them by some authors, do not belong to them, but occupy an intermediate station between the ground and the arboreal squirrels. The species which the genus Tamias includes do not exceed five or six, as known at present. The head is narrower and more pointed than in the genus Sciurus, of which the common squirrel is the type; the fur is shorter, the tail less bushy, and the lateral arrangement of the hairs of this part decidedly less marked. They have cheek-pouches, which the true squirrels have not, and seldom climb trees, unless when obliged in order to escape a pressing danger. Though dwelling in countries where the winter cold is often intense and always severe, they do not hybernate, as is the case with the marmot of the Alps, or the dormouse, but are lively, and stirring
abroad when the earth is bound up with frost, unless indeed in the most northern regions, when they sojourn in their burrows while the snow is upon the ground. In these burrows they accumulate a large store of winter-provision, which consists of nuts, seeds, herbs, and grasses*. Of one species, the four-banded ground squirrel (Tamias striatus), which is a native of North America, being found as far north as the Great Slave Lake and along the range of the Rocky Mountains, Dr. Richardson observes that, "it is an exceedingly active little animal, and very industrious in storing up provisions, being generally observed with its pouches full of the seeds of liguminous plants, bents, and grasses. It is most common in dry, sandy spots, where there is much underwood, and is often seen, in the summer time, sporting among the willows and low bushes. It is a lively, restless animal, troublesome to the hunter, and often provokes him to destroy it by the angry, chirruping noise it makes on his approach, and which is a signal of alarm to the other inhabitants of the forest. During the winter it resides in a burrow, with several openings, made at the root of a tree, and is never seen on the surface of the snow at that season. When the snow disappears, many small collections of hazel-nut shells, from which the kernels have been extracted by a minute hole guarded in the side, are to be seen on the ground near its holes. Mr. Say states its nest to be composed of an extraordinary quantity of the burrs of rhamnium, portions of the upright caesius, small branches of pine-trees, and other vegetable productions, sufficient in some instances to fill a cart. On the banks of the Saskatchewan the mouths of their burrows are not so protected."

The species figured at the head of this article is the common ground squirrel of North America, which is spread through the north-eastern portion of Europe and the north of Asia. It is the Ecureuil Suisse of the French, so called because its striped back has some resemblance to a Swiss doublet. The following are the observations of Pallas, a celebrated naturalist, who had opportunities of investigating its habits. These striped squirrels, as he terms them, "dig their burrows in woody places, in small hummocks of earth, or borders of Lakes Huron and Superior. By most interwoven with the laws for the relief of the unemployed, and have been in general already stated, it is not necessary to repeat them.

In almost all the countries from which Reports have been received, except the canton of Bern, and perhaps Denmark, the great object of pauper legislation, that of rendering the situation of the pauper less agreeable than that of the independent labourer, has been effectually attained. According to the statements which we have received, it will be seen that the pauper loses all right to property; that he becomes incapable of contracting marriage while receiving relief; and in many countries, if he have once received relief, cannot marry until he has reimbursed the parish, or has procured security that his future family shall not become chargeable, or till three years have elapsed since he last received relief. If married, he loses control over his children, he cannot choose his residence or his occupation, and if he once becomes the inmate of a workhouse he incurs the risk of imprisonment for life. When such are the terms offered by the public, it is easy to understand that none but the really destitute will accept them.

The prevalence of habits productive of pauperism is repressed by subjecting the whole labouring population to superintendence and restrictions which we should consider vexatious. As they are in a great measure interwoven with the laws for the relief of the unemployed, and have been in general already stated, it is not necessary to repeat them.

In almost all the countries which have been mentioned, endeavours are made to prevent the existence of a redundant population by throwing obstacles in the way of improvident marriages. Marriage on the part of persons in the actual receipt of relief appears to be
everywhere prohibited, and the marriage of those who are not likely to possess the means of independent support, is very seldom allowed.

Thus we are told that in Norway no one can marry without "showing, to the satisfaction of the clergyman, that he is permanently settled in such a manner as to offer a fair prospect that he can maintain a family."

In Mecklenburg, that "marriages are delayed by conscription in the 22nd year, and military service for six years; besides, the parties must have a dwelling, within which a clergyman is not permitted to marry them. The men marry at from twenty-five to thirty, the women not much earlier, as both must first gain by service enough to establish themselves.

In Saxony, that "a man may not marry before he is twenty-one years old, if liable to serve in the army. In Dresden, professionals, (by which word artisans are probably meant;) may not marry unless they become masters in their trade."

In Wurtemberg, that "no man is allowed to marry till his twenty-fifth year, on account of his military duties, unless permission be especially obtained or purchased. At that age he must also obtain permission, which is granted on proving that he and his wife would have together sufficient to maintain a family, or to establish themselves; in large towns, say from 800 to 1000 florins (from 661.138.4d. &c.;) in smaller, from 400 to 500 florins; in villages, 200 florins (166.13.4d.). They must not be persons of disorderly or dissolute lives, drunkards, or under suspicion of crime, and they must not have received any assistance from their parish within the last three years."

A similar law prevails and is strictly enforced in Bavaria.

Another means by which the extension of pauperism is opposed in the countries which we have mentioned, is the care taken by the government to provide for the education of the labouring classes. We are told that in Norway their children have free access to the parish schools, and that the poor pay, for the education of their children and for religious teachers, nothing or nearly so. The general report from Russia states, that every parish in every town has a school which is open to children of all classes, under the direction of the clergyman; and this is borne out by the consular return from Archangel. The Göttingen report states, that in Sweden gratuitous education is provided for the children of the indigent, and that it is asserted there is not one person out of 1000 who cannot at least read. The Danish report states, that the children of all poor persons are educated gratuitously: that the parish is taxed for the payment of the schoolmaster, the repairs of the school-house, books, papers, pens, ink, &c.; and that parents are bound, under a penalty, to send their children regularly to school until they have passed the age of fourteen, and been confirmed.

In Prussia, the government of Saxony, and in Prussia. Mr. Gibson states, that the general law of the country, that "all children capable of going to school are obliged to attend it. Those whose parents are unable to pay the expense must be sent thereto at the cost of the community to which they belong; the expense of school-money and religious instruction is about 1l. 6d. yearly for each child." In the detailed regulations for the relief of the poor in Berlin, it is laid down that poor children, or in public-houses, but generally in the latter. In regard to these questions, it must be remembered that almost every farmer who hires an estate takes such a one as will just sustain his family, without the aid, or with the assistance only of a man or a man and woman servants, and that therefore very few daily labourers find employment. Few estates run to 200 acres, and, if so large, a daily labourer is only hired during harvest, so wretchedly is the husbandry of the country managed.
Of Contentment.—They that preach contentment to all, do but teach some to dwell in misery, unless you will grant content desire, and chide her but for murmuring. It is not a fault to strive to better our estates, which yet we should never do, if we rested fully content with what we enjoyed for the present. God hath allotted man a rational mind, which is ever climbing to more perfection, or falling into a lower vice. Certainly, that content which is without desiring more, is a kind of fault in any. Perfection is set in the heart of man; it is impossible that a mortal bodied man should ever reach the crown; yet it is might still to be aiming at it, and with an industrious perseverance, persevere in the rising way. We cannot be too covetous of grace; we may well labour for more accomplishments; and by laboring therein, there is no doubt, but 'tis lawful to desire to increase, even in temporal things. Certainly man should be but a dull earth, to sit still and take the present, without either joy or complaint, without either fear or appetite. In this I like not Aristippus his doctrine, who is hot in persuading men neither to be troubled at what is past, nor to think of what is to come. This were quite to viliy Providence, who is one of the principal guards of man. For though it be true that nothing can retain but that it may sometimes fail, yet we see it seldom does, and if it should, that almost certainly. Let not man so sleep in content as that he neglects the means to make himself more happy and blessed; nor yet when the contrary of what he looked for comes, let him murmur or repine at the providence which disposed it to cross his expectations. I like the man that is never content with what he does enjoy; but by a calm and fair course, has a mind still rising to a higher happiness. But I like not him that is so much discontent as to repine at anything that happens, or to give way to discontent with what he never had. But let him take the present patiently, joyfully, thankfully. But let him see that all was better, and indeed it is impossible to find a life so happy here, as that we shall not find something we would add, something we would take away. The world itself is not a garden, wherein all the flowers of joy are growing; nor can one man enjoy them. If it were so, that all were here, we may questionless conclude that there is no absolute contentment here below. Nor can we in reason think that there should be; since whatsoever is created, was created tending to something better; and till it comes to that, it cannot be fully at rest. Now we all know God to be the end to which the soul tends; and till it is disemanciged of the doggish flesh, it cannot approach the presence of such purity, such glory, as it meets with God, and is united to him, who is the spring and source of all true happiness, then it may be calm, and pleased, and quiet; till then it is physically and visibly to be in possession of what it does enjoy, by the means of which we find here most perfect, is rather mere topian and imaginary, than real and substantial, and is sooner found falling from a poet's pen, than any way truly enjoyed by him that swims in the deepest stream of pleasure.—Owen Felltham's Resolves.

CHINA.—No. V. BRIDGES OR CHINA.

A great number of such canals as were described in our last paper, traversing cities and the country in all directions, render necessary a number of bridges, and these bridges are indeed as numerous as might be expected from an ingenious and industrious people exceedingly provident for their own convenience and comfort. From the amazing facilities afforded by the canals for transportation, the weighty burdens by water, these bridges do not require to be built of great strength, as every object of produce or manufacture can be wafted over on rafts or barges. In general, indeed, only foot-passengers use the bridges, which, are, for the most part, of a light but fanciful and elegant construction. They are found of three, five, or seven arches; the centre arch being frequently from thirty to forty-five feet wide, and sufficiently high to let vessels pass without striking their masts. Some of them slide across the canal with one bold, lofty arch.

The elevation of these bridges renders steps necessary. They resemble in this respect the old bridges of Venice, on which you ascend by steps on one side, and descend on the other in the same way. The wood-cut on page 997 represents one of these bridges, and the painter will readily conceive the beautiful effect produced by a number of these light structures, succeeding each other at short distances, for miles and miles, where the canal runs in a straight line. Some of these bridges are of extraordinary beauty, and even magnificent.

There is near Pekin, built entirely of white marble, elaborately ornamented. Others are found over the canals of still greater magnificence, intended with a grand triumphal arch at each end. And others again, instead of being composed of salient arches, are flat from one side of the canal to the other, stones or marble flags of great length being laid on piers so narrow and airy, that the bridge looks as if it were suspended in the air. It is a somewhat curious fact that the Chinese have considered these numerous bridges as luxuries, and have more than once reproached the emperors for erecting those proud bridges, constructed in the eighth century, of iron and bronze, was one of the subjects of their reprehension, which fell very severely on an emperor of the dynasty of Soyu, who built forty bridges, all in different styles of architecture, in the single city of Sou-Tcheou.

But these canal bridges are immeasurably surpassed in magnitude, and occasionally in beauty, by the bridges thrown across rivers, or long swamps, and places exposed to inundations. Some of the latter are of prodigious extent, and have triumphal arches on them, built of wood, in the pagoda style, and splendidly painted. One of the most celebrated of these is the bridge of Loyang in the province of Fokien. It was seen and described by Marco Polo, and the author of the 'Atlas.' According to the latter authority, who saw the bridge twice, it is 5940 feet long by 104 feet broad; it has no arches, but is formed of 300 massive stone piles, over which are laid horizontally large stones of an equal length, which repose on the columns or piles, and afford a flat convenient passage from one side to the other. The piles rising out of the water are shaped like a boat or barge with a sharp bow, the acute angle being directed against the current, that they may suffer the less from the violence and lashing of the waves. The horizontal stones, which the author of the 'Atlas' measured by walking leisurely over them, are twenty-two paces long by two broad, "so that there are," he adds, "1400 of these mighty stone beams all alike,—a most stupendous work; and to prevent the passengers falling off, there are balustrades with lions cut in stone on both sides of the bridge, with many other ornaments." The whole of the bridge is built of one sort of black hewn stone. Where this bridge stands there was formerly a ferry, which was rendered extremely dangerous by the rapidity and violence of the stream.

In the neighbourhood of Fokien there is another majestic bridge over a arm of the sea, built of yellow and white stone. It is 2475 feet long, and 42 feet broad; it has 100 very lofty arches, and is adorned with sculptures of lions and other animals, in the prevailing taste of the country. The Chinese described to the missionaries a similar bridge, but of nearly twice the length, as existing near the city of Foking.

The Chinese have, besides, numberless bridges of bits, which correspond with those in use in Europe; and they have not had long before we adopted them, suspension bridges, built on the same principle as our bridge at Hammersmith.

There is especially in the province of Kiangsi, where the rivers Chang and Can meet in one, a very long bridge, built upon 180 boats, fastened to one another
with chains, upon which are laid the timbers and planks that compose the bridge; one or two of these boats open and shut for the passage of vessels, which pay a regular toll.

Of their suspension bridges the most celebrated seems to be that in the province of Junnan, which traverses a very deep valley and an impetuous torrent. It was made in the year 65 of our era. The Missionary Kircher describes it with all the astonishment naturally resulting from its novelty to him; for the plan of suspension bridges, of which we have now such beautiful specimens in England, was not adopted by the Europeans until two centuries after that traveller's death. "This bridge," says he, "is not built with the cementing of the other stones or brick work, but with tiles. Throughout the whole length there are neat apartments and shops, where all sorts of trade are carried on. One of the apartments, larger than the rest, is occupied by the officers who collect the duties upon provisions and merchandise, and a toll from persons who pass the bridge. According to P. Martini, the author of the 'Atlas Sinensis,' the shops or booths were set up in the morning, and removed from the bridge at night.

We have already given the reader to understand that the number of bridges is, as it must be from the number and extent of the canals, most prodigious. At Kin-sai, "the celestial city," the ancient capital of Southern China, Marco Polo was told there were 12,000; and though, as Mr. Marsden remarks, the truth must be here outstepped, "yet when we consider that according to the description given of the city, the communication between all its parts was chiefly carried on by water—that through at least every principal street there ran a canal, and that in order to facilitate the intercourse of those who dwelt on opposite sides of the same street, it was necessary to have numerous canals and rivers, where not a narrow ravine but a wide deep valley is to be crossed, the road is supported by pillars of immense height and thickness, which rise from the bottom of the valley to the level of the mountains. For a third part of the road these bridges are so lofty as to fill with alarm those who dare look over their sides into the abysses beneath them: they are sufficiently wide to allow four horsemen to pass abreast, and they have all rails of wood and iron on both sides. This road was made to shorten the journey from the city of Hanchung to the great city of Siganfu, which was before of excessive length and tediousness. In the same province there is a bridge of stone of 400 cubits long, of one bold arch, through which flows a river, built from mountain to mountain. The height of the road on the bridge to the level of the water, is said to be 825 feet. The Chinese call this the flying bridge; and Kircher compares it, though it differs in many of its features, particularly in the capital one of having a single arch, to the bridge and aqueduct in the south of France, called Le Pont du Garde—one of the grand works of the ancient Romans. In some parts of the empire many of the bridges are roofed, and are covered on each side with shops, as was our old London Bridge in former ages. At Sechuen, a city intersected by rivers and canals, and navigable nearly everywhere like Venice, there is a vast number of this kind of stone bridges. For the extremity of them, there is a row of pillars on each side, which support the roof; for here the bridges have very handsome roofs, constructed of wood, ornamented with paintings of a red colour, and covered..."
Columbia, a portion of territory distinct from all the states of the Union, and appropriated by common agreement as the site of the capital. It is singular, or nearly so, in the history of this city, that instead of having, as an already existing city, become in the progress of time the metropolis in consequence of its relative importance or advantageous situation, it was from its first foundation intended for the metropolis of a new empire, of which Washington was selected and the plan arranged with an exclusive view to that destination. There seems, however, to have been an oversight in the original calculation. No city ever did become great in a day; and the founders of Washington committed a rather serious mistake in supposing that the new metropolis would form an exception.

Washington became the capital of the United States in 1800; but only a small part of the ground embraced within the plan is yet built upon; neither are the parts which are actually built so disposed as to display that plan to advantage. The best way would have been to have built off regularly from the centre, from whence it might, in the course of years, have extended itself in the manner which the plan required. Then, although in its early stages the town might have seemed small, it would not have had that incomplete appearance which it now presents. As it was expected that the ground would be built upon more quickly than it actually has been, many buildings were erected in streets which have not yet been filled up, and are not likely soon to be so. The effect of this is bad in a general view of the city, and prevents a stranger from fully appreciating the merit of the plan on which it was destined to be built. A few words may enable our readers to understand that plan, as it appears on paper.

In a parallelogram, nearly five miles in length by more than half a mile in breadth, streets running north and south are crossed by others extending east and west, while those which are called "avenues" traverse these rectangular divisions diagonally, and are so laid out as to afford the most direct communication between those places which are deemed the most important or which furnish the most agreeable prospects. Where these avenues form acute angles with the streets by their intersection, there are reservations which are to remain open for many years. Streets named after the states of the Union, and the streets are designated numerically or alphabetically, beginning at the capitol, which is in the centre of the city. Thus, those extending north and south of it are designated by the letters of the alphabet, as, A North, A South, &c.; and those east and west of it being numbered, as, 1st Street East, 1st Street West, &c. The avenues and streets leading to public places are from 120 to 160 feet wide, the others from 70 to 100 feet.

In August, 1814, Washington was taken by the British under General Ross and Admiral Cockburn, who set fire to the capitol, the president's house, the public offices, the arsenal, the navy-yard, and the bridge over the Potomac. It must be lamented that the British could by any considerations be induced to stain by such an action the credit they had won by the capture of the city. It is the more to be lamented when we attempt to calculate the natural effect of such an act in strengthening unpleasant and ignominious feelings towards this country, on the part of those whose national pride had been so sensibly wounded. It must be, on both sides, by far other acts than this that the time must be hastened when the waters of the Atlantic shall become wide enough and deep enough to drown all uncharitable and unkind feeling between nations which are so nearly allied in all that ennobles man, and which are made to differ only in and by those things which degrade him. For several years after this event the American Congress were obliged to assemble in a building erected for them by the citizens of Washington. But all the damage has now long been repaired.

The capitol, to which we shall now limit our attention, is a large and handsome building, excellently situated upon elevated ground. It is built with freestone, and is composed of a centre and two wings, in the Corinthian style of architecture. The length of the whole is 330 feet, the depth of the wings, 121 feet, the height of the house, from the skylight to the top of the central dome 120 feet. It covers an acre and a half of ground, and cost three millions of dollars. A Corinthian portico extends the length of the centre, which is occupied by the rotunda, which is 96 feet in diameter and height. This rotunda is entirely of marble, except the doors and the frame of the skylight. It is ornamented with figures in relief, and contains paintings by Colonel Trumbull, each representing some point of striking interest in the early history of some of the states.

In the basement-floor of the south wing of the capitol the Supreme Court holds its sittings; but with this exception, the whole building is appropriated to the legislative business of the only great republic in the world. The chamber used by the Senate, or, as we should call it, Upper House, is in the north wing of the capitol, and the Chamber of Representatives in the south wing. The interior of the latter is represented as, in our wood-cut. It is a splendid semicircular hall, in general view of the city, and prevents a stranger from understanding its plan, as it appears on paper. For several years after this event the American Congress were obliged to assemble in a
and highly-convenient apartment has one very serious defect—that of being but badly adapted for hearing; and its failure in this important point may furnish a useful caution to the architects who are engaged in planning new apartments for our own legislative assemblies. Speaking of this defect in the hall of the American representatives, Captain Basil Hallsays, "Were it actual, these would be the two points of view from which the audience seated where the members are placed, while the actors addressed them from the corridor or open space behind the Speaker's chair, along the diameter of the semicircle, I dare say it might do very well; because the Speaker, when addressing the house from the chair, was heard distinctly enough by the members. It was always difficult, however, for any member of the house to make himself heard. I spoke to one of them about this essential defect. He replied, that, for once in America, utility had been sacrificed to beauty, which, said he, good-humouredly enough, 'you must do us the justice to say is not often the fault of this country.'"

While the house is sitting, neatly-dressed boys run about carrying messages between the members, or between the clerks and the members, and delivering such letters or papers as may be necessary. As Mr. Stuart remarks, the employment of little boys in this manner is attended with the advantage, that they are much less in the way of the speakers or members, and can move about among the desks without deranging the papers. When a member rises to speak, one of these boys runs for a glass of water which he places on the desk, in case the orator should need such refreshment while speaking.

The members usually address the house from the space between the desks, where there is ample room for them. The forms of conducting the business of the house is pretty much the same as in our own legislature; but Mr. Stuart states it as his impression that in the American chambers much more order and decorum prevails than in our own House of Commons. He says,—"The most complete silence prevails in the Senate; and there is very little interruption to it in the House of Representatives. Members are never brow-beaten nor coughed down, nor are the 'hear, hear,' and other cries which prevail in the British House of Commons, at all tolerated. Any of the States would look upon itself as insulted if its representatives were to be used slightingly or contemptuously in the great council of the nation." But although speakers are not interrupted by expressions of applause or disapprobation, and every member of Congress is allowed to speak, to any length he pleases without interruption, it seems from Captain Hall's account that there is not a corresponding degree of attention paid to what is said:—"For, independently of the reverberation of sound from the domed, or the waste of it in filling the intercommunication, there are other sources of disturbance constantly going on, which drown a great part of what is said. Except when some remarkably good speaker has possession of the floor, the members, instead of attending to what is spoken, are busied in conversation—in writing letters—rapping the sand off the wet ink with their knuckles—rustling the countless number of newspapers which deluge the house—locking or unlocking their drawers—moving up and down the avenues which divide the ranges of seats." Indecorums as great, or even greater than these, though not all of the same description, are frequent enough in our own House of Commons, while many other disturbances are quite peculiar to ourselves.

The discursive character of the American senatorial eloquence has given occasion to much animadversion. It is not peculiar indeed to the Americans, but it is perhaps nowhere so remarkably exemplified. It is not considered the business of the speaker, or of any of the members, to require the orator to keep to the subject properly before the chamber; and hence he frequently diverges into a number of points very remotely, if at all, connected with the matter in hand, until it often happens that the professed subject of discussion is completely lost sight of, not only in a single speech but in an entire debate—and it not unfrequently happens that discussion arises on subjects brought forward in one of the speaker's branch orations. It thus "sometimes happens," says the author of "Men and Manners in America," "that the topic immediately pressing on the attention of the assembly, by some strange perspicacity, is almost the only one on which nothing is said."

All this, and the proverbial lengthiness of the speeches in the American legislature, appears to result from the necessity by which the members seem to feel of keeping themselves before their constituents through the public press. If it be true that the latter consider their interests neglected and their consequence compromised if their representative allows any interesting question to pass without engaging some portion of the attention of the assembly, it is evident that there must be a large proportion of discursive and lengthy speeches, when members must speak without the little acquaintance with the subject before the Chamber, or who have not the gift of brevity, and have not studied logical exactness. The same effects would ensue in the British House of Commons if the same principle of talk operated there—as, to some extent, it actually does. The author of the work last quoted hints another cause of the enduring toleration with which long speeches are received;—this is, that the chamber, as such, has little practical work to do; and, on consideration, we are inclined to give more weight to this than it at first appeared to claim. For not only, as this author states, do all the multiplied details of local and municipal legislation fall within the province of the separate state governments, but as we gather from Mr. Stuart's book, almost all the business of the House is in the first instance considered and prepared by permanent committees, which are appointed by the speaker at the beginning of each session. Each committee undertakes subjects of particular classes, as finance, or foreign relations; and its report on that, which has been submitted to its consideration is, in the majority of instances, received without discussion. This of course saves time to the chamber itself, and if the members choose to employ it in hearing and making long speeches, we have no right to complain, if their constituents are satisfied.

Whatever be the cause, it is certain that there is no deliberative assembly so distinguished for the awful length of its speeches as the American Congress. An oration of eighteen or twenty hours is no uncommon occurrence in that assembly: not consecutive hours, of course; and perhaps it would be a good plan, if in America it were felt desirable to curtail the speeches of legislators, that there should be a regulation obliging each member to deliver all his speech in one day. As it is, the author of "Men and Manners" informs us that one may continually read in the public papers such announcements as the following:

"In the House of Representatives yesterday, Mr. Tompkins occupied the whole day with the continuation..."
end of a session. Many persons who would hesitate to speak six hours at a stretch, will experience no difficulty in occupying three hours daily for a week together. It is very usual for members to print their speeches in a pamphlet, chiefly for circulation among their constituents; and no doubt many speeches are delivered with a principal view to their subsequent appearance in print.

The Chamber of Representatives at Washington.

* * The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

London—Charles Knight, 53, Ludgate Street.

Printed by William Clowes and Sons, Strand Street.
LANCASTER, the county town of Lancashire, is situated on the western coast of England, upon the southern bank of the river Lune, at the distance of eight miles from the sea. It is distant 239 miles north-west from London by the road, but the direct distance does not exceed 206 miles. Lancaster is a very old town. There are doubts as to the name by which it was known to the Romans, by whom it is supposed to have been built,
but there is no question that it formed the station of a Roman legion. It seems indeed to have been considered a station of considerable importance, not only as a check upon the natives of the north, but also as a point of defence against the Irish, who, in the decline of the Roman power, subjected that part of the country to great annoyance and distress by their piracies and depredations. Besides the religious, and other Roman antiquities have been often found in and near Lancaster. The termination castre or castrum would alone indicate that the Romans had a fortress here, it being a corruption of the Latin castrum, applied by the Saxons to places which they found fortified. The name Lun-ceastre, corrupted to severalsubsequent monarchs.

Lancaster, therefore signifies a fortress on the river Lune. The history of all towns with important castles is intimately connected with that of the castle. In such cases the castle is usually the parent of the town, which for a long time depends upon it and shares in all its good and evil, until the town acquires maturity and strength, and comes to have resources independent of the castle, which is destroyed by violence, or gradually perishes through age and neglect, or else is preserved for purposes very different from its original destination. This is illustrated in the history of Lancaster.

It seems that, when the Romans left the island, the Picts and Scots, exhilarated by the repulse and resistance which they had always experienced at this place, attacked the town and demolished the fortifications. The excellent and commanding situation of the spot early attracted the notice of the Saxons, who, soon after their arrival, appear to have restored some of the dwellings, and to have rebuilt at least some parts of the castle. We know little of the history of Lancaster under the Saxons, but that it was considered the most important place of the district is evinced by its being constituted in the seventheen century. It always remained at this place, attacked and demolished the fortifications.

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ancient castle; and is supposed by some antiquaries
to be of Saxon architecture; but the upper part was
rebuilt in 1583, at the time of the threatened invasion
of the Spanish Armada, when all the forts and castles
in the kingdom underwent a thorough repair. The
difference between this and the more ancient building
is still very perceptible. The height of this tower
is 76 feet, and it is surmounted by a turret (commonly
called "John of Gaunt's Chair") which is 10 feet
higher, and from which rise the walls of great
dimensions not commanded. The walls of this keep
are of amazing thickness and strength, and the apart-
ments are of very grand dimensions: one of them,
about 63 feet long, having only four plain walls, and
making nearly the proportion of a double cube," is
particularly referred to by Mr. Duppa, in his 'Life of
Michael Angelo,' as calculated to produce a great effect
by simplicity of form and grandeur of dimensions.
The three other old towers are respectively known as
the Dungeon Tower, the Well Tower, and Adrian's
Tower, though the latter is more popularly known as
John of Gaunt's Oven. All these are commonly
attributed to the Romans; but, although some anti-
quaries are disposed to allow that the lower part of
the last may have been Roman, it is doubtful whether
the other two were even Saxon, and we see no necessity
for giving them an earlier date than the buildings by
Roger de Poitou. "Adrian's Tower" is circular, and
it is used as a repository for rolls, records, and other
documents relating to the official business of the county.

A minute description of the new buildings, forming
the court-houses and prisons, would carry us beyond
our present intention. It may suffice to state that the
pile of buildings containing the shire-hall, courts, and
grand-jury room, form, in a ground plan, an irregular
semicircle to the north of the great court. The shire-
hall itself is a beautiful apartment, consisting of a
semi-polygonal area, with an aisle going round it, and
has a ground roof supported by six quadraple clustered
columns. The seats of the judges are in the chord of
the arc under elegant pinnacled canopies. The doors,
windows, panels, seats, &c., are all finished in a style
corresponding to the enriched ecclesiastical buildings
of the fourteenth century.

The external or eastern wall of the keep, being pro-
longed to upwards of 200 feet, forms the chord of an-
other semicircular arrangement of buildings for felons,
whose apartments extend around the arc, while the arc
is divided into four courts which unite at the turn-
key's lodge, which commands a view of the whole.
Since these apartments have been erected fetters have
not been used, except for refractory prisoners, as
there is no danger of escape; the walls, inside and
without, and the floors and roofs, being all finished with
burnt stone. The apartments for crown pri-
soners, for debtors, and for females, form distinct
piles of building on different sides of the great central
court; and are built in great height, the inmates of
these classifications being effectually kept. The jail contains
seventeen divisions for this purpose. There are seventy-
three work-rooms, thirty-two day-rooms, and twelve
airing-yards. The great central area, which contains
about 2500 square yards, is allowed for the exclusive
use of the debtors, where they can enjoy the air and
take exercise. The prisoners are variously employed,
and a considerable part of their earnings is paid to
them, part in weekly portions during their detention,
and the rest on their discharge of them; though
those who have learned no trade are taught something there
which may enable them to earn an honest living, if so
inclined, when again thrown upon the world.

Lancaster contains one parish-church and two chapels
in connection with the establishment. The church,
dedicated to St. Mary, is on the same eminence with
the castle, and is contiguous to it on the east. It was
originally, as we have seen, founded by Roger de Poitou,
who gave it with some lands to the Benedictine Abbey
of St. Martin de Sagio, or Sees, in Normandy. A prior
and five monks came over and took possession, forming
a religious, or monastery, subordinate to the above abbey.
On the suppression of alien priories it was annexed to
the abbey of Sion in Middlesex, and so remained until
the general dissolution in the reign of Henry VIII. In
the time of that monarch it was one of those which enjoyed
the mischievous privilege of sanctuary. The existing
church is a large Gothic structure, consisting of a nave,
two side aisles, and a handsome tower at the west end.

It has few remains of antiquity, except some fine speci-
mens of screen-work and carvings in oak. The church
accommodates 3500 persons, and the living forms a
vicarage, with the net income of 1709l. per annum.
Most of the various denominations of dissenters have
chaplins in the town.

The manufactures of Lancaster are not considerable,
and consist chiefly in the making of mahogany furniture,
cordage, and sail-cloth, with the spinning of

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THE PENNY MAGAZINE.
A DAY AT KERMANSHAH.

(From a Correspondent.)

Having been turning over my journals this morning, it occurred to me that the account which I found there of my proceedings and observations at Kermanshah contained some illustrations of Persia and Persians which might not be unacceptable to the readers of the "Penny Magazine." I have therefore written it out for you. It is not necessary that I should give any formal account of Kermanshah, but may just mention that it is the capital of a province, and a frontier-town of Persia on the side of Turkey. It is comparatively new as a town, having, not many years ago, been merely a village. It is not at all remarkable as a city, and does not possess any building of note, except the residence of the governor of the province, who is, I believe, a cousin of the present king. There is no speaking with certainty about its population, but I should scarcely suppose it to exceed 20,000.

We left the caravanserai between three and four o'clock in the morning, in order to reach Kermanshah before the heat of the day. The days indeed are very hot, although, since we ascended from the plain of Bagdad, the nights have become inconveniently cold. The contrast is quite great enough to make us understand the complaint of the patriarch, that "in the day the drought consumed him, and the frost by night." I compensated for an inadequate night's rest by a doze on horseback.

We reached the outskirts of the town about seven in the morning; and after riding through a well-kept cemetery, and along a walled road between gardens, got into the town, and were conducted through part of the bazaar to a caravanserai, to which it seems to strangers resort in the first instance to have their baggage and goods examined by a custom-house officer, after which they are at liberty to remove themselves and property wherever they please. As all the rooms were either appropriated or locked up, we remained broiling in the sun, on one of the benches, for about two hours, until the man found leisure to attend to us. At length he approached with a long knife in his hand, and as we could not undo the straps and cords of our baggage with sufficient expedition, he took the liberty of cutting them all open, without dreaming of asking our consent. In other respects his examination was slight and favourable, and we were for the time free.

While we remained here, and indeed during all the period of our stay in the town, we were much annoyed by men who came continually to offer carpets for sale. This indeed happens in many towns; but I never saw the carpet venders so numerous and importunate as at Kermanshah. The same person in some instances returned repeatedly, remaining half an hour or more at each visit, in the hope of overcoming our resolution not to purchase. The carpets which they offered were of course not large, being oblong pieces about the size of large hearth rugs, and which travellers usually carry with them, and spread upon the ground, during their halts, to sit upon by day and sleep on by night. They are of different qualities and prices. The best are worked by the women with colored worsteds, on a woven ground, in much the same way that mats for tea-urns are worked in England; the inferior sort are woven in colours throughout. It is well known that Persia has a good reputation for its carpets, and in Persia I have not learnt that any place has a higher reputation for them than this town. Not that here or anywhere else there are large manufactories, or indeed any manufactories. The carpets which are so much admired under the names of Persian and Turkish carpets, are principally wrought by the females belonging to the numerous wandering tribes. They devote to this employment, or that of weaving coarse cloth, all the time which they can spare from their very heavy domestic duties; and the product forms one of the principal commodities, the sale of which enables the Eelouts to obtain enjoyments from which they would be deprived if they were left to depend entirely, as they do mainly, on the produce of their flocks. Many of the finer carpets are said to be made by ladies in their private houses in the towns, and afterwards sent to be sold in the bazaars. Their object is to secure a private and independent purse, to increase their future resources or present enjoyments. That ladies of distinction should employ such expedients in Persia is not surprising, when we recollect that at Constantinople the ladies of the Sultan himself are not above such resources. The handkerchiefs embroidered by their hands are well known articles in the bezestane of that great city. There is certainly, however, some difference between the making of carpets, and the embroidering of handkerchiefs with threads of silk, silver, and gold. The caravanserai to which we removed was a very neat and quiet place; and we there secured the luxury of a room to ourselves. It is true that there was nothing but the bare walls, and the want of a window obliged us to remain with the door open. However, we were more than satisfied:

"Not look'd for entertainment where none was: Rest was our feast,—"

and on rest we feasted largely, both on that and the following day.

In the course of the day I went out into the bazaar—the place where the manners and humors of an eastern town may, in my opinion, be always studied. Nearly the first circumstance that attracted my attention was not well calculated to give a stranger any very gratifying impression concerning the usages of the country. I suddenly observed the artisans lay aside their tools and stand up, while there was a sort of rush among the numerous people in the bazaar, who hastily drew themselves up as closely as possible by the wayside before the shops. I followed the example, without being aware of the cause at the moment, but I soon learnt it, when I saw a body of men advancing at a quick pace, armed with heavy sticks, which they held aloft and flourished with no small energy. These staves are by no means articles of mere ornament, as they are applied vigorously to those who do not get out of the way with sufficient alacrity, or who do not manifest proper respect for the personage before whom the bearers walk. This quite satisfactorily accounted for the rush I had witnessed. After these men rode two well-dressed and well-mounted persons preceding a very handsome youth dressed in white, who rode alone, and who appeared to be the principal object of all this ceremony. He was followed by a body of about twenty-five foot soldiers, armed with guns, who closed the procession. From the preserve of the soldiers it appeared that the young man was the prince-governor himself; and his youth opposed no difficulty to this conclusion, as the king sometimes intrusts the government of provinces to his sons or grandsons while mere lads. However, I knew that the actual governor was at least thirty years of age, and hence inferred that this youth was his eldest son, and therefore great-grandson to the king,—a conjecture in which I afterwards learned that I was right. To be preceded by men with clubs

* Our present Correspondent will be recognized in the following paper as the "Deaf Traveller," who furnished several papers for this Magazine in 1835.

* By our laws of primogeniture this lad would be now the heir apparent to the throne of Persia, and his father king. The latter is the son of the deceased eldest son of the late king, whereas the reigning monarch is the son of his deceased second son.

A DAY AT KERMANSHAH.
to clear the way is not a piece of ostentation peculiar to royalty in Persia;—men of official rank are similarly preceded by a number of men, proportioned to their means or their pretensions to dignity. It of course sometimes happens that, in the narrow streets of the towns, such processions meet, advancing in opposite directions. The Jerashees (the men with clubs) then make it a point to exchange blows, in assertion of the dignity of their respective masters, unless there has been time to ascertain the pre-eminent rank of one above the other, when the men belonging to the latter give way. Much harm seldom ensues from these encounters, as the men of consideration, being personally known to each other, ascertain by a glance their right. When the men belonging to the latter which, the use of the left leg for feeding may be caused sometimes to happen, that, in the narrow streets of the towns, such processions meet, advancing in opposite directions. The Jerashees (the men with clubs) then make it a point to exchange blows, in assertion of the dignity of their respective masters, unless there has been time to ascertain the pre-eminent rank of one above the other, when the men belonging to the latter give way. Much harm seldom ensues from these encounters, as the men of consideration, being personally known to each other, ascertain by a glance their respective claims and act accordingly; the one of Sir Thomas Brown next states his impression, that

I did not stay long enough on this occasion to make many observations; nor was I very anxious to do so, as I knew that we must remain another day at Kermanshah, and that I should thus have full opportunity of exploring its bazaar in all directions.

THE RIGHT HAND AND THE LEFT HAND.

It is a curious and not unprofitable question, whether the preference so generally given to the right hand as an instrument of action be a dictate of nature or merely an acquired habit? Men of great eminence have held different opinions on the subject. Sir Thomas Brown, who enters largely into the matter, on which as a physician he was well qualified to form an opinion, speaks with some hesitation, but ultimately decides that the left hand has as good a claim to preference as the right; and Dr. Franklin afterwards contended for the equal claims of both hands. But Sir Charles Bell, in his recent 'Bridgewater Treatise on the Hand,' determines that the right hand has a just and natural claim to the preference it receives; and this opinion will probably be generally considered as settling the question finally at rest. The object of the present article is to take such a retrospective view of the discussion as will enable us to include the principal facts and arguments, against and for the prior claims of the right hand over the left.

In considering this subject, the universal consent of all nations in the preference of the right hand seems to us to furnish a strong, perhaps an unanswerable, argument for the natural claims of that member. It is difficult to believe that nations, the most distant in point of time, the most remote in place, and the most unlike in their modes of life, should all concur in this point, if there were no dictate of nature for its foundation. Although the Chinese and some other oriental nations are noted for their dislike of the use of honour in their code of ceremonies, yet there is no nation which, as a nation, uses the left hand for practical purposes in preference to the right.

Sir Thomas Brown does not overlook this objection or seek to weaken its force. With a remarkable degree of candour, not unusual with him, he ransacks the world for instances which bear against the doctrine he desires to establish, and then, quietly remarking that "notwithstanding, in submission to future information," he is "unsatisfied unto great doubtation," applies himself to establish his own position.

The first argument by which he supports his doubt is from analogy; and it is an exceedingly weak one. He says, that if it were true that the right side is the most powerful in the human being, we might expect to find it the same in other animals. Yet, he says, we do not find that horses, bulls, or mules are generally stronger on the right side: and as for animals whose forelegs seem in some measure to supply the use of arms, they exhibit, if not an equality in both, a rather more frequent preference for the left than for the right, as instances in squirrels, apes, and monkeys. The same is also observable in parrots, who more commonly feed themselves with the left leg than with the right. To all this it might be answered that the peculiar destination of man in the creation required in this, as in other instances, a peculiar adaptation not necessary to other animals, and therefore not extended to them. Besides which, the use of the left leg for feeding may be caused by the employment of the right for climbing or holding on, which would seem to imply greater strength in the right.

Sir Thomas Brown next states his impression, that the preference of the right hand is merely a matter of education in childhood, and that children, if untangled through imitation, would generally acquire an equal facility of using both hands, or would use indifferently the right or left. This opinion was not new, for Sir Thomas quotes Aristotle in support of it. But although disposed to contend that if children were left to themselves left-handed persons would be about as common as right-handed persons, he does not deny that it is best that all men should equally apply themselves to the constant use of one hand, "for there would otherwise arise anomalous differences in manual actions, not only in civil and artificial, but also in military affairs, and the several actions of war." This is an important admission, which may lead us to conclude that this useful object was expressly intended and provided for, instead of being left to the accidents of education. We believe it has been so; and that, although left-handed persons would certainly be more numerous if children were not subject to some control, their number would not be nearly so great as Sir Thomas imagined. The opinion that the preference given to the right hand is an acquired habit has been much extended since Dr. Franklin wrote his popular paper on the subject, and we find it entertained by many who do not think it necessary to act on his suggestions. We lately conversed with a friend on the subject, and found that he was quite of this opinion; yet when his experience was appealed to, he admitted that among his six children there was only one who had required any interference to prevent him from using the left-hand rather than the right.

We can afford no more space to the learned physician's considerations on the subject, but proceed at once to Dr. Franklin, who, personating the left hand, addressed an ingenious epistle to the 'American Museum,' which has had a good deal of influence upon the popular opinion on this question. The left hand is made to contend that she is entitled to equal consideration with the right hand, and ought to be equally instructed, in order that if anything should happen to her sister (the right hand) she might be as competent for useful employment as the right hand could be if deprived of the assistance of the left hand. She is made to say,—

"There are two sisters of us, and the two eyes of man do not resemble, nor are capable of being on better terms with each other, than my sister and myself, were it not from the partiality of our parents, who make the most injurious distinctions between us. From my infancy I have been led to believe that I was of more elevated rank. I was suffered to grow up without the least instruction, while nothing was spared in her education. She had masters to teach her writing, music, drawing, and other accomplishments; but if by chance I touched a pencil, a pen, or a needle, I was bitterly rebuked, and more than once I have been beaten for being awkward, and wanting a graceful manner. It is true that my sister associated me with her on some occasions, but she always made a point of
THE PENNY MAGAZINE.

OCTOBER 17, 1840.

THE VATICAN.

The Vatican, which is one of the seven hills of old Rome, has always retained its ancient name, and in the ages when the papal power was at its height, this name was almost as significant and imposing to the Christian world as that of Rome itself had been to the Pagan nations. The excommunications and anathemas of the thunders of the Vatican — made emperors and kings tremble on their thrones, and made the Romans fly from one end to the other. Princes and people looked with equal awe to the ecclesiastical palace on the hill, where spiritual arms, with the cross, the signet-ring, and the pen, wielded by a few infirm old men, decided the fate of "powers and dominions." After a long waning, the mighty planet of the Vatican disappeared and became for ever eclipsed, but still that immortal hill, so long held on the veneration of mankind, the power of genius has survived the ecclesiastical power that most nobly patronised it. Michael Angelo and Raffaello still reign there supremely, and, as long as a touch of their pencils remains on the walls of that old palace, so long will the Vatican be dear to the civilized world. Let us also be just to the popes. The mild virtues—the patience under sufferings and wrongs, the truly Christian character of several of the later pontiffs, may hallow their palace, and throw a melancholy yet pleasing interest over the walls wherein they dwell in their feebleness, and where their predecessors revelled in their might.

"Men are we, and must give when even the shade
Of that which once was great is past away.

The palace of the Vatican, which covers a good part of the hill, has few external features to recommend it to the lover of architecture, but, taken as a mass, its prodigious size and solidity are imposing. It occupies a space which is 1200 feet in length, and about 1000 feet in breadth. It is, however, rather an assemblage of buildings grouped and connected together than one palace, and the component parts have been erected at different periods, and by very different architects. A papal residence, humble and limited, as suited the confined authority and means of the bishops of Rome at that period, was built here early in the sixth century. This residence was rebuilt on a larger scale about the year 1145 by Pope Eugenius III. A few years after, Innocent II. gave it up as a lodging to Peter II., the Bishop of Arragon. In 1305, Clement V., at the instigation of the King of France, removed the Papal see from Rome to Avignon, when the Vatican remained in a condition of obscurity and neglect for more than seventy years. But soon after the return of the pontifical court to Rome, an event which had been so earnestly prayed for by the poet Petrarch, and which finally took place in 1376, the Vatican was put into a state of repair, even enlarged, and it was thus made to resemble the regular palace and residence of the popes, who, one after the other, added fresh buildings to it, and gradually enriched it with antiquities, statues, pictures, and books, until it became the richest repertory in the world.

Although, as we have said, the building itself has not much architectural beauty, its grand and capital necessity has a great deal. This is the staircase which forms the principal entrance, and connects the Vatican with the noble pavement of St. Peter's. (See No. 109 of this Magazine.) It springs boldly from the base of the equestrian statue of Constantine, and in four majestic flights of marble steps, adorned with a double row of Ionic pillars, it reaches the threshold of the grand entrance-hall. It is the work of Bernini, and, taken altogether, it is probably the most magnificent staircase in the world. They call it "La Scala Regia," or the royal staircase, and the hall to which it leads "La Sala Regia," and royal works they are! The hall is of sublimity, breadth, and elevation. It communicates by means of six large folding-doors with six other splendid apartments. Its walls are covered with frescoes painted chiefly by Vasari. Among his historical subjects are "The triumphal entrance of Gregory XI. into Rome, after the long stay of the popes at Avignon," and the execrable massacre of St. Bartholomew, which old Roman writers call "The defeat of the Hugonots." A better subject is the battle of Lepanto, painted by the celebrated Guido Reni, whose school Zucchi taught; but there is another subject that vividly recalls the days when the time was more than the imperial crown. It is the Emperor Frederic I. prostrate, and kissing the foot of the haughty pontiff Alexander III. This fresco is painted by Francesco Salviati.

One of the grand folding-doors in the Sala Regia gives access to the Cappella Paolina, or the Pauline Chapel, which was rebuilt by Paul III. Like the Sistine, this is rather a church than a chapel. The altar is supported by pillars of costly porphyry, and
bears a tabernacle of rock-crystal. The walls are covered with paintings, but the general effect is dark and heavy. Towards the end of the hall, on the left, another door opens into the Cappella Sistina, which was built by Sixtus V. Here the sublime frescoes of Michael Angelo and his pupils thunder from the walls, and renew (while the astonished eye dwells upon them) some of the awe and terror that formerly attached to the Vatican. One end of the chamber is filled to the crowding with the "Last Judgment," a vast and marvellous composition, which, spite of the criticisms of cold-blooded connoisseurs, and the many faults it involves, will ever remain, like the poem of Dante, whence Michael Angelo drew a large portion of his inspiration, as one of the most sublime efforts of human genius. The smoke and dust of more than 300 years,—the sepulchral illuminations of the Passion week, when innumerable lamps and torches are burnt, and the lighter, but constant renewed, vapours of the incense, have sadly blackened over these frescoes, but the compositions have been copied for centuries, the graver has multiplied them, and the best parts of the work cannot perish.

Opposite to the Cappella Sistina you enter the Sala Ducale, which is large and simple, and thence you can pass to the Loggie di Raffaello, which are a series of open galleries, in three stories, lining three sides of one of the spacious courts of the Vatican, called of San Damaso. Raffaello, and his scholars under his immediate superintendence, executed only a part of the frescoes on the walls of these galleries, but his tasteful creative mind traced the designs for all of them. The beautiful arabesques have suffered much from cold and damp. The history of the Bible from the creation of the world is painted on the arched ceilings of Raffaello's galleries. From one of these galleries a door opens into the Camere di Raffaello, which are covered with frescoes of that greatest of masters. These rooms in themselves present a great and wonderful school of painting. They are totally unfurnished:—the cabinet-maker and the upholsterer had no business here;—the soul and hand of D'Urbino fills and beautifies them. Among the grand subjects he has treated in these chambers are "Pope Leo and Attila," the 'Judgment of Solomon,' the 'Coronation of Charlemagne,' and the glorious 'School of Athens.' We regret to add that here the progress of decay is but too evident.

Crossing the court of San Damaso, and some chapels and halls which form the state apartments of the Vatican, the visitor comes to a vast well-lighted gallery, at one side of which an iron door admits him into the Vatican Library,—a magnificent range of building, covered with paintings throughout, and more than 1000 feet long. Several apartments branch off from this grand line: the Stanza di Pupiri, or room of manuscripts written on Egyptian papyrus before the introduction of paper, is covered with frescoes of that greatest of masters. These rooms in themselves present a great and wonderful school of painting. They are totally unfurnished:—the cabinet-maker and the upholsterer had no business here;—the soul and hand of D'Urbino fills and beautifies them. Among the grand subjects he has treated in these chambers are "Pope Leo and Attila," the 'Judgment of Solomon,' the 'Coronation of Charlemagne,' and the glorious 'School of Athens.' We regret to add that here the progress of decay is but too evident.

Near the door of the Loggie di Raffaello, you enter the Sala di San Damaso, and one of the large libraries of Europe, containing about 350,000 printed volumes and upwards of 30,000 manuscripts. By the treaty of Tolentino, in which the Pope was obliged to accept the hard terms usually granted, he had already got the right of being allowed to buy the rarer MSS. to which he had before been confined. The French during the last war, when many rare works were abstracted which were not returned at the peace (as those of which the Vatican is now one of the large libraries of Europe, containing about 350,000 printed volumes and upwards of 30,000 manuscripts. By the treaty of Tolentino, in which the Pope was obliged to accept the hard terms usually granted, by a conquering and rapacious power to a weak and defenceless one, the French were allowed to make their choice of 500 of the rarest MSS. They actually took away a great many more, but left some of the most curious untouched. A rich collection of Oriental manuscripts remains, and the Vatican is rich in old-written copies and printed editions of the Classics, to say nothing of books and papers connected with church-history and ecclesiastical matters. It is supposed that its less-disturbed cases and chests contain many documents that would tend to throw a light over some parts of British history; and, judging from our own experience, we should find it extremely difficult to get at these materials as it has been imagined.

In some respects the administration of the library and the collection itself may excite surprise. Nearly all the works in the Catholic index, that were produced in the sixteenth, seventeenth, and eighteenth centuries, are here, and a few years ago it was not difficult to obtain the reading of them in this stronghold of popery. We have known more than one Italian who made his first acquaintance with the philosophers and profane historians of France and England within the sacred walls of the Vatican. A curiosity very attractive to English visitors, and which is readily shown, is a 'Treatise on the Seven Sacraments,' which Henry VIII. sent to the Pope with the following orthodox disjunct:

"Anglorum Rex Henricus Leo Decimo mittit
Hoc opus, et fidei testem et amicitiae."

(Henry the King of the English sends this work to Leo the Tenth, in testimony of his faith and friendship.) Hence the title of "Defender of the Faith," (which meant the Roman Catholic Faith,) so long borne by our English sovereigns. The treatise, on somewhat doubtful authority, is said to have been composed by Henry, and the fair copy for the Pope is said to have been written with his own hand, but there is no doubt whatever that he despatched it to Rome.

Not far from the library are the magnificent halls and galleries of the Belvedere, which name has been given to the only true, the only "glorious Apollo" (in sculpture)—the matchless Apollo di Belvedere. This far-extending museum is lined with marbles, pavings, and ancient and modern mosaics and frescoes. The whites and lights, the shadows and grays, the figures and the drapery, are all most perfect, and the compositions which the artist has painted are such pictures as exist in no other art of the world.

In addition to the Belvedere Apollo, which, left by itself, attracted us to look at the whole collection of pure ancient art, this museum embraces the greatest numbers of the Anatomical Specimens of Egyptian, Etruscan, Grecian, and Roman antiquities, are all found here; and never surely was there a place built by modern hands so worthy of being a lodging to these ancient gems and treasures.

* See 'Memoir upon the Materials for British History in Foreign Libraries and Archives,' "Journal of British Records," June, 1832—August, 1833.

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amusing mistake occurs in the 'Diary of an Invalid,' a clever work written by the late Henry Mathews, wherein it is said that "the number of rooms contained in the Vatican amounts to 11,000." This mistake, which has been repeated in successive editions of a popular book, probably arose from the author's having dotted down an 0 too much in his original numericals.

The whole superficies covered by fine fresco painting must be prodigious. In many of the spacious apartments the ceiling is painted all over, and the walls covered down to the very floor, the works of genius or of the most refined taste occupying all those spaces which are filled in other palaces by wainscoting, cornices, hangings and tapestry.
THE WHITE OR BARN OWL.

There is no evidence that they can see when the night is very dark; the time, therefore, allowed them to hunt for prey is very limited, except on moonlight or other favourable nights, when they may be observed to seek their prey from night to morning. Limited as their time of providing for their wants usually is, they enjoy advantages which enable them to receive an adequate provision in a comparatively short time. In the hour when the owls seek their prey, the small animals and birds on which they feed are disabled from taking proper care of their own safety by flight or concealment, in consequence of that very want of full light which gives to the owl its perfect vision; and besides this, the quill-feathers of owls are in general so light and downy, and their flight is consequently attended with so little noise, that the objects of their pursuit have almost as little warning of their approach through the sense of hearing as through that of sight. Some owls, that are not properly qualified for it, venture abroad in the daytime, particularly in the winter and during the breeding season, and may then be seen followed and surrounded by small birds, who seem aware of the disadvantage under which their enemy then appears, and although they will not venture to attack him, seldom let slip so favourable an opportunity of insulting and abusing him.
It is observed that owls, as well as falcons, bring up the indigestible parts of their food, such as bones, shells, &c., at intervals, in the form of large round pellets or balls, which are to be found everywhere in the neighbourhood of their retreats. The beautiful species represented in our wood-cut is the common white or barn owl, technically called by some naturalists Strix flammea, and by others Aluco flammea, the former, however, being the most general denomination. Its usual weight is eleven ounces, length between thirteen and fourteen inches, and breadth across the extended wing, which three feet. The downy softness and remarkable elegance of the plumage of this owl are entitled to more admiration than they seem to have obtained. Supposition on the one hand, and the commonness of the bird on the other, seem to have prevented the beauty of the white owl from being duly appreciated. We shall not minutely describe the appearance of so common a bird; but may observe that the plumage is generally of a reddish-yellow colour with grey variegations, having black and white spots down the shafts of the feathers, and the breast and belly white, sometimes yellowish, and occasionally marked by a few blackish or dusky spots. The bill is straight to near the tip, instead of being arched from base to point as in the other species. The large eyes, the irides of which vary from nearly black to yellow, are surrounded by a large circle of soft white feathers; but the ruff is edged by a chestnut and very intermixed with white. The legs are feathered to the toes, which are covered with fine hair.

This species, with some variation from climate, is very extensively diffused over the world. It is well known in different parts of Asia, and in both North and South America: Le Vaillant says it is common at the Cape of Good Hope, where it is necessary to make its nest among the rocks from the want of barns and other old buildings, which it naturally prefers; the Dutch colonists call it doortroegel, or "bird of death." It is frequent in most parts of Europe, and is perhaps nowhere more common than in this country, where its habits are well known to the farmer, whose barn furnishes it with food.

The white owls chiefly live upon mice, which they swallow whole; but they will often destroy young birds. Mr. White, the author of the "Natural History of Selborne," says, "A pair settled in a house, and made great havoc among the young pigeons. This owl breeds in hollow trees, near farm-houses, and frequently in barns, or under the eaves of a church or other old building. It does not make any regular nest, but lays three or four eggs upon some woolly or downy substance placed in a very slovenly manner. It should respond of the 'Gentleman's Magazine' in 1792. The white owl does indeed snore and hiss in a tremendous manner, and these menaces will answer the intention of intimidating; for I have known a whole village up in arms on such an occasion, imagining the churchyard to be full of goblins and spectres. White owls also often scream horribly as they fly along; from this screaming probably arose the common people's imaginary species of screech owl, which they superstitiously think attend sick persons.

On this authority it has been stated in all subsequent accounts that this owl does not hoot; but Sir William Jardine, in a note to his edition of White's book, asserts that the white owl does hoot; that he has shot several of them in the very fact, and that at night, when not alarmed, hooting is their general cry.

White owls become exceedingly tame when taken young; but they will not bear confinement if they have attained their full growth in a state of freedom; it is also difficult to support them in a state of confinement on account of their continual demand for fresh mice; whereas the young of the brown owl will eat indifferently everything that is brought to them: snails, rats, kittens, puppies, or any kind of carrion or offal. Inoffensive to man as these birds usually are, it is by no means safe to meddle with their young, to which, in common with other owls, they manifest a strong affection. From inflicting serious injuries even on persons whom they suspected of evil intentions against their young. For an illustration of this we may turn to the 'Gentleman's Magazine,' among the news of which, for 1765, we find the following:—"A carpenter passing through a field near Gloucester was attacked by an owl that had a nest of young ones in a tree near the path. The owl flew at his head, and the musk was on at it with a tool which he had in his hand, missed his blow, upon which the owl repeated the attack, and, with her talons fastened on his face, tore out one of his eyes, and scratched him in the most shocking manner.

The same publication records an incident somewhat similar to this in 1769:—"A labouring man, returning from Stratford to Birmingham, picked up a young owl in the pathway, which the old one perceiving, immediately flew at it with such violence as to deprive him of the sight of one eye." After this, it behoves those who value their eyes to be exceedingly cautious in their dealings with young owls. It is observed that in some years owls are much more abundant than in others. An intelligent correspondent of the 'Gentleman's Magazine' in 1792 remarks, that owls were so remarkably abundant in the years 1789 and 1790 as to occasion a scarcity of pigeons, few dove-cotes in the south of England escaping their ravages; and what was more singular, they hooted much during broad day.

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Frequenting, as owls do, retired and gloomy places, and seeming to give a preference to the vicinity of churches and cemeteries, from whence they send forth their doleful and lugubrious notes, "making night hideous," it is not very surprising that owls should be considered by the ignorant and superstitious as birds of ill omen, foreboding calamity or death to him who hears them. A person who hears, in the deep silence and stillness of the night, their notes brought to his ear from some distant solitude, will readily understand the strong effect which the sound with its association is calculated to produce upon weak imaginations, and will not wonder at the character which has in all ages been assigned to this well-disposed and useful bird. The superstition is by no means peculiar to any one time or country. The Romans viewed the bird and its note with equal detestation and dread, and it was deemed a woful event for a city if an owl happened to show there its broad honest face. The superstition is by no means peculiarity to sometimes remained for a whole day on board of those ships where they were kindly treated, and when they sailed, would accompany their friends to sea for a few miles. These birds were very familiar, but would not be teased. When shot at, they always flew to the first person they saw, belonging to their owner's family, for protection. Mr. Debord painted their heads white, in order to distinguish them from the wild ones, with whom they frequently associated. Notwithstanding this precaution, they were occasionally shot by some idle persons, incapable of appreciating the value of so curious an experiment on this solitary species, which the ingenious Chinese have rendered so useful.—Historical and Descriptive View of Northumberland.

The Queen's Boots.—The small but ancient village of Kerton, in Rutlandshire, was the property of Richard de Humet as early as the reign of King Stephen, from whom it came by several hands to the Harringtons, and then to the Neels, being now the property of the heir of the Gainsborough estate. Its tenure is by knight's service; and it is a curious fact that the sheriff of the county collects annually a rent of 2s. from the inhabitants, pro ocreis et meliis, which can be only translated, "for the queen's boots." This may, perhaps, have been sufficient in early times to have supplied the queen with boots for a year, though now it would scarcely furnish wax and ends, even if queens were to make their own boots, according to the fashion of the day. — Beauties of England and Wales, 1813.

Process for tempering Steel Instruments.—A correspondent (Mr. Cæsar Colclough, of Tintern Abbey) has given us the following account of a process by which steel may be tempered so as to retain its maximum of tenacity. This object, which will be of much importance to many of our readers, is attained without bringing the instrument subjected to the process into immediate contact with fire, air, or water. Our correspondent speaks with a particular reference to drills for piercing glass, grey cast-iron, porcelain, &c., probably on account of the greater importance of a well-tempered tool. It would not be improper, but it is evident that the process is equally applicable to every instrument in which a good temper is of particular importance, whether a tool or an instrument of common use, as a razor or a knife. The following is the process:— Prepare Park's fusible alloy by melting in an iron pot, with a little resin, five parts of bismuth, three of lead, and two of tin. Make a tube of wrought iron, with a welded bottom and a well-fitted iron stopper: the pipe of a broken key will do very well for this purpose; and for larger, an old gun barrel, with the touch-hole and breech welded, will in most instances answer. Then fill this tube with the above alloy, and introduce therein the instrument to be tempered, and put in the stopper, which should be somewhat tapering, so as to enter the alloy and keep the instrument below the surface: of course the tube will be only so far filled with the alloy as to allow room for the dilatation of the metal without the displacement of the stopper. Then bring the whole to a bright red heat, and afterwards plunge it into cold water. Take out the tempering iron, and reverse the tube in boiling water, when its contents will fall out and the operation is completed. If it be a drill which has been subjected to this process, it will cut glass, and preserve its sharpness during many repeated trials if kept moist with oil of turpentine.
This scene, though now so desolate and degraded, was once the great centre of all the business, power, and splendour of Rome. Here, as long as the Romans were a free people, all the affairs of the state were debated in a most public manner, and from the rostra, elevated in the midst of the square, and with their eyes fixed on the capitol, which immediately faced them, and which was suited to fill their minds with patriotism, whilst the Tarpeian rock reminded them of the fate reserved for treason or corruption,—the noblest of orators, " wielded at will the fierce democracy," or filled the souls of gathered thousands with one object, one wish, one passion,—the freedom and glory of the Roman race,—a freedom which would have been more enduring had the glory been less.

"Yes; in you field below,

A thousand years of silenced factions sleep—
The Forum, where the immortal accents glow, And still the eloquent air breathe, burns with Cicero!"
Liv., book iii.

Here the orators of the people brought their accusations against public men, or pronounced the eulogies of such as had died for their country, and here also were exhibited the bleeding heads or lifeless bodies of traitors, or (as it but too often happened) of men unjustly condemned by an overbearing faction. The Forum was the court of justice, and in the homely days of the early Republic civil and criminal causes were tried and decided by simple laws, in the open air, or in very plain sheds built in this square. The humble schools for the republican children (for these old Romans had places of public instruction for even the poor people) stood round the Forum, and seem to have been intermixed with shops, shambles, stalls, lowly temples, and altars. It was as if she used to cross the Forum, day by day, in her way to and from school, that the innocent young Virginia, a maiden of plebeian rank but extraordinary beauty, unhappily attracted the notice of the lustful and tyrannical Decemvir, Appius Claudius, who sat there on the tribunal, surrounded by licitors to administer the laws which he himself outraged. It was here, as she was on her way to school, that Appius had her seized. Livy says, "As Virginia came into the Forum, (for the schools of learning were held there in sheds,) a dependent and minister of the Decemvir's lust laid his hands on her, and affirming 'that she was a slave, and born of a woman who was his slave,' ordered her to follow him, threatening, in case of refusal, to drag her away by force."

This fearful tragedy, with a sort of dramatic unity, was ended where it began. When the honest centurion Virginia, informed of the disgrace hanging over the head of his daughter, quitted the army with which he was fighting for his country, and came to Rome, he appeared in the Forum to plead for his child; and when he and Icilius, a young man to whom Virginia was betrothed, had both pleaded in vain, it was here he slew her. According to Livy—

"Virginia, seeing no prospect of assistance from any source, Appius, I beseech you first to make allowance for a father's grief, if I have made use of too harsh expressions towards you; and next allow me here, in the presence of the maiden, to inquire of her nurse the truth of this affair; that if I have been falsely called her father, I may depart hence with the more resignation." Permission being granted, he drew the maiden and her nurse aside to the sheds, near the temple of Cloaca, then called the new sheds, and there, snatching a knife, plunged it into his daughter's breast, with these words: "In my manner, my sweet child,—the only one in my power,—do I secure your liberty!" And then, looking back on Appius, "With this blood, Appius," said he, "I devote thee and thine head to perdition!"

This fearful scene led to a general rising of the commons and people of Rome against the nobles. The tyrannical offices of the Decemvirs were abolished; the populus, which had been great out of all proportion, was abridged, and a check put upon their cruelty, arrogance, and insolence. In vain did Caius Claudius, a most noble and virtuous Roman, and the uncle of Appius, appear in the Forum, dressed in deep mourning, and surrounded by his relatives and dependents, to suplicate that the Claudian family, which had rendered many services to the state, might not be degraded by chains and imprisonment, and to implore pardon or protection of every individual who had met with in behalf of his nephew. The fate of the criminal Appius was sealed by men of unbending minds, and, to escape a public execution, he put an end to his own life in prison. His example was followed by Spurius Oppius, the most unpopular of his colleagues, and the rest of the Decemvirs went into exile, leaving their estates to be confiscated. Marcus Claudius, the vile parder who had claimed the fair Roman as his slave, was condemned to die, but this sentence was mitigated, and he also went into a dishonoured, wretched exile at Tibur (now Tivoli). "And thus the shade of Virginia, whose cause was best supported after her death, having roamed through so many families in quest of vengeance, rested in peace, none of the guilty being left unpunished."

We have alluded to these incidents as they throw some light on the plain, homely state of the Forum in the earlier ages of the Roman republic, when stately edifices and the pomps and beauties of architecture and sculpture were unknown. To narrate all the great events of which this spacious area was the scene would be in a manner to write the history of Rome. Virgil, in speaking of this site in the days of Evander, who is supposed to have flourished some centuries before Romulus, says that then the flocks of sheep used to wander and crows low on the Roman Forum. If this were the case, it could only have been in certain seasons, for placed low, between hills, it received the rain and other waters from the higher grounds and the ravines or gullies that cut the hills, and must have been a complete swamp during a good part of the year. Indeed, as Sir William Gell shows in his recent learned and laborious work on the Topography of Rome and its Neighbourhood, the spot which afterwards became the Forum, as well as all the low ground on the side of the Circus Maximus or Coliseum was a marsh in the time of Romulus, and these two marshes served as a military defence to the Palatine, on which single hill then stood the whole of the city. If these bogs added to the strength of infant Rome, they must also have made the place a very unhealthy residence. As the city expanded, and enclosed other hills, and more and more it was rendered the Forum was artificially drained. Sir William Gell says,—"The Forum has not remained a marsh but had a subterranean channel been constructed, which carried off the stagnant waters by the Cloaca Maxima to the Tybert." These cloaca, or sewers, which were works of magnitude and utility, as may still be seen by the almost perfect beauty, unhappily being left unpunished."

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The same king, who is commonly called Tarquinius Priscus, was the first to assign lots of ground for building to the Roman people round the Forum, where sheds, lowly porticoes, and shops were soon erected.
This was about five centuries and a half before Christ. As the conquests of the Romans extended and the population of the city increased, the Forum became more and more thronged under the Republic; but 100 or more years after Tarquinius (when the tragedy of Virginius is supposed to have taken place) the square was still in primitive condition, as we have shown; and the Forum does not appear to have gained much more a century after the latter event, or about 360 years before the Christian era, when a lake or chasm called Lacus Curtius suddenly opened in the midst of it, and would not close again (so goes the legend) until the most precious object the city contained was thrown into it to satisfy the angry gods. The story of the gallant, self-devoted Roman knight,—the young and beautiful Marcus Curtius,—who, after casting his eyes to the temples of the gods within view of the Forum, and to the sacred walls of the Capitol, galloped his horse into the chasm and perished there for his country's good, was too marvellous even for the large faith of old Livy,—and yet it conveys so noble an example of patriotism that we are sorry we cannot believe it. Pericles during the time when the Janus Porticus was an entrance to the Forum, and a relation of some real event, in which the heroism or disinterestedness of a Roman knight conferred a great and lasting benefit on his countrymen. An earthquake or a tremendous rush of water may have made a rent that would require an immense outlay to fill it up, and this outlay may have been made, to his own ruin, by one noble citizen. Or if we suppose that some such calamity had in part thrown open and in part blocked up the Choca Maxima, which runs under the middle of the Forum, and that Curtius had it repaired at his own expense, although, to be able to do so, he was obliged to sacrifice even his horse, his best armour and gorgeous accoutrements, and utterly ruin his fortunes, and perhaps die while superintending the work, the narrative becomes less grandiose and romantic, but still conveys a glorious deed, while it gains infinitely on the side of credibility, as few people now-a-days will lend any belief to the responses of augurs and soothsayers, or to any part of the story as literally told by the old Roman chroniclers. In this natural way, even the labours of Hercules and the exploits of Theseus may be traced down to some real and natural deeds, which, as they had greatly benefited mankind, were in the first instance magnified by gratitude in oral tradition, then made supernatural by priests, and finally ephemerized by Greek and Latin poets.

During the Republic, in the absence of those vast and splendid theatres and amphitheatres where the emperors afterwards amused that people whom they enslaved, the players and gladiators exhibited in the Forum. In the later years of the Commonwealth a great number of temples, military columns, and rostra dotted the space; but these, for the most part, gave way to more splendid edifices and objects which were erected during the empire, when the Forum had animated the place and the virtues which could cast a charm on lowly walls had for ever taken their departure. We do not eulogize the facts of the story, the love of war and conquest, which were the immediate causes of their ruin, but we need scarcely remind any of our readers that the old Roman republicans had many private and public virtues,—that they were sober, honest, chaste and hospitable,—and that they loved their country with an unbounded passion. All these matters, however, have for the most part left the Forum, where they had disappeared. Among the few objects remaining being a puzzle to such persons as take an interest in them, and examine the matters on the spot. For example, the three magnificent columns represented in our engraving have been differently assigned to the Temple of Jupiter Stator*, to a senate-house, to a portico, to a comitium or public hall, and to a bridge.

* Stator, one who stands firm: from the verb stare, to stand still, not to move back or forward. The Romans gave this name to Jupiter, because he stopped their flight in a battle against the Sabines.
A few sad words will describe the present state of the Roman Forum.

It is reduced, not indeed to the pasture-ground for cattle which Virgil described, but to the market-place for pigs, sheep, and oxen, being now the Smithfield of Rome. The hills, the river, the roads and bridges, in this other part of the Forum, are still going by their ancient Latin names, slightly altered in Italian, but the Forum has not even retained its name: it is now called the Campo Vaccino, or the Field of Cows!

Close by the stately ancient columns is a solitary Christian church, called Santa Maria Liberatrice, and at a few yards' distance, in the middle of the Forum, there is an old Roman fountain, with a large granite basin, dingy from time and dirt. A few fragments of columns, capitals, and architraves lie scattered about, and here and there low jagged lines of old Roman walls show themselves above the rough surface of the Forum. If, however, you cross the field of freedom, where the Consuls had a house, where they sometimes lodged, which Dio Cassius (lib. liii.) says the or where was found in mines where noxious vapours were sometimes lodged, which Dio Cassius (lib. liii.) says was struck by lightning,* you presently reach ground that is almost covered with stupendous ruins, such as the Palace of the Caesars, the Coliseum, and the arch of Titus on the Via Sacra.

The great consumption of the black oxide of manganese is in the purpose of obtaining oxygen gas from it, for the manufacture of bleaching liquors and powders. For this purpose a mixture of salt and black oxide of manganese is put into a proper vessel, sulphuric acid is poured upon it, and heat is applied. The sulphuric acid decomposes the common salt, setting muriatic acid free, which acts upon the manganese, and chlorine, or oxychloric-acid gas, as it used to be called, is produced, which is afterwards combined either with potash, or, what is more usual, with quicklime, and used in the dry state; and this last is the bleaching powder of Tennant, now universally consumed in bleaching establishments. The usual way in which chemists obtain oxygen gas is by heating the black oxide of manganese in an iron retort, and conveying the gas by a tube under the surface of water into jars. It is also extensively used in the manufacture of glass, in order to render it colourless, which is supposed to be effected by the manganese uniting with the iron almost always contained in the materials used for making glass; and which would impart a green tinge if not thus neutralized. Care must be taken, however, not to add too much manganese, for an excess of it would produce a purple glass. This application of manganese was known before the true nature of the substance used was ascertained; and, on account of its property of cleansing the glass from impurities, it is even now sometimes called "glass soap."

Cobalt was discovered by a German chemist of the name of Brandt, in the year 1733, and was so called (in German Kobalt, and sometimes Kobold) because the ore was found in mines where noxious vapours were prevalent, and which the miners ascribed to Kobold, the evil spirit of the mountains. It is never found pure. When obtained in powder form, it is of a reddish-grey colour, without much lustre, has a specific gravity of 7.83; is brittle at common temperatures, but, when red-hot, may be partially extended under the hammer. It is fusible only in a very strong heat, nearly as high as that required to melt cast-iron. It is attracted by the magnet, and is capable of being rendered permanently magnetic.

There are not many varieties of the ores of this metal: the most common are its combinations with arsenic, sulphur, and iron, the arsenic generally predominating over the other constituent parts: they occur in veins traversing the primary strata, and also in the rocks themselves. The chief supply of the metal is from Norway, Sweden, Bohemia, Silesia, and Saxony. Ores of cobalt are found in different parts of Cornwall, but not abundantly.

The sole use of this metal is in the state of an oxide when it gives a blue colour to glass, porcelain, and other earthy mixtures. A very small quantity produces a great intensiry of colour, one grain of the pure oxide giving a very full blue to 210 grains of glass; and therefore it is usually sold diluted, as it were, by a quantity of vitrifiable earth, such as flints, either simply mixed with the earth, when it forms a brown powder

* See the 'Topography of Rome and its Vicinity,' vol. 4, p. 454.
called Zaffre, or already melted with the vitrifiable materials, and finely ground, when it is called smalts, auroe-blue, and powder-blue. In the manufacture of smalts, the ore is roasted in a furnace of a particular construction, having a horizontal chimney, sometimes 600 feet long, chiefly composed of wood. The purpose of this very long chimney is to condense the vapours of the arsenic contained in the ore, and prevent their escape into the atmosphere. The ore, being well calcined, is ground to a fine powder, mixed with two parts of powdered flints or quartz and melted, and thus a blue glass is formed. This last, by repeated grindings and washings, is brought to the state of a very fine impalpable powder, and then it is fit for use. The principal manufacturers of smalts are in Norway, and, in Saxony, at Schneeberg, a small town south of Leipzig, at the foot of the metalliferous mountains called the Erzgebirge, or ore-mountains.

The great consumption of smalts is to give a slight blue tint to white linen and cotton fabrics after they have undergone the process of bleaching, and they are employed for the same purpose by washerwomen; and in the manufacture of paper, the blue shade is given by this material.

In the year 1832 the importations of smalts were,—

| From Norway | 309,579 lbs. |
| Germany | 98,668 |
| Holland | 11,270 |
| Spain | 7,049 |
| | 426,656 lbs. |

There are manufactures of smalts in Holland, but the materials are brought from Germany.

Arsenic.—This substance was first made known as a peculiar metal by Brandt, in the year 1733, at the same time with cobalt, both occurring in the same ore. The origin of the name, which is Greek, will be found in the 'Penny Cyclopædia.' The pure metal is of a greyish white colour, having a specific gravity of about 5·00, being extremely brittle, and very difficult of fusion. When united with oxygen it forms a peculiar acid, and combinations of this acid with lead and iron are the only forms in which the metal is found. The chrome of lead comes from Siberia; the chrome of iron is met with in Siberia, the United States of North America, France, and the Shetland Islands.

The only use of this metal is as a colouring body. The beautiful paint called chrome yellow is a compound of chromic acid and oxide of lead; and another preparation with lead produces a powder of a beautiful red colour, which, as well as the yellow, is a durable paint, and a valuable material in dyeing and calico-printing.

We have now described sixteen different metals, being all those which are employed in the arts: besides these, eleven others have been discovered; but, as they are as yet only objects of interest to the chemist and minerologist, it does not fall within the scope of our present plan to notice them. But even these two sets of metals, for modern researches have proved that the fixed alcalies and the earths are oxides of peculiar metals, and thus the list extends to forty-two. But it belongs more to chemistry than to a description of the Mineral Kingdom to treat of the earths as compound bodies, and we shall therefore proceed, in our future Sections, to describe other mineral substances which are employed in the useful and ornamental arts.
We have been much gratified by a visit to a collection of curiosities which has been some years established in London at Adelaide Street, and which contains a great variety of interesting objects, though of a more heterogeneous description than are usually met with at such exhibitions: this is not said as a censure, but rather otherwise, as visitors at such places seek as well to be amused as instructed; and for those who have any particular object in view, there will be found quite enough to interest for the time usually devoted to a visit.

The lover of science, although he may not find anything to increase his store of knowledge, will surely see objects which he would find it difficult to meet with elsewhere, and may witness experiments in the large way, which he would scarcely be able to perform so satisfactorily on a smaller scale. Amongst other things, there are some very powerful electro-magnets, which show the Voltaic light with great intensity, and others which communicate such a rapid succession of electric shocks, that few persons can withstand them above a few seconds, although each separate shock is but slight. A bar of soft iron, weighing 34 lbs., becomes such a powerful magnet when in communication with a small galvanic battery, that it will support a weight of above 400 lbs. A very pretty illustration of the power of the dry galvanic pile is shown in a glass bell, where four little figures on horseback are constantly riding slowly round, forming a perpetual motion, at least as long as the galvanic action lasts, which may certainly be several years. The writer has seen a watch, constructed by Singer, set in motion by a powerful combination of a similar description, which was in motion at least sixteen years, and is so probably at this moment.

The great power of steam at a high pressure is shown in the steam-gun, which discharges a number of bullets (said to be seventy in four seconds) against an iron target placed at the end of the room. Of the actual power of this instrument we have no means of judging, nor of its manageability as an implement of war. A target is shown with several holes in it, said to have been pierced by bullets discharged from the gun, but it is difficult to estimate its power as a gun by its effects when so near. The noise of this instrument appears to be rather an objection to placing it in a room where there are so many objects requiring a quiet contemplation.

The middle of the Long Room, which contains the...
chief part of the collection, is occupied by a canal or thorough 70 feet in length, and containing 6000 gallons of water, for the exhibition of models of steam-boats, which traverse it by the help of clock-work. The boats are driven by paddles of different construction from those in use on our rivers, and are stated to be superior from not causing so great a disturbance in the water. We apprehend, however, that the comparison is hardly fair between little boats slowly revolving in a tab of still water, and a great vessel running at a rate of twelve miles an hour on a rapid river: to judge of the improvements both boats should be placed in the same circumstances.

Persons who are desirous of witnessing the processes of our great manufactures may see some of them exemplified on a small scale. The Jacquard loom, which effected such a change in the manufacture of figured silks, and the ribbon loom which enables the weaver to move twenty shuttles at once, are both at work in a room above the gallery. Working models of steam-engines are also shown, with some of their gradual improvements from the time of Newcomen, who first used a piston at the beginning of the last century, to the condensing and high-pressure engines of the present day.

The antiquarian will find models of some of the ancient edifices of Egypt, Greece, Italy, and Britain, and the naturalist a few specimens of fossils, minerals, birds, and insects: but our limits preclude a notice of one-twentieth part of the objects collected. A great many articles are novelties sent by the inventors for the sake of publicity, which will account for the mingling of patent anchors, chains, rudders, fids, and keels; cupping-glasses and stomach-pumps; locks, mangles, ploughs, bread-cutters, &c.

The engraving represents a South American hut, of which there is a model in the gallery. The model is 2 ft. 4 in. in length, and 1 ft. 4 in. broad: its height in the middle is 1 ft. 8 in. It is merely a roof of broad leaves, supported upon nine poles. The middle row is composed of long poles for the highest part of the roof, the outer ones are shorter. It is quite open to the air on all sides, though probably the mats which are hung up within may be occasionally used as a means of shelter from bad weather. Long hammocks are fastened under the roof, and six heavy canoes are fastened under the sloping roof, and the implements of their occupations are hung all round. Two long canoes are fastened under the roof, and six heavy paddles suspended between the upright poles. A large well-woven basket of rushes stands on four legs in the middle of the hut, intended probably to contain food and the utensils of their cookery. The scenery in the engraving is adapted from Prince Maximilian's 'Travels in the Brazils.'

It is not stated by what tribe of natives these huts are constructed; probably by some of the great Guaraní family, spread over the South American continent from the Amazon to the Plata, and forming nearly the whole of the native population of the Brazil. They are described by travellers as living in a very peaceful and simple manner: they reside in thick woods, and subsist chiefly on the produce of the chase. They believe in a good and evil spirit, and in a future state. If a man of property dies, his friends and faithful friends, they hope to find in the next thick woods abounding in game, which will not require to be hunted more than enough for healthy exercise; but those who are deficient in those virtues will be condemned to perpetual starvation in a barren region without a tree.

These people rarely visit the large towns on the coast, but inhabit the interior, where they find the greatest abundance of the means of subsistence. They often build their huts in the neighbourhood of the whites, in remote villages, though they rarely intermarry with Europeans. Many of them became nominally Christians under the influence of the Jesuits; but very few traces of religion remained with them after the suppression of that order, unless we refer the simple belief noticed above to that source. Little regular labour can be had from them, though foreigners have found their aid very valuable in preparing specimens of natural history. All attempts to enslave them have failed. When reduced to a state of captivity, they have either pinned away or waited with indomitable patience until they have found an opportunity of escaping to the woods. The manner in which the Pampa Indians, farther to the south, build their huts is described by Azara, and, with the exception of the material of which the roof is constructed, it would apply well to the hut the model of which we have described. "They drive into the ground," he says, "three stakes, as big as a man's wrist, about four feet distance from each other. The middle stake is about six feet high, the others are shorter, and each is terminated at the top by a fork; about twelve feet from these, three other stakes are driven of the same form and height. They then place horizontally on the forks three long sticks or reeds, on which they stretch the skins of horses. When the weather is cold they add also horses' skins to the sides."

On a future occasion we may probably notice some other objects of interest in this collection.

DEATHS OF EMINENT PERSONS OF MODERN TIMES.

It is the custom for a paper to be read at the notices of the College of Physicians; and as the first meeting of every season is attended not only by the heads of the medical profession, but by the most distinguished luminaries of the church and the law, by statesmen and men of letters, it naturally follows that it is desirable that the opening paper should be capable of interesting the philosopher and the historian as well as the mere practitioner. Those only who have tried their hand at a composition of this kind can justly appreciate the difficulty of being popular without being trivial, and instructive without being pedantic.

On the last occasion of this kind (26th of January, 1835) Sir Henry Hallford took for his subject the deaths of some eminent persons of modern times, beginning with Henry VIII. In giving an account of it we shall not trust our memory, but take advantage of the printed essay which has since appeared. Sir Henry observes that when this prince ascended the throne at the age of twenty, he is said to have been one of the handsomest men of his time—an assertion which is confirmed by Holbein's pictures of him at Walsingham, and a full-length portrait at Belvoir Castle. As life advanced he became unwieldy in size, of a gross habit, was covered with sores, and he died of a dropsy at the age of fifty-six.

"Henry's state of health in the decline of his life made him a great dabbler in physic, and the king not only offered medical advice on all occasions which presented themselves, but made up the medicines himself, and administered them. We find in that curious magazine of materials for history—the British Museum—the book containing a large collection of recipes for plasters, spasmadrapes (dipped plasters), ointments, waters, lotions, and decoctions, devised and made by the king himself and his physicians, applicable, perhaps, amongst other diseases, to that which had been imported some twenty-five years before from Naples; and in Sir Henry Ellis's most interesting collection of original letters, we read one from Sir Bryan Tuke to Cardinal Wolsey, giving an account of an interview with the king,
in which his Majesty prescribed for Sir Bryan, and sent also some excellent instructions to Cardinal Wolsey how he might avoid the infection of the sweating sickness, and how he should treat the disease should it attack him."

It is far from improbable that the Cardinal himself studied medicine, not only because almost all the learning of the land was then confined to ecclesiastics, but because then, and long afterwards, practitioners of physic were licensed by the bishops. His dying speech indeed would seem to show something of the kind. "Nay, in good sooth, Master Kingston, my disease is such that I cannot live; for I have had some experience in physic. Thus it is: I have a flux with a continued fever, the nature whereof is, that if there be no alteration of the same within eight days, either must ensue excoration of the entrails, or delirium, or else sinuate itself into the historian's mind and colour his day, and if ye see no alteration in me, there is no unprofessional writerto appreciate fully the effect of measles."

The Protector, encouraged by the assurances of his chaplains, imagined to the last that he should recover, magnificent temple, which standson one side of the ancient square of the Hippodrome. It was built by the victorious Sultan Achmet I., by whose name it generally goes;--but it is also called Alti-Minarély, or the Mosque of Six Minarets, being the only one in the Turkish capital that has so many of those light and lofty towers. Until of late years, it was difficult for a Christian to obtain admission to these temples at Constantinople, and to that effect it was necessary to get a special firman from the Porte, which document did not always save those who used it from being insulted or assaulted by a fanatic mob. Now, however, Sultan Mahmoud's reforms, and defeat, and humiliation, have disarmed the people of their animosity and fierceness, and Christian travellers go in and come out of their mosques with little or no difficulty. The interior of most of these sacred edifices is now almost as well known as their exterior. In all the imperial mosques, which, including Santa Sofia, are fourteen in number, which the expanse and elevation are grand and imposing, but nothing can well surpass the extreme simplicity of their interior features and details. In some of them, as Santa Sofia and the Alti-Minarély, the columns are carved, and the arches, cupolas, and ornaments are adorned with low reliefs or mosaic work; but these, with some scrolls and fretted work round the numerous windows, constitute nearly all the inner decorations, and there are scarcely any accessories or furniture, or articles of any kind, to break the great void, or injure the simplicity of the plan. The religion of Mahomet, like that of Moses, prohibits the representation, in sculpture or in painting, of any living thing."

**Fertilization of Lava.**—This phenomenon has been thus explained by Sir William Gell, in his 'Topography of Rome and its Vicinity': "It has been proved that volcanic lapilli and volcanic productions in general possess in an eminent degree the power of retaining moisture (imbibing with ease seven-eighths of water), and that their humidity is a principal cause of their fertility. Mixed with the soil, and impregnated with a store of moisture acquired during the winter months, they occasion in the ensuing summer the fertility so remarkable in the vicinity of Naples."—vol. i, p. 260.

### INTERIOR VIEW IN THE GRAND MOSQUE OF SULTAN ACHMET, AT CONSTANTINOPLE.

In an early Number of our Magazine (No. 25) we gave a bird's-eye view and a brief external description of this magnificent Mohammedan temple, which stands on one side of the ancient square of the Hippodrome. It was built by the victorious Sultan Achmet I., by whose name it generally goes;—but it is also called Alti-Minarély, or the Mosque of Six Minarets, being the only one in the Turkish capital that has so many of those light and lofty towers. Until of late years, it was difficult for a Christian to obtain admission to these temples at Constantinople, and to that effect it was necessary to get a special firman from the Porte, which document did not always save those who used it from being insulted or assaulted by a fanatic mob. Now, however, Sultan Mahmoud's reforms, and defeat, and humiliation, have disarmed the people of their animosity and fierceness, and Christian travellers go in and come out of their mosques with little or no difficulty. The interior of most of these sacred edifices is now almost as well known as their exterior. In all the imperial mosques, which, including Santa Sofia, are fourteen in number, which the expanse and elevation are grand and imposing, but nothing can well surpass the extreme simplicity of their interior features and details. In some of them, as Santa Sofia and the Alti-Minarély, the columns are carved, and the arches, cupolas, and ornaments are adorned with low reliefs or mosaic work; but these, with some scrolls and fretted work round the numerous windows, constitute nearly all the inner decorations, and there are scarcely any accessories or furniture, or articles of any kind, to break the great void, or injure the simplicity of the plan. The religion of Mahomet, like that of Moses, prohibits the representation, in sculpture or in painting, of any living thing."

*The Persians do not adhere to this law, and the Turks are departing from it. More than three years ago, the Sultan gave his own portrait, set in diamonds, to the British Ambassador."
there are therefore no statues and no pictures. The organ, which swells so solemnly through Christian cathedrals to the delight of the ear, though its huge form is sometimes so placed as to cut up the interior view to the annoyance of the eye, is unknown to the Turks, who only make a religious use of music in the halls of their dancing dervishes. They have no stalls, no large canopied pulpits, galleries, pews, benches, chairs, or stools. The three principal objects in all Turkish mosques are the following, and they are small in dimensions, and by no means made prominent:

1. The mihrab, improperly called by travellers "the altar," for it is nothing but a hollow place or niche, from six to eight feet high, made in the wall at the end of the mosque to point out the direction of the holy city of Mecca, to which the faithful must turn when they pray.

2. The mahfil-muezzin, a small, slightly elevated platform, to the left of the mihrab, where the muezzins are stationed during divine service.

3. The kursy, a kind of open pulpit to the right of the mihrab, only raised six or eight feet from the floor, in which the sheik preacher (who very seldom preaches) takes his stand.
In addition to these, the imperial mosques, like that of Sultan Achmet, have a minber, and a mahfil-padishahy. The first is a kind of miniature pavilion, which, in some of the larger mosques, looks like a pigeon-house: it is always at some distance to the left of the mihrab, and is elevated on a steep and narrow flight of steps. According to the letter of the book of law, there ought never to be more than twenty-three steps to this flight. The minber is reserved for the khatib, or chief of the mosque, who on certain days recites from it at full length a profession of faith, and a denunciation of all religions save that of Mahomet. When the Turks were a conquering people, and converted the churches they took from the Christians into mosques, on the day they were opened, and when the sounds of 'Allah il Allah!' were heard for the first time from the church-tower, the khatib ascended the steps leaning on a sword;—he held the sabre, as the instrument of victory and conversion, while he recited in the air, and then descended leaning upon it, as he had done on ascending the steps.

The mahfil padishah is a chamber or recess, closed in front with glazed lattice-work, in which the sultan and his courtiers sit concealed during the prayers. This recess, which does not in any way project from the walls of the mosque, is at a considerable elevation, and generally on the side of the temple opposite to the khatib’s chair. It is more like the grated galleries in the Catholic churches, to which bosoms, as though the bodies of thousands had been project from the walls of the mosque, is a most splendid mass, in the performance of their religious prayers.

Inscriptions in large Arabic characters, and tablets bearing the names of Ali, Mahomet, the four first caliphs, and Hassan and Hussein, the children of Ali, occur here and there on the walls of the mosque, but are too plain and mean to be counted as decorations. At a distance the inscriptions look like merescraps done in black paint, and the tablets, which are surrounded by plain black wooden frames, are seldom more than two or three feet square. Some of the tablets are done in blue and gold letters, and contain short passages from the Koran. Lamps, which are sometimes of silver, (and in Achmet’s Mosquethey are, or were, of gold, and set with precious stones,) are suspended in different parts of the interior, but these are few and far between, and much too small to produce any effect in those vast spaces. The Turks also hang up in their mosques, and grand tombs or mausoleums, a number of large ostrich-eggs,—a curious custom which we have never seen explained. In some instances we have seen a few small coloured glass lamps, like those used in our illuminations or at Vauxhall, hung up in these temples.

The great floor of the mosque is generally covered with Egyptian matting of an excellent quality, being even, firm, and compact, and altogether different from our straw-mats. Until lately, the Turks wore soft morocco boots without any sole, and over these strong paspooshes, or soleless slippers, which alone received the dirt of the streets, and which they took off not only at the entrance of the mosque, but at the threshold of every private apartment they entered. The matting was thus not liable to be dirtied, and though some of the minor ones were neglected, particularly in the provinces, the chief mosques of Constantinople were kept most scrupulously clean and neat in every part. The interiors of the mosques of Sultan Achmet, the Suleymanieh, the Valide-Sultana, and the Eyoub, used to be remarkable for their almost spotless purity. Now Sultan Mahmoud has put a large portion of his subjects into shoes and boots like our own, which are not so easy to take off as the Turkish paspooshes, it will be rather more difficult to preserve the matting, on which they all kneel or prostrate themselves in their worship, free from mud and dust. But a more serious mischief is likely to arise to the mosques from the sultan’s often-threatened seizure of the property attached to them, and which is in many cases very considerable. Santa Sofia is always considered as the chief palace, but it is to the mosque of Sultan Achmet that the Grand Seignor repairs in state at the Bairam, the Courban-Bairam, and the Mevloud, the only three great festivals acknowledged in the religious code of the Turks.

On those days the vast space, of which only a section is represented in our engraving, was filled and crowded by the sultan’s numerous court, by muftis, oulemas, pashas, beys, and other dignitaries of the empire, all followed by their grown-up sons, and a host of splendidly-attired domestics or dependants. The flowing and richly-coloured robes, the bright turbans and haughty caouks, the majestic beards, the daggers glittering with diamonds, the aspiring plumes of feathered with aigrettes of brilliant, and other gorgeous articles of costume and appointment, being condensed and enclosed as in a frame-work, within those plain but most magnificent buildings, used to produce a picture that we have heard described as truly wonderful; and when that splendid mass, in the performance of their religious ceremonies, knelt, or threw themselves prostrate, or raised themselves and clasped their hands on their bosoms, as though the bodies of thousands had been moved by one will—one soul, the effect must have been electrifying.

We have used the past tense; for the splendour of these celebrations, and of everything connected with the Turkish empire, has been passing rapidly away; and the almost total change of costume which Mahmoud has obliged his subjects to adopt must deprive the scene of its most striking and picturesque features.

Seven years ago, though not allowed to enter the temple, we saw the sultan’s procession on the Courban-Bairam go from the Seraglio gate to the Hippodrome, and the mosque of Achmet; and though we are not very fond of shows and spectacles, and the exhibition of wealth of our own times, we have no doubt that even in former years, we could not help being forcibly struck by it. On a fine clear summer-morning, shortly after sunrise, the sultan, with an almost countless retinue, all dressed in their most splendid oriental costumes, and mounted on beautiful horses, richly caparisoned, issued from the Seraglio gate, in a waving, chequered, brightly-coloured line, that looked like some capricious rainbow. Each personage in the procession had several servants in rich dresses walking by the head or on the flanks of his horse, and the officers and attendants of the palace divided into many classes or troops, each of which was distinguished by a peculiar uniform, were distributed along the line. One part of the cortège consisted of a number of Arabian steeds—the finest horses of the sultan’s stud,—which were led in hand, and carried burnished shields and other pieces of ancient or eastern armour tastefully arranged on their backs and shoulders. A good part of this armour is said to have been taken in war by the Turks from the Greek emperors. The procession marched slowly through the streets, where all was dead silence on the part of the spectators.

* The Bairam, which is also called Id-fitr, or "the breaking of fast," follows the long Lent of the Ramadhan, and may be compared to the Catholic Easter. This holiday lasts three days. The Courban-Bairam, or "the Feast of Sacrifices," falls seventy days after the first, and lasts four days. The Mevloud is a festival celebrated by Mourad III., in 1357, in honour of the nativity of the prop. et, but it is only a festival for the sultan and his court, and not for the people. It only lasts a day, and it is observed at almost entirely in a vast to the interior of the mosque of Sultan Achmet.
part of the thousands of human beings assembled there, and not a voice or whisper was heard until the sultan rode into the great square of the Hippodrome, when the Muezzins from the lofty minarets of the mosque sent forth their shrill but melodious cry—"Allah! Allah! There is no god but God, and Mahomet is his prophet!" When they came in, in front of the temple, the Grand Seignor, his ministers, sword-bearer, courtiers, pashas, and the rest, all dismounted, and while some of the attendants remained outside in charge of the horses, others in their proper faces joined the brilliant array that gradually disappeared under the arched gateways and in the interior of the mosque of Sultan Achmet.

**ENGLAND. AS DESCRIBED BY AN EASTERN TRAVELLER SEVENTY YEARS AGO.**

In again bringing before our readers our Indian friend, Mirza Itesa Modeen, whom we lately introduced to them, we regret to be obliged to pass over two curious chapters in which he gives an account of Scotland and the highlands, whither he was taken by his protector Captain S. soon after their return to London from Oxford.

His estimate of the character of the English is upon the whole highly favourable. He dwells particularly on those points in which their conduct or character contrasts advantageously with that of his own countrymen, to whom he thus makes an opportunity of admiring and revering their character, and in his account of the English in general, he immediately casts his eyes on the soles of his feet, one of the goodservices which the cheap publications and remainssilent, and from extremebashfulness to the resemblance of his own time have rendered to the public, that they are not at liberty to exhibit the satisfaction he really feels.

This is perhaps exaggeration; but the general truth of his remarks is established by the fact that he was surprised to find a people who did not like to be praised to their face, which he would not have been if the practice had not been very different in his own country. It escaped his notice, however, that a person's being usual for people of rank to send their sons and daughters to a distant place for education. Of our modesty he has the highest opinion. He says—

"The caste of English avoid self-praise, and talking of their own exploits they consider disgraceful. If an officer who has greatly distinguished himself by enterprize and courage in any victory be asked the particulars of the engagement, he simply states the facts as they occurred. If another person greatly extols the conduct and valour of that officer (before him), he immediately casts his eyes on the soles of his feet and remains silent, and from extreme bashfulness the perspiration distils from his face. The English in general, then, do not at all relish to be praised before their face:—they are rather annoyed at it, and dislike it. They consider an egotist a coward, and sycophants and flatterers liars. Under these circumstances, in their assemblies flattery is unusual. Flattery is certainly a very foolish practice: however, the sepoys and officers of Hindoostan, and particularly of the city of Delhi, think that flattery and egotism add to their consequence; as, for instance, if a person by a thousand labours happen to kill a fox, he then goes about everywhere and proclaims with a loud voice that he has slaughtered a tiger, and in a most valiant manner twists his moustaches, and swelling with pride, his vesture does not suffice."

However, those who know how freely and easily praise is assumed in the East, and how exceedingly coarsely flattery is administered, will scarcely think that the Mirza has stated his case too broadly.

The following is perfectly true, although it acquaints us with a class of criminals happily not now known in the country:

"There are mounted robbers in England who commit their depredations on the highway. Some of these men are the sons of wealthy parents; but having squandered away their patrimony at the gaming-table and in debauched living, poverty overtakes them, and then, being unable to turn their hands to a useful employment, they subsist by robbing. They lie in wait in the open commons, in forests, and in places removed from the improvements of men. When they observe a carriage approaching, they quickly gallop up with a pistol in their hand, which they present at the head of whoever is riding in the vehicle, and order him to surrender whatever he has got about him, if he wishes to escape with his life: he then delivers to the robber whatever property he may have."

The career of these worthies often exhibited many of the qualities which men are accustomed to admire, and which, in a duly balanced course of life, are really entitled to admiration. The very antagonism of qualities which their character interested the populace greatly about them. That they were bold and hardly was beyond dispute; but then in the midst of their ferocious course they were often polite—for they used, on occasion, the outward forms of courtesy and respect towards those who were terrified by their presence and impoverished by their exactions; and in the midst of their selfish and heartless spoliations, they were also generous—for they sometimes abstained from some article of the property which was particularly dear to the owner, and they sometimes threw back some small fraction of their spoil to supply the immediate wants of the plundered. They were generous like the Arab, who, after having plundered you of all your property, even to the clothes on your person, turns in all kindness towards you, and gives you, "in the name of God," a cloak from his own shoulders to cover your nakedness. The lives of the most distinguished of these personages were printed in a low-priced, if not cheap, form, and until within these few years formed a favourite article in the literature of the lower classes. It is one of the good services which the cheap publications of our own time have rendered to the public, that they have in a great degree superseded this commodity in the market; for it cannot be doubted that the interest which these books created in the career of criminals, and the admiration which was felt for some points in their character, had a serious effect in impairing the satisfaction and confounding that intuitive perception of the distinction between right and wrong which it is the interest of society to maintain and strengthen.

Our Mirza's view of the manner of conducting education in this country is interesting, although it has some unpleasant points as compared with the system which now prevails. It was nevertheless such as called forth the warmest approbation when he compared it with the educational practices of his own country.

"The higher orders of society in England educate their children in a totally different manner from that of the people of Hindooostan (of the same rank), where the teacher is retained as a servant in the house, in order that there may be no chance of the influence of the evil eye falling on the child. In England it is usual for people of rank to send their sons and daughters to a distant place for education.

First of all they are taught the letters of the alphabet, which, however, is given them; then an easy lesson is given them; after this they are taught to read pleasant tales, fitted to amuse children. The school-books have been rendered so easy, that the learner has no difficulty in acquiring knowledge. From the invention of printing, books have so increased, that if a person wishes for a hundred copies of a work, he will be able
to purchase that number in a single shop. Books in this country (Bengal), that cost one hundred and fifty rupees, are procured in Europe for the sum of ten or twelve.

"The people of wealth in England, commencing at the age of four years, keep their sons and daughters constantly employed in writing, reading, and acquiring knowledge: they never permit them to be idle. If a man or woman be unacquainted with the musical art, be unable to ride or dance, he or she is accounted by people of substance as descended from a mean parentage, and taunts and reproaches are not spared. They then say, 'Such a one's parents have been poor, and being unable to pay the cost of education, their children are therefore ignorant of everything.' Those ladies, in particular, who can neither dance nor sing, are considered in a very inferior light; they will never get well married. To be brief, the manner in which the English are educated and reared is totally different from that of India; for the sons of some of our great men and nobles are taught gratuitously. At school they acquire a thousand bad habits when they are supposed to be acquiring knowledge. However all that is disregarded by our men of rank, and gratuitous education is not accounted disgraceful. In England, however, money is expended in the acquirement of wisdom."

Here the Mirza, as might be expected from an Oriental, dwells more strongly on external than intellectual attainments, particularly in females; or it may be that, in the system of education prevalent at that time, more attention was given to the former than to the latter. Things are improved now; but that this is not still the case in the education of females we will not undertake to say. This is a matter into which we cannot now enter. Let us see what our Indian traveller says about the education of the poor.

"The poor people of England," he says, "send their children to be taught in the town-schools, and pay at the rate of a rupee per week.* For the girls there are separate schools. I saw that the boys sat on a form in one line, and in this way studied their lessons. The teacher, with a leathern strap in his hand, heard the scholars repeat their tasks, commencing at one end and going down the whole line. When a boy committed a mistake in his reading, the teacher, without the least pity or remorse, struck him on the back with the strap to such a degree that he wounded the limbs of these silver forms and jessamine-legged youths. Although this appears to be cruelty, yet this saying is nevertheless true:

"The tyranny of the teacher is better than the father's love."

"The lower orders, particularly in Scotland, are all able to read and write, with the exception of those whose parents cannot afford to send them to school, or who are of weak intellect and unable to learn. After the children of the poor have acquired a sufficiency of learning, they are put to different trades; as one becomes a goldsmith, another an ironsmith, a third a shoemaker, and a fourth a tailor. Europeans can learn whatever trade they choose."

* A coss is equal to 2000 English yards.
† Officers of parade.
‡ A coss is equal to 2 rupees per month.
CHINA.—No. VI.
ROADS AND TRIUMPHAL ARCHES.

The public roads of the Chinese, where difficulties like those we have mentioned in No. 226 do not exist, and comfort, are described as admirable from their regularity, good repair, and comfort. The missionaries always picture them, after their descent from the bridges and craggy mountains to the campaign country, as being so pleasant and so nicely paved, that a traveller might fancy he was walking over the streets of a city. Wherever an irregularity of surface occurs, if an elevation, their industry has levelled it or cut through it; and, if a hollow, they have filled it up. The roads are often paved with stones neatly laid in and fitted to each other; and, in regular succession, stone columns, not unlike our mile-stones, mark the distances. At each eighth of these pillars, which is computed a day's journey, there is an inn erected by government, and under the direction of the local magistrate, where every person travelling on the business of the state is entertained according to his rank. The common inns on the road are pretty numerous, but narrow and mean, and badly provided. In these imperial days, as in their canals, the Chinese delight in straight lines; and, like the bridges, the roads are often ornamented with triumphal arches, and with temples and pagodas in which travellers may repose by day, but not stay all night, except indeed they be mandarins, when they may make very free with the houses of their gods, and with the idols themselves if they stand in their way.

In some provinces, the public roads are flanked by a row of trees on each side, when they look like a pleasant mall or promenade, or by walls, eight feet high, to prevent the passengers damaging the well-cultivated fields and gardens. At proper distances there are seats erected in a neat style for the repose of the weary traveller, which are well guarded both against the winter cold and the summer heat. There are also occasionally found along these roads men employed by rich and charitable individuals to distribute to the poor travellers tea, and, when the weather is severe, a sort of decoction of ginger, for which no return is required save that the wayfarers forget not the name of their benefactors. According to law, there ought to be a tower with a certain number of soldiers for the security and police of the road at every half league, and each tower ought to be provided with flag-staffs, to act as a sort of telegraph and makes signals in case of alarm. It appears, however, that in many places the towers do not exist, while in many others they are described as being very mean and unsightly, without a guard, serving merely to mark the distances.

Their post-houses are regular and well provided, with a mandarin appointed to superintend each of them; but, unfortunately, all the post-horses are the property of the emperor, who does not permit any one to use them except his couriers, or the officers and persons lessepared from court.

The government publishes an itinerary, or book of roads, where all the roads are laid down, from the capital to the different extremities of the empire, and proper directions given to travellers. The missionaries, however, from whom this account of the roads is chiefly taken, complain of insupportable clouds of dust in summer, and of snow and inundations in winter; and Mr. Barrow is probably right when he limits the excellence of the roads to certain districts and provinces, though, when taking his account of inconveniences and horrors from a disappointed and irritated Dutch ambassador, we think he goes beyond the fact, and must believe in the concording testimony of many missionaries, who were not generally disposed to make light of the difficulties and dangers they had to encounter on their journeys, that there are many roads in the empire, besides those he mentions, that can be ranked above a footpath.

Triumphal Arches.—These arches, mentioned as being so frequent on the bridges and roads, are also found in great abundance within the cities where the great streets intersect each other. The Chinese call them Pai Lou. Our name of triumphal arch does not exactly apply to them, as they are rather monuments erected to the memory of those who have deserved well of the community, or who, leading a life of virtue, have obtained an extraordinary longevity. Some of them are of stone, but they are more usually of wood, painted, varnished, and gilt, and a mandarin.

They are uniform, consisting invariably of a large central gateway, with a smaller one on each side, like the entrances to the Chinese palaces. The whole is covered by projecting, shelving roofs, richly carved, on the friezes under which there is an inscription, generally in letters of gold.

On the roads, as near the bridges of the canals and rivers, and within the towns, the traveller frequently meets with taoa, or lofty pyramids, some of which are of great strength and antiquity. They are from seven to nine stories high, of a square form, without bells, but surmounted by a bronze urn. They are said to have been dedicated to Fo and the spirits, but no religious ceremonies are now performed in them. Antiquaries have endeavoured to identify them with the pyramids of Egypt (which they resemble in nothing of the emperor, who does not permit any one to use under the laws of Alfred, and speaking the language of the English, viewed through the microscope—Green Britain in a state of glorious magnificence! How deeply to lament is the spirit of hostility and sneering which some of the popular books of travel have shown in treating of the Americans! They hate us no doubt, just as brothers hate each other, but they respect the opinion of an Englishman; and concerning themselves ten times as much as that of a native of any other country on earth. A very little humouring of their prejudices, and some courtesy of language and demeanour on the part of Englishmen, would work wonders, which is with the public mind of the Americans...

Coleridge's Table Talk.

United States of America.—The possible destiny of the United States of America—as a nation, of 100,000 freemen—stretching from the Atlantic to the Pacific, living under the laws of Alfred, and speaking the language of Shakespeare and Milton, is an august conception. Why should we not wish to see it realised? America would then be England, viewed through the microscope—Green Britain in a state of glorious magnificence! How deeply to lament is the spirit of hostility and sneering which some of the popular books of travel have shown in treating of the Americans! They hate us no doubt, just as brothers hate each other, but they respect the opinion of an Englishman; and concerning themselves ten times as much as that of a native of any other country on earth. A very little humouring of their prejudices, and some courtesy of language and demeanour on the part of Englishmen, would work wonders, which is with the public mind of the Americans...
GLASGOW.—No. II.

In resuming the account of Glasgow, which was commenced in our last Supplement, we shall give our first attention to the cathedral, of which we are now enabled to furnish an engraving, which, as well as the others, are from original sketches recently taken on the spot. The history of the structure, and some other particulars in connexion with it, having been given in the previous Supplement, we shall now furnish a more detailed description of the exterior than it appeared desirable to give without the accompanying illustration.

The author of a lively and able series of papers under the title of 'Three Weeks in Scotland,' which appeared in 1831 in the 'Church of Ireland Magazine,' and which are understood to have been written by the Rev. Cæsar Otway, the author of 'Sketches in Ireland,' thus describes the general appearance of the fabric:

"It stands in the centre of an ancient cemetery that slopes down towards a ravine or brae, which is planted, and on the other side of its wooded bank appears a black statue of the dark* John Knox. The whole of* we do not understand in what sense the epithet "dark" is applied to John Knox; unless, indeed, it be mere play of fancy upon the preceding word "black."

Sir Walter Scott was of the same opinion. Andrew Fair-service says, in 'Rob Roy,'—"Ah, it's a brave kirk, none o' yere whigmaleries and curliewurries and opensteak hems about it—a' solid well-jointed mason-work, that will stand as long as the world, keep hands and gunpowther off it."

* We do not understand in what sense the epithet "dark" is applied to John Knox; unless, indeed, it be mere play of fancy upon the preceding word "black."

The elevated site of the cathedral renders it a conspicuous object in every direction, the floor of the choir is resounding to the peal of bells, and the ancient churchyard is flagged with tombstones, around its walls are very venerable monuments, and in the centre rises the only perfect unscathed specimen of the cathedral magnificence of the Romish church in Scotland. Nothing can be more solid, more venerable; I think I never saw a building more designed for durability,—1090 feet in circumference, supported by 147 pillars, lighted by 157 windows, with a tower and spire rising in the centre. It would really be a fine structure were it not deformed by an ugly and secondary tower that projects from the western corner, surmounted by a stumpy sort of lead-covered spire that casts a grotesque and deformed look over the whole building."
being 104 feet above the level of the river at the foot of Saltmarket Street, at low-water mark. Mr. Mayne, in his poem on Glasgow, says,—

"High o'er the lave St. Mungo rears
His sacred face, the pride of years;
And, stretching upward to the spheres
His spire, afar
To weary travellers appears
A leading star."

This is one of the few cathedrals that do not bear the form of a cross. It seems, however, to have been originally intended that it should have done so, a south transept having been formed, although, for reasons which do not appear, it was not carried higher than the first tier of arches. The greatest internal length of the cathedral from east to west is 319 feet, the breadth 63 feet, the height of the choir 90 feet, and of the nave 85 feet. From east to west the cathedral is externally divided on both sides into compartments by buttresses of equal dimensions, between which are placed painted windows variously ornamented. This succession of windows is interrupted in the middle of the building by the transverse section of the cross, as well as by two very large windows on the opposite sides of the cathedral, each forty feet high by twenty wide, divided by mullions and tracery of curious workmanship, and placed directly under the great tower.

Above this first range of windows the wall terminates in a battlement within which springs the lowest roof, till it meets the second or inner wall, which rises above the point at which the roof unites it with the outer wall, and, like that wall, is divided into compartments by small square projections, between each of which are placed three narrow Gothic windows, directly above each of those in the first story. This wall then terminates in a battlement, similar to the outer wall, and receives the main roof, which is covered with lead. A square tower rises from the centre of the building to nearly thirty feet above the roof, supported by four massive pillars, each twenty-nine feet six inches in circumference.

From this tower rises a tapering octagonal spire with diminishing battlements, enlivened by painted windows, and relieved by mouldings and by small spires, which rise from within the first battlement at the bottom of the octagon, the whole terminating in a ball and weathercock at the height of 225 feet above the floor of the choir. The unfortunate tower at the west end has been sufficiently characterised. It contains the bell and clock. Opposite to it, at the other angle of the western front, is another building projecting considerably, like the tower, from the gable of the church. It formed the ancient consistory-house, and by no means contributes to the general harmony of the structure. The grand entrance in former times was at the western end, between these two projecting buildings, by a magnificent gate, seventeen feet high and elevated on a mountament of four feet six inches high, twenty-three feet six inches wide. This grand entrance is not now used, but the magnificent window has been opened at an expense of upwards of 500l.

We have already mentioned the distribution which was made of the interior at the Reformation. We cannot find room for a detailed description of the different parts, but may give the briefest murmur in which Virginiamarket. The supply of that province with tobacco was attempted, and any small manufactures that were carried on were chiefly to meet the demands of the Virginia market. The supply of that province with European goods, taking tobacco in return, became very a monopoly in the hands of the Glasgow merchants, so that the port became the greatest European mart for tobacco. The extent of the trade may be estimated from the fact, that for several years previous to the American war of independence the annual imports of tobacco to the Clyde amounted to from 35,000 to 45,000 hogsheads, and to no less than 57,143 hogsheads in the year immediately preceding that event.
It seems that, up to the middle of the last century, 
commercial concerns of every description were almost 
exclusively carried on by what may be called joint-stock 
companies of credit. Six or eight responsible persons 
formed themselves into a company, and advanced each 
100l. into the concern, borrowing on the personal bonds 
of the company whatever further sums might be neces-
sary for the undertaking. It was not until at a later 
period, when large amounts of commercial capital had 
accumulated in the country, that individuals, or even 
companies, were to be found trading extensively on 
their own capital. In these partnerships, one of the 
partners acted as manager, and the others did not in-
terfere. "The transactions consisted in purchasing 
the goods for the shipments made twice a year, and 
making sales of the tobacco which they received in 
return. The goods were bought upon twelve months'
credit, and when a ship came to be paid off, the 
manager sent notice to the different furnishers to meet 
him on such a day, at such a wine-shop, with their 
accounts discharged. They then received the payment 
of their accounts, and along with it a glass of wine 
each, but for which each paid. This curious mode of 
paying off these shipments was contrived with a view 
to furnish aid to some better-born young woman whose 
parents had fallen into bad circumstances, and whom 
it was customary to place in one of those shops, in the 
same way that, at an after period, such a person would 
have been put into a milliner's shop. These wine-shops 
were opposite the Tontine Exchange, and no business 
was transacted but in one of them."

Subsequently the same account thus speaks of the 
aristocratic bearing of the principal Glasgow merchants 
at this period: "Prior to the breaking out of the 
American war, the Virginians, who were looked up to 
as the Glasgow aristocracy, had a privileged walk at 
the Cross, which they trod in long scarlet cloaks and 
busby wigs, and such was the state of society, that 
when any of the most respectable master tradesmen of 
the city had occasion to speak to a tobacco lord, he 
was required to walk on the other side of the street till 
he was fortunate enough to meet his eye, for it would 
have been presumption to have made up to him. • • •

Latterly the rising generation of the middle class, 
better educated than their fathers, engaged extensively 
in trade and commerce, and by honourable dealing and 
correct conduct, procured a name and a place in society 
whereas it had hitherto reserved for the higher grades. 
Wealth is no longer the criterion of respect; for persons 
even in the inferior walks of life, who conduct them-
selves with propriety, have a higher place assigned 
them in society than at any former period of the history 
of the city."

The breaking out of the war with America, in 1774, 
having put a stop to the large and lucrative transac-
tions between Glasgow and Virginia, the merchants 
and moneyed men of the city were constrained to con-
sider whether they were not better employed in the 
manufacture and capital might be most advantageously directed. The cotton industry, for instance, was perfectly new for the first time, unconnected with the East India Company's charter. The first vessel from Scotland bound direct to India was despatched for Calcutta in the spring of 1816; she was called the "Barclay of Buckingham," burden 600 tons. Since then a number of other enterprising merchants of Glasgow have engaged in the India trade. In the year 1833, ten vessels, of 3497 tons burden, entered at Greenock and Port Glasgow from places eastward of the Cape of Good Hope, exceeding in this every single port except 
Loudon and Liverpool. It only remains to add under 
this head, that, when the remaining commercial monopoly 
of the East India Company was withdrawn, the merchant 
companies of Glasgow delayed not to avail themselves 
of this new opening for their capital and enterprise; 
for the first vessel, unconnected with the East India 
Company, which, on the opening of the China trade, 
arrived in Britain, was the Camden, chartered by a 
Glasgow merchant; and the cargo of which, consisting 
of bobea, coupou, and other teas, was sold in the Royal
Exchange Sale Room on the 14th of November, 1834, and the sale was attended by many London and Edinburgh merchants.

The number of vessels that entered at Glasgow and Greenock from foreign parts in 1833, was 299, or 81,499 tons burden, including twelve foreign ships of 2,459 tons. The gross amount of the customs collected in the same year at Glasgow, Greenock, and Port Glasgow, was 779,232L, being a larger amount than was collected at any single port of the United Kingdom, except London, Liverpool, and Bristol.

Manufactures.—The trade and manufactures of Glasgow received, during their infancy, the fostering care of bounty, and special patronage. In the seventeenth century, parliament exempted from excise duties the profits of cotton manufacture. In certain manufactures from duty. On the 31st of January, 1638, "R.bert Fleyming and his partners made offer to the town-council to set up a manufactury in the city, wherein a number of the poorer sort of people may be employed, provided they met with sufficient countenance. On considering which offer, the council resolved, in consideration of the great good, utility, and profit which will redound to the city, to give the said company a lease of their great lodging and back yard of the Dry Gate, excepting the two front vaults, free of rent, for the space of seventeen years. On 8th May thereafter, the deacon-convenor reported that the free-men-weavers were afraid that the erecting of the manufactury would prove hurtful to them. On which, Patrick Bell, one of the partners, agreed that the Company should not employ any unfree weavers of the town.

As we have not room to trace chronologically the rise and progress of the arts and manufactures of Glasgow, we must content ourselves with selecting the more remarkable of those branches which give importance to the city. The capital driven from the trade in tobacco on the outbreak of the American war, was, as we have seen, directed to other pursuits; and the celebrated inventions in the cotton manufacture successfully perfected by Hargreaves, Arkwright, and Crompton, coming into use, opened a new and extensive field for the employment both of ingenuity and capital. The manufacture of linens, lawns, cambrics, and other articles of cotton fabric in Glasgow about the year 1725, and continued to be the staple manufacture till they were succeeded by muslins. But the positive activity of the cotton manufacture in Glasgow cannot be dated earlier than about the commencement of the present century. Before that period the mills established might be considered as experiments, on which a considerable amount of ingenuity and capital was expended before the business could be regarded as at once—to use an expressive commercial phrase—safe and comfortable. In the year 1792 Mr. William Kelly, of Glasgow, at that time manager of the Lanark mills (so well known from the subsequent connexion of Mr. Robert Owen with them), obtained a patent for an improvement on Crompton's mule jenny. But, much to his honour, he allowed every one freely to avail himself of its advantages. Another improvement was made in 1795 by Mr. Archibald Buchanan, who was connected with the firm of James Finlay and Co. "Having constructed very light jennies, he dispensed altogether with the employment of men as spinners, and trained young women to the work. . . . This system has, from time to time, been partially adopted at other works in Scotland and England, but men are still more generally employed."

In July, 1834, Mr. Leonard Horner, one of the Factory Commissioners, reported that, "In Scotland the textile trades have united to the exception of some large establishments at Aberdeen, and one at Stanley, near Perth, the cotton manufacture is almost entirely confined to Glasgow and the country immediately adjoining to a distance of about twenty-five miles radius; and all these country mills, even including the great work at Stanley, are connected with Glasgow houses, or in the Glasgow trade." In the six counties of Lanark, Renfrew, Dumbarton, Clyde, Ayr, and Perth, there are 123 cotton-mills, nearly 100 of which belong to Glasgow. From the year 1818 to 1834, the importation of cotton-wool, for the consumption of Scotland, exhibits a progressive increase from 46,505 to 95,603 bales.

Intimately connected with the cotton-trade is the manufacture of steam-engines, especially as applicable to the trade and manufactures of Glasgow. Watt, Rankine, Barlow, and other inventors, may be regarded as thoroughly Scottish, and the invention of the steam-engine has been very largely a Glasgow man, as it was in the latter place he laid the foundation of that education, and the union of philosophical and practical habits, which enabled him to carry into perfection his projects for the improvement of the steam-engine. On the expiration of the exclusive privilege which had been granted to him in connexion with Boulton, the engineers of Glasgow commenced making steam-engines; and to such an extent is the business carried on there, that in the present year the number of firms who make steam-engines or mill-machinery is thirteen, three of which alone employ upwards of a thousand individuals. Dr. Cleland ascertained that in Glasgow and its suburbs there are thirty-one different kinds of manufactures where steam-engines are used, and that in these, and in calries, quarries, and steam-boats, there are 335 steam-engines, equal to 7366 horse power, the average power of each engine being rather more than twenty horses each. Since the year 1830, the spinning of Cashmere and Merino wool into yarn on the French principle has been successfully established in Glasgow. The late Captain C. S. Cochrane, of the royal navy, obtained two separate premiums of 300L each from the Board of Trustees for the Encouragement of Arts and Manufactures in Scotland, for his success in discovering the processes adopted in France, and establishing them in this country. The spinning of these yarns is carried on by Hounslow and Co., and the manufacture has been successfully extended to the weaving of these yarns, to enable him to compete, in every respect, with the manufactures of that kingdom, even although French yarns can be admitted into Britain duty free. There is no reason to doubt, therefore, that the spinning of these fine wools, when the goods manufactured from them are more generally appreciated, will become an extensive and profitable employment.

The coal and iron fields around Glasgow are very extensive. In 1831 the supply of coals to the city came from thirty-seven pits; the quantity brought in that year was 561,049 tons, of which 124,000 were exported, leaving 437,049 tons for the use of the inhabitants. There were in December, 1834, ten iron-works, which issued from their presses. The elder brothers of Castleton, near Perkiominy, the cotton manufacture is almost unequivocally confined to Glasgow and the country immediately adjoining to a distance of about twenty-five miles radius; and all these country mills, even including the great work at Stanley, are connected with Glasgow houses, or in the Glasgow trade.
Faullswas appointed, in 1743, printer to the University; and in 1744 appeared an edition of Horace, the proof sheets of which were hung up in the college, and a reward offered to any one who should discover an inaccuracy. By the year 1746 the Faulls had printed eighteen classics, beside other works. In more recent years the late Mr. Chapman and the Messrs. Duncan, printers to the University, were distinguished for the spirit and taste which they exhibited in the typographic art. In connexion with printing, is the art of letter founding. It was introduced into Glasgow in the year 1718, but was brought to great perfection in 1740 by Mr. Wilson, afterwards Professor of Astronomy in the University, whose grandchildren continued the proprietors of the extensive letter-foundry in the city, so widely known both in Britain and on the Continent up to the year 1834. The Greek types produced in this letter-foundry have long been admired, and were preferred by the printers and literati of Germany to all others. Since 1834 the business of the Messrs. Wilsons has been transferred to letter-foundries which they have established in Edinburgh and London.

The most extensive chemical manufactory in Europe is situated in Glasgow. This establishment, carried on under the firm of Charles Tennant and Co., covers ten acres of ground, and within its walls there are buildings which cover 27,340 square yards. There are upwards of 100 furnaces, retorts, and fire-places in the premises. In one apartment there are platinum vessels to the value of 7000L. The establishment burns upwards of 600 tons of coals weekly. It was established in the year 1800, for the manufacture of sulphuric acid, chloride of lime, soda, and soap.

The manufacture of bandanas has been chiefly confined to Glasgow. An attempt was made on the continent, but it proved unsuccessful. The establishment of Messrs. Monteith and Co., at Barrowfield, near Glasgow, is very magnificent. This firm, besides the manufacture of bandanas, carry on cotton-spinning and calico-printing.

Education and Literature. We have already noticed that in consequence of its close connexion with the hierarchy, the University of Glasgow was almost ruined at the Reformation. But James VI., in his minority, during the Regency of Morton, in 1577, bestowed upon it some ecclesiastical property, and at the same time granted a new charter of foundation, regulating the constitution of the establishment, and confirming prior privileges. The various grants and donations of ecclesiastical and other property which then and after it received from the crown and different individuals, in the end brought the institution to a condition of greater efficiency than before. The funds arising from endowments are appropriated to the payment of professors’ salaries and certain stipends, as well as to the support of the college buildings and other necessary purposes. The University may be regarded as a prosperous institution, the revenues being, as one of the local historians remarks, “sufficient, with economy, to promote useful improvements; but not so large as to be productive of idleness and the luxury of learned indolence.” The increased value of real property has enabled the establishment to increase, from time to time, the number of its professors. Originally the teaching body consisted of a principal, who taught theology, and three professors of philosophy. At present the governing and teaching body consists of a chancellor, a rector, a dean of faculty, a principal, and twenty professors. Formerly, the office of chancellor was invariably held by the bishop of the diocese; but since the esta-
lishment of Presbyterianism, the office has usually been filled by some nobleman or gentleman of rank in the country*. The rector now is the 93d of the University, for presidency of all its councils, and degrees are bestowed in his name. The rector is chosen annually in the comitia, an assembly in which all the students have a voice as well as the other members of the University. On this functionary, who is usually some prominent political or literary character of the day, the duty devolves to maintain the rights of the University, to judge in all disputes between the students among themselves, and between them and the citizens; and to administer their educational meetings.

The office of dean of faculty is held for two years: he is chosen by the rector, principal, and professors; and his business chiefly consists in giving directions concerning the course of studies. The principal is appointed by the king, and has the ordinary superintendence of the department of all the members of the University, and is first professor of divinity. The principal with the professors, form a meeting, to which the administration of the revenue is exclusively intrusted. The professors may be divided into four distinct faculties, according to the branches of knowledge to which they are respectively assigned. The faculty of arts comprises the professors of Latin or humanity, Greek, logic, ethics, natural philosophy, astronomy, and natural history: the faculty of theology contains, besides the principal, three professors, namely, of divinity, church history, and oriental languages; the faculty of law contains only the single professorship of civil law; the faculty of medicine embraces the professorships of anatomy, medicine, materia medica, surgery, midwifery, chemistry, and botany. Thus the whole of the professorships amount to twenty; besides which there is, in the medical faculty, a lecturership on diseases of the eye. The number of the students is generally somewhere near one thousand. The students have the use of the University library under certain conditions and an annual payment. It was founded in the fifteenth century, and contains a valuable and extensive collection of books. The Hunterian Museum (of which we now give a wood-cut) promotes, in many important respects, the objects of the institution; and the botanical students have the advantage of an interest in the garden which has been formed in the neighbourhood of the city by the citizens of Glasgow. The University contains three objects: the object, the garden, which consists of eight acres in extent. It was opened in 1773, and is not exceeded by any botanical garden in the kingdom, in its collection of various rare plants from every part of the world.

There was a grammar-school at Glasgow prior to the establishment of the University. It existed in the early part of the fourteenth century, and depended immediately on the cathedral. It remained a distinct establishment after the foundation of the University, but the duties of the rector were conducted previously to the early part of the last century, except that the office of master was considered highly respectable, and that great care seems to have been taken to supply it with efficient teachers. Towards the end of the sixteenth century the school met at five o'clock in the morning. The institution is now managed by a committee of the town-council, aided by the clergy of the city and the university professors. It had formerly in its masterships the patronage of the University; and that, including the public institutions, there were 16,799 scholars, of whom 6516 were taught gratis, and 10,283 in the grammar-schools, which were purchased by the trustees, and so improved as to afford numerous halls for the professors and for the museum, which has become very rich in the several departments. The lectures now embrace an extensive list of subjects in the various branches of human knowledge.

The Mechanics' Institute, founded in 1825, does not in its plan and constitution differ much from similar establishments elsewhere. In the building there are commodious apartments for the numerous models and apparatus, and for the library, which consists of upwards of 8000 volumes on science and general literature. In the session of 1834 there were three professors, who gave lectures on natural philosophy, chemistry, popular anatomy, physiology, and phrenology. The fee for the complete course is £5, but a certain number of the poor are admitted without pay, either as pupils in the lectures and the library. The number of regular students has averaged 500 yearly since the commence- ment of the institution; besides 220 apprentices, who have been admitted gratuitously within the same period.

Concerning the common schools, there is little information later than that given in 1816 by Dr. Cleland in his 'Annals of Glasgow.' It appeared that, exclusively of the University and thirteen institutions more remote, there were 140 schools, 612 teachers, and 4196 scholars, of whom 1858 were boys and 2338 girls, besides three adult-schools, in which there were three teachers with 25 male and 54 female scholars. An infant-school society was instituted in 1827, and now there are six infant-schools in the town, and three more in contemplation for the suburbs. We learn
from Porter's Official Tables that, at Glasgow, "the fee for teaching reading to the children of the working-classes is 3s. 3d. per quarter, equal to a half-penny per day;" and that, "at this rate, children are taught four hours during five days in the week, and two hours on Saturdays."

Although, as we have seen, Glasgow does not make claim to much distinction in respect of literature, there are many individuals of cultivated minds and large attainments who have in some instances formed themselves into societies for the promotion of science and literature. The first circulating library in the West of Scotland was established at Glasgow in 1753, by Mr. John Smith, who lent out books at the rate of a halfpenny the volume. There are now many circulating libraries, as well as public and private libraries, at Glasgow. Book-societies have also been established of late years: the plan of these is similar to that of the circulating libraries, with the difference that the books belong to the readers themselves, who are chiefly of the working-classes. Attempts have been made during the last thirty years to establish Magazines and other periodical works at Glasgow, but hitherto they have not succeeded. Newspapers have been more fortunate. The first newspaper published in the West of Scotland was the 'Glasgow Courant,' in the year 1715. It was published three times a week, consisted of twelve pages in small quarto, and was sold for three-halfpence, or "one penny to regular customers." From 1715 to 1835, twenty-one attempts to establish newspapers have been made in Glasgow, and of this number eleven still survive. Two of these are published three times a week, five twice, and the rest once; so that altogether there are twenty newspapers published weekly.

Miscellaneous Facts.—The various works of Dr. Cleland, particularly his 'Statistical Account of Glasgow,' contain various curious facts which strikingly illustrate the condition of Glasgow at different periods. We shall devote our remaining space to a few of the most interesting, occasionally adding something more important.

Prior to the Reformation in 1560, the population were in a state of great ignorance and superstition, and so disorderly, that, before and after that event, even the ministers of religion found it necessary to wear arms in the pulpit.

In 1610 the town council enacted that there should be no dunghills in the fore streets, nor in any of the markets, under the penalty of 13s. 4d.; and that no timber should lie in the High Street above a year and a day, nor any turf stakes or lint be dried upon the High Street under the same penalty; and that the fruit, kail, and onion cromies, stand between 'the gutter and the house, and that each stand and fluke shall be an ell in length and breadth. In 1649, the number of the poor in the several quarters of the city was ascertained, and an allowance was given them. The full maintenance was 1s. 6d. weekly, and the magistrates afterwards applied for settling a stent-roll, which, together with the weekly collections, was given them for their allowance, and beggars were not allowed in the streets or at doors, and constables were appointed for that end in every quarter.

Such as would not pay their monthly stent for the poor were to be debarred from the communion.

Until about 1755, the public markets and a few shops were the only places where the inhabitants could be supplied with necessaries. Now the markets are comparatively desert, the great extension of the town having induced people to resort to shops in their immediate neighbourhoods rather than to distant markets. Butchers' shops are now found in all the principal streets, for which 80l. a-year are paid by some butchers, who might have stalls in the market rent free. This dispersion of shops is practically a very great convenience to househoulders; but we agree with Dr. Cleland in thinking that, although butchers' shops in the streets may not be deemed a legal nuisance, they are in the highest degree offensive and revolting, particularly from the practice of hanging out the animals entire, with great holes in their necks, previously to being quartered. This ought to be forbidden as a most horrid exhibition, to which only custom could reconcile us, and which, notwithstanding custom, is intolerable to many. When Deacon Peter Brown was bound apprentice to the flesher's trade in 1763, the slaughter of bullocks was not known in Glasgow, a few milch cows only being killed throughout the year. When the same person commenced business in 1771, he sold roasting pieces of beef at 3d. per lb., and a quarter of a beef at from 3s. to 6d. per lb., according to age, weight, and size. The present consumption will be best understood from a statement of the live cattle sold in the market. But it deserves to be noticed, that since 1822, it has been an increasing practice to send rumps of beef from Edinburgh to Glasgow; and it is certainly not a little remarkable that the metropolis should send the prime parts of beef to a manufacturing town for consumption. In 1853, the number of rumps thus sent to Glasgow was 7210, averaging 20c. each. The live-cattle market is entitled to particular attention; and it is much to be regretted that a similar and still more important establishment for the great metropolis of the empire, where it is more urgently required, although on different grounds, should hitherto have been rendered inoperative.

Previous to the establishment of a market at Glasgow, the principal butchers of the city were obliged to travel a circuit of seventy or eighty miles to purchase cattle in the parks in the neighbourhood to graze them in. This inconvenience has been obviated by the new market, which was fitted up by the magistracy in 1818, by the advice and at the instance of Dr. Cleland, who says, "I consider myself fortunate in projecting this establishment, and in being permitted to bring the market to its present state. It occupies an area of 29,561 square yards, or rather more than six imperial acres,—is paved with whinstones, and enclosed with stone walls. It contains a commodious inn, stables, sheds, a byre to hold 120 bullocks on view, and pens for containing 9360 sheep. The sales in this market amounted, in 1853, to 18,360 bullocks and cows, and 147,200 sheep and lambs; being 156,560 in all, exclusive of hogs and calves. The value of the butchers' meat consumed in the city and suburbs was, in 1851, computed at 334,000l., exclusive of pork and veal.

There were no market-mews in the city or suburbs in 1832, and in 1853 there were upwards of 100 miles of pavements. The first common-sewer at Glasgow was made in 1790; in 1832 there were upwards of seven miles of sewers. The first lamp which was lighted with gas in the streets, was put up in the Trongate in September, 1818. In 1851 the Gas Company had laid upwards of 100 miles of gas-pipes in the streets. There are 152 retorts in the works, each capable of making 300 cubic feet of gas.
gas in the twenty-four hours. In generating the gas, 9350 tons of cannel coal are consumed every year.

On the 1st of January, 1812, there were no steam-boats in Europe. In the latter end of that month Henry Bell launched the "Comet" at Glasgow. In 1835 there were fifty-four steam-boats on the Clyde at Glasgow, whose tonnage amounted to 4987 tons.

The first mail-coach from London arrived at Glasgow on July 7, 1788. In that year the mail took sixty-three hours to make the journey from London to Glasgow; in 1832 it took no more than forty-four hours. Hackney-coaches are few in number, considering the wealth and population of the city. There were but twelve in 1832; there were twenty-seven in 1800. In 1834, there were sixty-one stage-coaches which departed from and returned to Glasgow, during 313 days, each averaging twelve passengers—the number was 456,282 in the year; by thirty-seven steam-boats, twenty-five passengers each, 579,050; by the swift boats on the Forth and Clyde navigation and Union Canal, 91,975; by the light iron-boats on the Paisley Canal, 250,000; Monkland Canal, 31,784; Glasgow and Garnkirk Railroad, 118,882: making the gross number of passengers amount to 1,529,925.

The city, considered in its largest extent, contained 43,357 houses in 1831, of which 1759 were uninhabited, and there were then 156 new houses in course of erection. The population of 202,426 comprehended 46,195 males of 20 years old and upwards, whose occupations are thus specified in the 'Population Returns.' Agriculture: occupiers employing labourers, 23; occupiers not employing labourers, 63; labourers employed in agriculture, 101. Employed in manufactures, or in making manufacturing machinery, 19,819: employed in retail trade or in handicraft, as mimisters or women, 18,832; capitalists, bankers, professional and other educated men, 2723; labourers employed in labour not agricultural, 574; other males twenty years of age, except servants, 4018; male servants, twenty years of age, 554; under twenty years of age, 392. The female servants amounted to 8006. The rate of increase in the population between 1821 and 1831 was 37 per cent. In Glasgow, 19 1/4 in London, 17 1/4 in Edinburgh, 9 1/4 in Dublin, 36 1/2 in Liverpool, 27 1/2 in Birmingham, 36 1/2 in Manchester. The Glasgow population (then 202,420) consisted of 163,600 Scotch, 2919 English, 35,554 Irish, and 353 foreigners. The Presbyterians numbered 104,162, the Dissenters and Episcopalians 71,299, Roman Catholics 26,965. The number of delinquents imprisoned in 1831 was 759, besides 630 debtors. From 1763 to 1830 there were only two years (1819 and 1820) in which so many as six criminals were executed; only one year (1823) in which so many as five; and only four in three of the remaining years. The subscriptions to various charitable and benevolent associations, exclusive of widows' funds, benefit societies, charity schools, and maintenance of paupers, was 30,039l. in the year 1831. In 1830 there were in the city and suburbs 5006 paupers, maintained at an expense of 17,282l. In the same year there were 1393 persons holding licenses to sell spirited liquors. In 1832 Dr. Cleland estimated the number of houses where dissolute and suspicious persons of both sexes were entertained at 250; and the number of females who live in or frequent houses of bad fame, in the town and suburbs, at 3000.

Most of the authorities made use of in the present Supplement have been mentioned; we may, however, repeat, that the largest assistance has been afforded by the various works of Dr. Cleland, being the 'Annals of Glasgow,' the 'Statistical Account of Glasgow,' and the articles 'Glasgow' in the 'Edinburgh Encyclopedia' and the 'Encyclopedia Britannica,' the first of which is his acknowledged production, and the last commonly attributed to him. We have also been helped by Denholm's 'History of Glasgow,' the 'Church of Ireland Magazine,' the 'Population Returns for 1831,' and Porter's 'Official Tables of Revenue, Population, Commerce,' &c., published in 1834.
The Peninsula formed by the two branches in which the gulf called the Red Sea terminates, constitutes part of the wild and desolate region which has been well designated Arabia Petraea or Arabia the Stony. In characterising this region, Sir Frederick Henniker uses expressions, the suitableness of which will be best recognised by those who have had occasion to look down from elevated points upon similar scenes. He calls it "a sea of desolation," and following out the idea, adds,—"It would seem as if Arabia Petraea had once been an ocean of lava, and that, while its waves were literally running mountains high, it was commanded suddenly to stand still." The whole of this region is composed of bare rocks and craggy precipices, among which narrow defiles and sandy valleys are interspersed. There is little vegetation. Many of the plains are covered with loose flints and pebbles, and others are sandy. The few plants and shrubs that are to be found are such as love a dry sandy soil, or such as contrive to draw nourishment from the fissures of the rocks, or from a thin mixture of clay, which may be found in some parts of the soil. Rain rarely falls in this wilderness, and fountains or springs of water are exceedingly rare; and when found, the water is generally either brackish or sulphureous, but not unwholesome.

In the central part of this peninsula stands the group of the Sinai mountains, to which great celebrity has been given by its connexion with several important circumstances in the migration of the Israelites from Egypt to Palestine. Burckhardt thus speaks of the whole as viewed from the elevated peak of Mount St. Catherine, from whence the direction of the different surrounding chains of mountains could be distinctly traced. "The upper nucleus of the Sinai, composed almost entirely of granite, forms a rocky wilderness of an irregular circular shape, intersected by many narrow valleys, and from thirty to forty miles in diameter. It
contains the highest mountains of the peninsula, whose
shaggy and pointed peaks, and steep and shattered
sides, render it clearly distinguishable from all the rest
of the country in view. It is upon this region of the
peninsula that the fertile valleys are found which pro-
duce fruits; where they are principally to be found,
showing the westmost of the range of the Gebel St. Catherine, at three or
four hours distant. Water is also found in plenty in this
district, on which account it is the place of refuge
to all the Bedouins when the low country is parched
up.

Its advantage in this respect may have operated in
the selection of the spot for the encampment of the
Israelites, who remained there nearly a year; for there
seems little doubt that this upper country or wilderness
formed exclusively the desert of Sinai, so often men-
tioned in the account of their wanderings. It is per-
haps impossible to ascertain with distinctness which of
the different elevations comprised in this chain form
the "Horeb," where Moses received the call to his
great work, or the "Sinai," where the tables of the law
were committed to his hands. There has been a good
deal of discussion on this point, into which we do not
feel it necessary to enter, contenting ourselves with an
account of the part of the group to which that dis-
tinction is restricted by local traditions and religious
establishments, and to which the descriptions of trave-
ellers more particularly refer. Those who wish for
more detailed information concerning this region and
its various elevations will do well to consult the full
account which is given in Burckhardt's 'Travels.'

The sacred part of the Sinai group consists of two
adjoining elevations, or, perhaps we should say, one
mountain with two summits, respectively known as
"Gebel Moussa" (Mount Moses), and "Gebel Katerin"
(Mount Catherine); the former being, in common
opinion, Sinai, and the latter, Horeb. Without at-
ttempting to set the matter right, we must observe that
some authorities incline to reverse this arrangement;
considering Gebel Moussa as Horeb, and Gebel Katerin
as Sinai; while others question whether either of the
two has any just claim to be considered as Sinai or Horeb.
A more elevated summit, with loose blocks, as the
westward, called Mount Serbal, seems to have been at
some early time considered as the "Mount of Moses." On
this mountain Burckhardt found the foundations of a
large edifice, the ruins of a stone reservoir on the
lower summit, blocks of granite with inscriptions on
different parts, even near the highest summit, where
also that able traveller found steps regularly formed
with large loose stones which must have been brought
from below, and which are so judiciously arranged along
the declivity, that they have resisted the devastation
of time, and still materially assist the ascent. He was
afterwards told that these steps "were the continuation
of a regular path from the bottom of the mountain,
which is in several parts cut through the rock with
great labour." Between some of the masses of stone,
near this same summit, there are small caverns large
eough to shelter a few persons, and the sides of which
have inscriptions similar to those on the blocks. There
are no inscriptions on either the Gebel Moussa or Gebel
Katerin, except in the latter above the rock from which
the water is said to have issued, and which may be
distinctly traced as the work of pilgrims. From all these
circumstances, Burckhardt concludes: "I am per-
suaded that Mount Serbal was at one time the chief
place of pilgrimage in the peninsula, and that it was
then considered as the mountain where Moses received
the tables of the law; although I am equally convinced,
from a perusal of the Scriptures, that the Israelites,
encamped in the Upper Sinai, and that either Djebel

* This must be understood as a comprehensive term, implying
both Sinai and Horeb, in this article.

Mouss* or Mount St. Catherine is the real Horeb. "It
is not at all impossible that the proximity of Serbal to
Egypt may at one period have caused that mountain
to be the Horeb of the pilgrims, and that the establish-
ment of the convent in its present situation, which was
probably chosen from motives of security, may have led
to the transferring of that honour to Djebel Mouss.

* Those who wish to consider the question of the identity of
Horeb and Sinai more in detail, will find the subject fully dis-
cussed in the volume on Arabia in the 'Modern Traveler,' by
Mr. Josiah Conder.
purpose of reading mass. The pilgrims usually halt about twelve feet in height, of an irregular shape, an object of the ascent to Christian pilgrims. This church, Sinai, as well as by the Bedouins, who put grass into its builtof granite, have exerted themselves to the utmost to samemanner as they place grass upon the tombs of their saints, because grass is to them the most precious gift of nature, and has been upon whose foot they chiefly depend. They also bring either female camels, believing that by making the animal crouch down before the rock, while they recite some prayers and renew the grass in the fissures of the stone, their camels will become fertile, and yield milk in abundance. That this is not the real rock of Meribah, nor the vale the "valley of Raphidim of the Bible, is the fact, that here and elsewhere in the Upper Sinai perennial springs are so numerous as to supersede all occasion for a miraculous supply of water. Not far from this is shown a small and apparently natural excavation in a granite rock, resembling a chair, where it is said that Moses often sat. Near this is seen the petrified pot or kettle of Moses, being a circular projecting knob in a rock, resembling the lid of a tea-kettle in size and shape. The Arabs have often, in vain, endeavoured to break this rock, supposing it to conceal great treasures.

SWORD-FISH.
The prolonged bony snout of the sword-fish, bearing some resemblance to a sword in its form and employment, in all nations procured for the fish a name expressive of this analogy. The generic character common to the species is, that the head with the upper jaw terminates in a sword-shaped snout, that mouth is without teeth, that the gill-membrane has eight rays, and that the body is roundish and without scales. The two principal species are,—the common sword-fish, and the broad-finned sword-fish. The common sword-fish (xiphias gladius) is considered as properly a native of the Mediterranean, though sometimes strays into the Atlantic, and has been upon which that of Europe chiefly depends. They also bring either female camels, believing that by making the animal crouch down before the rock, while they recite some prayers and renew the grass in the fissures of the stone, their camels will become fertile, and yield milk in abundance. That this is not the real rock of Meribah, nor the vale the "valley of Raphidim of the Bible, is the fact, that here and elsewhere in the Upper Sinai perennial springs are so numerous as to supersede all occasion for a miraculous supply of water. Not far from this is shown a small and apparently natural excavation in a granite rock, resembling a chair, where it is said that Moses often sat. Near this is seen the petrified pot or kettle of Moses, being a circular projecting knob in a rock, resembling the lid of a tea-kettle in size and shape. The Arabs have often, in vain, endeavoured to break this rock, supposing it to conceal great treasures.

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side of the body, immediately before it, is a strong finny appendage. The general colour of the fish is brown, accompanied by a deep steel-blue cast on the head and upper parts, and inclining to silvery white on the sides and abdomen. It sometimes grows to a very large size, and as much as twenty feet in length. Pennant mentions one cast on shore near Langharne, Caernarvonshire, the head of which alone weighed seventy-five pounds, and was furnished with a snout three feet long.

The sword-fish is very active in its movements and voracious in its appetite. It feeds on the smaller kinds of fish, which it kills by piercing them with its sword. It is said to be in particular a very great enemy to the tunny, which is described by Belon to be as much alarmed by its appearance as a sheep is at the sight of a wolf.

This fish is highly esteemed as an article of food by the Sicilians, who buy it up eagerly at any price at the commencement of the season, which lasts from May to August. They cut it into pieces, and salt it for future use. This process was in ancient times particularly performed at the town of Thuri in the bay of Tarentum, whence the fish was called *tomus thurianus*. A description of the ancient manner of taking this fish has been left us by Strabo, from which it appears that the process was the same as that now in use. A man mounts upon a cliff that overhangs the sea; and as soon as he discovers the fish, gives notice to a boat in attendance of the course it has taken. A man in the boat then mounts the mast, and on seeing the sword-fish directs the rowers towards it. As soon as they think themselves within reach, the man on the mast descends, and taking in his hand a harpoon, to which a cord is attached, strikes it into the fish, sometimes at a considerable distance. After being wearied with its agitation and attempts to escape, as well as exhausted by its wound, the fish is seized and drawn into the boat. The operation has considerable resemblance to the whale fishery on a small scale. The superstitious Sicilian fishermen have an unintelligible chant, which they regard as a most essential part of their apparatus. Brydone thinks it is Greek: but be that as it may, the fishermen are convinced of its efficacy as a charm, its operation being to attract and detain the fish near the boat. There are certainly some Italian words in it, although it is said that the men believe that the fish would dive into the water and be seen no more if it happened to hear a word of Italian.

The broad-finned sword-fish (*Ziphias platypterus*) is of a thinner and more elegant form than the preceding, and is also distinguished by an extremely broad back fin, and by very long sharp-pointed thoracic appendages, which are entirely wanting in the other. The general colour of the fish is of a silvery-blush white, except in the back, head, tail, and fins, which in the living animal are of a deep blue, fading into brown in the dried specimens. This fish is found in the Brazilian and East Indian seas, and also in the Northern seas, where and elsewhere it is a great enemy to whales, piercing them with its formidable weapon. A specimen of this fish occupies a very conspicuous situation at the British Museum in a distinct case, which also contains three specimens of detached swords. In the same room there is a small specimen of the common sword-fish.

The captain of an East Indiaman sent to Sir Joseph Banks an account of an astonishing but not singular instance of the strength of an individual of this broad-finned species: the bottom of his ship was pierced through by its sword in such a manner that it was completely imbedded, or driven through almost to its base,—the animal having been killed with the violence of
the shock. It is a fortunate circumstance that the fish is generally either killed in this manner or else perishes from being unable to withdraw its weapon, for, notwithstanding it affects the lower edge of the keel in consequence of the leak; and indeed instances are recorded in which some vessels, probably old or of a slight description, have been greatly endangered, or even lost, in consequence of having been struck by a sword-fish. In the present instance, the wood, with the sword imbedded in it, was sawed out, and is now in the British Museum, where it forms one of the detached swords just mentioned.

He then proceeds to relate instances of transfixion performed by this fish such as Dr. Shaw would restrict to the broad-finned species. Dr. Smith seems to have seen specimens of any, known difference in their habits. Our author observes, that the fish "is evidently possessed of a highly irritable disposition, and therefore appears to be constantly involved in perilous and fearful difficulties. It is voracious, and yet without teeth; and though it seems to be the knight-errant of the deep by meddling with the affairs of others, in which it has no personal interest, it also appears, at other times, to be at open war with whatever intrudes in the liquid element. Whales of prodigious magnitude, though usually and some have been known to he as much as a hundred feet long, are butchered without mercy. Whenever the sword-fish fails of accomplishing the death of this great animal, it is oftener because the sword is not long enough to penetrate through the thick sheet of blubber to the vitals than from any want of exertion on the part of the warlike assailant."

The shock is sometimes so sudden as to startle a man awake from his slumber. It seems to us that the sword-fish aims its formidable thrusts at vessels, not so much from a disposition to attack everything that falls in its way as under the impression that the said vessels are whales, or other great fish: and may not the fact, that vessels are rarely if ever so attacked in the Mediterranean, be in a great degree owing to this,—that there are not in that sea any fish so large that a sword-fish of ordinary penetration could mistake a ship for them. We are liable to great misapprehension in estimating the character of an animal without a careful reference to local circumstances.

Dr. Smith mentions the sword imbedded in wood at the British Museum, and gives some additional instances, which we quote:

"On a calm sunny day during the last summer, as a pilot was leisurely rowing his little skiff over the glossy bosom of the gently-swelline waves, he was suddenly roused from his seat by the plunge of a sword-fish, thrusting his long spear more than three feet up through the bottom of his slender bark, when the pilot, with that presence of mind for which the whole fraternity are distinguished, broke it off on a level with the floor, by the but of an oar, before the submarine assassin had time to withdraw his fearfully offensive weapon."

"Within five or six years, a Boston ship, on a return from a long voyage, being over-hauled for repairs, presented the stump of a sword-fish's blade, the point of which was driven a considerable way into the hard oak. In repairing his Britannic Majesty's ship Leopard, in 1725, on her return from the coast of Guinea, a sword of this fish was found to have gone through the sheathing one inch, next through a three-inch plank, and beyond that four inches and a half into the firm timber. It was the opinion of mechanics that it would require nine strokes of a hammer, weighing twenty-five pounds, to drive an iron bolt of similar size and form to the same depth in the same hull; yet this was accomplished by a single thrust."

Notwithstanding this view of its character, it seems to be as often performed by the common sword-fish as by that with the broad fin,—a fact which does not appear to have been ascertained when he wrote. Dr. Jerome V. C. Smith, in his 'Natural History of the Fishes of Massachusetts,' 1833, describes the common sword-fish as frequent off that coast, contrary to the ordinary opinion, which restricts it to the Mediterranean, and to the Atlantic coasts of Africa and Europe. That he means the common and not the broad-finned species is however evident, as he gives a figure and a detailed description. He then proceeds to relate instances of transfixion performed by this fish such as Dr. Shaw would restrict to the broad-finned species. Dr. Smith seems to have seen specimens of the fish which he describes, but he mentions that his practical information is derived from Mr. Dagget, an aged person, who has pursued the business of a pilot for half a century. Upon the whole, it seems evident that his information, the substance of which we proceed to give, applies to the common sword-fish, although it is to be regretted that he could not acquire distinct information concerning the smaller sword-fish of which he had heard mariners speak, and which he at first supposed might be the wakaira (to be presently noticed), but which in the end he concluded must be the young of the common fish. There is no doubt, however, that, although, on the authority of Dr. Smith and his authorities, we are bound to consider the ensuing facts as applying to the common species, the whole is equally true of the broad-finned one. There is in fact little, if any, known difference in their habits."

"That the vessel came from the coast of Guinea is certainly one circumstance in favour of the claim of the common fish to the credit of this feat."

"The Hon. Josiah Robbins," proceeds Dr. Smith, "of Plymouth (United States), related to us the following extraordinary fact. On the return of the ship Fortune, of Plymouth, from a whaling voyage in the Pacific, some time in the year 1826 or 1827, he does not recollect which, the stump of a sword-blade was discovered on the outside of the hull, which, on examination, was found to have penetrated through the copper sheathing, an inch board sheathing, a three inch plank of hard wood, the solid white oak timber of the ship, twelve inches thick, through another two and a half inch hard oak oak ceiling plank, and lastly perforated the head of an oil cask, where it still remained immovably fixed, so that not a single drop of oil had escaped."

Our second wood-cut will serve to illustrate the above anecdotes, being copied from a specimen in the British Museum.
DEALINGS IN A BAZAAR.

[From a Correspondent.]

The paper which I now send you is properly a sequel to that which you lately printed under the title of "A Day at Kermanshah," and might be called "A Second Day at Kermanshah;" but as it chiefly relates to my observations and proceedings in the bazaar of that town, I have chosen to give it another title.

The bazaar of Kermanshah does not need any particular description, but it does not differ in general from the bazars of other towns in Persia, and generally they are not materially different from those of Turkey. The lodges occupied by the shopkeepers seemed, however, rather more roomy than in the bazaar at Bagdad, notwithstanding the greater extent of the latter. I saw, also, that the goods on sale were displayed to as much advantage and with as much taste as perhaps anywhere be exhibited with the same materials, and certainly with more than I have ever witnessed in Turkey. There was an obvious intention to render the display of wares as attractive as possible to those who passed by. This pleased me, as everything pleases a stranger in a foreign land which helps to remind him, however remotely, of any usage or feeling which exists also in his own country. It seems perfectly natural that a tradesman should in every proper way endeavour to draw custom to his shop; but this is by no means a general rule. A shopkeeper in a Turkish town, for instance, seems to care not at all whether you come to his shop or go to another; and he hands you for examination the articles you require in a manner so listless and indifferent as to convey the impression that he considers he does you a high favour in so far attending to your wishes. I was therefore much pleased to find the behaviour of the shopkeepers in this bazaar quite in accordance with the impression which the studiously-attractive display of their wares conveyed. Some of the men who noticed that I was observing their shops, invited me to sit down on the bench, and, with great alacrity, bestirred themselves in producing for my inspection or in directing my attention to such articles as they imagined best calculated to attract my liking; nor am I aware that, in any instance, the least dissatisfaction was exhibited if I made no purchase after all the trouble they had taken. Even such men as were engaged in operative labours at the same time that they attended to their shops, and who seemed very busily occupied, did not appear in the slightest degree reluctant to suspend their labours for the purpose of attending to me. Not a few offered the pipes from which they were smoking; and some, who happened to be taking their lunch at noon, invited me with great goodwill to partake. It generally consisted of bread and cheese, with onions, melons, or fruits.

I think I may take this opportunity of saying a word or two about the objections which Persians and other Moslems entertain to eating with Christians, especially as the matter does not seem to be in general clearly understood. From all I could learn by inquiry or personal experience, their feeling is not nearly so offensive to us as we understand it to be. They have certain formalities connected with the preparation of their food, the omission of which renders the food and those who eat of it impure. Hence they do not generally object to allow a Christian to partake with them of their own food, but they cannot bear that he should prepare his own food in their vessels, and still less do they like to partake of food that he has prepared; and although certainly they think he has contracted personal impurity by the use of food unlawfully prepared, I am persuaded that the objection to eat of his fare is not so much an objection to him personally as to the food itself, or rather to its mode of preparation. When a Christian finds that a Moslem declines to taste his fowl or his mutton, even if assured that our mode of killing the fowl or sheep is the same as his own, we are apt to consider that the objection can be no other than personal to ourselves; but the fact is, that it is not merely the mode of killing which renders the meat lawful to them, but the act must be accompanied by a prayer, without which the meat is a forbidden thing, and therefore it is that they can only eat meat when the animal has been killed—"sacrificed" they call it—by one of their own persuasion.

I may be permitted here to observe that in my situation could manage the business of traffic with persons with whom I could hold no verbal communication. I found little difficulty in the matter. Having real business to transact, I at once declared my deafness by placing my fingers on my ears and shaking my head, and then proceeded to business, indicating by signs the article I wanted. This was easy, as I generally saw some such article in the shop; and if the specimens exposed did not please me, I could only express a wish to see others. In this business, I always fixed the price or demanded a quantity of coin equal to that which they expected me to give, and then on my part I showed them the sum I was willing to pay; for in dealing with them, and perhaps with Orientals generally, it is nearly always necessary to make a large abatement on the sum which is demanded. It will be seen presently, however, that I had not always the conscience or the courage to attempt to cut down the price so largely as I might have done.

One of the articles I desired to purchase was a pair of gloves. After several unsuccessful inquiries, one man to whom I applied sent a youth toransack the bazaar for me, but he returned without having accomplished his object. It was easy indeed to have obtained a single glove, for here, as in Turkey, luxury has not proceeded beyond providing a glove for the right hand, nor is that often used except on a journey
in cold weather. I accordingly found a variety of right-hand gloves, both of worsted and of leather; the latter sometimes reaching to the middle of the fore-arm, not unlike the gloves of our draagoons. They often had fingers, in which they differ from those of Turkey, where I do not think I saw fingered gloves. After having resided a good while in the East, the want of gloves did not strike me as a deficiency in Oriental costume; but when I came to Constantinople, naked hands seemed to assort but badly with the European dress, the frock-coats or tight jackets, which prevailed among the military and persons in the employ of government. This particularly struck me when I saw the sultan himself riding in state, with a large cloak over an European dress, managing the reins of his horse with an ungloved hand. We must be content however with their adopting our costume piecemeal. They have got the coat and trousers; hats they still abhor,—gloves they have none,—no part of the shirt appears,—and boots they dispense with when they can. To return to Kermanshah,—as I could not get a pair of gloves, I did not purchase any. My fellow-traveller had for his own use a good strong pair brought from England; and as we were leaving the place the next day, a Syud, to whom we were personally known, seemed struck at such superfluity as a glove on each hand, and, observing that I had none, recommended him to give one of them to me.

Having observed the preceding day that there were shoes in the bazaar which seemed much more convenient for travelling than the red pumps with peaked toes which I had worn since leaving Bagdad, I was intent on purchasing a pair, and having made the acquisition for three shillings where four was asked, I was very well pleased with my bargain. The shoes had high iron-bound heels, were without peaked toes, made with black leather, and were the only shoes I had seen in the East made with welts, on the same principle as our own. They were clumsily done to be sure, and the leather badly dressed; but they were things in which one might walk firmly, and I was therefore well satisfied with them. As I proceeded homeward with the shoes under my arm, several shop-keepers called me aside to ask the price I had given for them. When I told them, they laughed heartily and held up two fingers to signify that two shillings, not three, was the price I ought to have given. Most of them, when I said I paid quite a sufficient sum for them, looked down at my feet, and observing quite as sufficient meal for a person of moderate appetite.

To return to Kermanshah,—as I could not get a pair of Turkish slippers, laughed again, and nodded for a sum equal to about three halfpence I had four to one as much as to say, "No wonder that a fellow who comes from Turkey should be outwitted by a clever Persian." I was at last so thoroughly annoyed at the continual solicitation of idle shop-keepers to know the history of my shoes, and so tired of joining in the laugh against myself, that I refused to turn aside when invited, and although some sent men and boys after me to ask questions, exhibiting the shoes to the khan, and arrived there perfectly out of humour with my marketing, and, at the moment, not in the best of humours with the Persian shop-keepers.

Notwithstanding this failure I volunteered towards evening to go forth into the bazaar again and purchase materials for supper. My companion, who entertained an impression that I managed with the shop-keepers more readily by signs than he could with his imperfect knowledge, got me into the prowded in my proceedings. In connexion of this sort my mode of dealing was somewhat different from that which I have already described. As a very small sum goes a great way in the purchase of provisions, I entered into no discussions about prices; but showing in my hand such a sum as I thought adequate to procure the the quantity I required, I pointed to the article and indicated that I wanted so much as the money in my hand would purchase. I had not, however, calculated on finding provisions so extraordinary cheap as they were at Kermanshah, and was not by any means prepared for the thumpert quantities which were returned me for the small sums I offered. In the first instance I paused at a fruiterer's, and pointing to a heap of remarkably fine grapes, desired to have to the amount of some coppers, of about the value of twopence, which I held in my open hand. The man immediately put two great rough stones into one of the scales, and piled up in the other such a vast heap of fruit, that I was perfectly astonished, and not well knowing how to dispose of it, threw back a large part of it to the heap from which it was taken: but, as I paid for the full quantity, this act did not appear to exalt me very much in the esteem of the persons who witnessed the transaction.

My next pause was at a kaboob-shop, which seemed to be in excellent repute, as three men were in constant employment in supplying the demand at that time of the day. Kaboob is a term which, although not restricted to that form of chopped meat, in the present instance signified minced up like sausage-meat, and highly seasoned with salt, pepper, onions, and other spices, together with some sour vegetable, which gave a pleasant acidity to the whole composition. A small quantity of this is a grateful repast, and is highly relished both by Turks and Persians, forming a standing resource in the absence of a regularly-prepared meal, and frequently a principal ingredient in such a meal. Though rather too highly flavoured for an English palate, we enjoyed it very much, and were glad when we could obtain it, which was only in considerable towns. It seems a somewhat delicate operation to dress this composition without skins or anything else to confine it: but it is performed by the cooks with the greatest dexterity and ease. The minced mixture is daubed upon a flat iron-skewer, or miniature spit, until it assumes the form of an oblong cake about half an inch thick, and six or seven inches long by two inches broad. In this form as many of them as the customer requires are suspended over a clear charcoal fire, and in a few minutes assume a brown and crisped appearance. The skewer is then extracted, and the purchaser receives his kaboobs wrapped up in a cake of that thin flexible bread, which has been described in the paper 'Bread in the East,' in No. 113 of the 'Penny Magazine.' Two or three of these kaboobs are, with a proper proportion of herbs, spices, to make them agreeable, and-well mixed, form a very substantial meal. A sum equal to about three halfpence I had four of the oblong pieces I have described, and was charged one halfpenny more for the bread in which they were wrapped. Not thinking this bread sufficient, I purchased an ample supply at another shop for a penny. Thus, for less than sixpence two persons obtained a very pleasant and sufficient meal, consisting of a most savoury preparation of meat, with plenty of bread, and a quantity of rich fruit by way of dessert.

My success in this marketing was an exceedingly good set-off against the failure in the matter of my shoes. With this I may as well conclude; for soon after enjoying the supper I had thus provided, we lay down to rest, and were roused early the next morning to resume our journey.

SOCIAL HABITS AT GLASGOW IN THE LAST CENTURY.

On this subject some curious particulars are given in Dr. Cleland's 'Statistical Account of Glasgow,' as taken from the 'Scrap Book' of his friend Mr. David Hannayte. The following particulars, derived from this part of the elaborate work we have mentioned, will probably be considered as an interesting addition.
to the information concerning Glasgow, which is contained in some recent Numbers of the ‘Penny Magazine.’

At the commencement of the eighteenth century, and during the greater part of the first half of it, the habits and style of life of the inhabitants of Glasgow were very different from what they are at present. The dwellings of the highest class of citizens generally contained only one public room, a dining-room, and even that was used only when they had company, the family at other times usually eating in a bed-room. After dinner the husband went to his place of business, and in the evening to a club in a public-house, where with little expense he enjoyed himself till nine o’clock, at which hour the party uniformly broke up, and the husbands went home to their families.

The wife gave tea at home in her own bed-room, receiving there the visits of her female acquaintance. The gentlemen seldom made their appearance at these parties. The race of burghers, living in this manner, had from time to time connected themselves by marriage with the first families in the country. The people were in general religious, and scrupulously strict in their observance of the Sunday. There were families who did not sweep or dust the house, did not make the beds, or allow any food to be dressed on a Sunday. There were some who only opened so much of their shutters as enabled the inmates to move up and down, or an individual to sit at the opening to read. The magistrates employed persons, called “compurgators,” to perambulate the city on the Saturday nights; and when, at the approach of twelve o’clock, these inquisitors happened to hear any noisy conviviality going on, even in a private dwelling-house, they entered it and dismissed the company. These “compurgators” also made their perambulations on Sunday during divine service, and ordered home every person they met abroad, except in cases of urgent necessity, or, on his refusal, took him into custody. But having, about the middle of the century, taken into custody a spirited gentleman who was walking on Sunday on the Green, he prosecuted the magistrate for this exercise of authority, and as he succeeded in his suit, the attempt to enforce the observance of this day was discontinued.

The wealth introduced by the opening of the British colonies to the enterprise of the Scotch at the Union, gradually led to changes in the habits of the citizens. About the year 1735 several individuals built houses to be occupied solely by themselves, instead of dwelling, as formerly, on a floor, the access to which was by a common stair. This change, however, made no very rapid progress, and, up to the year 1760, very few of these single houses had been built, the greater part of the more wealthy inhabitants continuing to a much later period to occupy floors, in very many cases containing only one room. After the year 1740, the intercourse of society was by evening parties, never exceeding twelve or fourteen persons, invited to tea and supper. They met at four, and after tea played cards till nine o’clock, when they supped. The gentlemen attended these parties, but did not go away with the ladies after supper, but continued to sit with the landlord, drinking punch till a very late hour. The gentlemen frequently had dinner-parties in their own houses, but it was not until a much later period that the business of visiting was attempted to be carried on by dinner-parties. The guests were generally invited by the entertainer upon ‘Change, from which they accompanied him, at the same time sending word to their own houses that they were not to dine at home. These dinner-parties usually terminated in hard drinking; and gentlemen in a state of intoxication were to be met with at most evening parties and in all public places. Profane swearing was then considered a gentlemanly accomplishment; and dissipation at entertainments was called good fellowship and friendship, and he who did not send his guests drunk from his house was considered unworthy to entertain genteel company. The dinner-hour was two o’clock about the year 1770; soon after it was three, and a little later, until it had reached six o’clock in 1828. The first instance of a dinner of two courses in Glasgow was about the year 1786; and the lady who made this change in the economy of the table justified herself against the charge of extravagance by saying that she had put no more dishes on her table than before, but had merely divided her dinner instead of introducing her additional dishes in removers.

The above is the substance of the information given by Dr. C leland from his own and Mr. Bannatyne’s sources, concerning the state of society in the last century. The doctor completes the picture by adding the following particulars concerning the manner in which the intercourse of social life is now conducted:—

“Families who were formerly content to live in the flat of a house in the Old, have now pricessly self-contained houses in the New Town. Entertainments are now given more frequently, and the mode of giving them has also undergone improvement: formerly the guests had to drink in quantity and quality as presented by their host; now every person drinks what he pleases, and has his plesaes, after which he retires to the drawing-room, and drunkenness and dissipation at dinner-parties are happily unknown. Profane swearing is now considered highly reprehensible, so much so, that swearing in good company is never heard. The working-classes are better lodged, clothed and fed than formerly; and since the formation of the water-companies, they are more cleanly in their apparel and healthy in their persons.”

In illustration of this remark, we may mention, as we find in another part of Dr. Cleland’s work, that, previously to the establishment of the existing water-companies, for supplying the city with water filtered from the Clyde, the inhabitants were but indifferently supplied from twenty-nine public and a few private wells, so that great loss of time was often incurred in procuring an adequate supply of water, and from some of the wells it was often of indifferent quality when obtained. Matters are very differently managed now. In 1830 there were 58,337 renters of water in the town and suburbs. Persons of property now have water conveyed by pipes to every part of their houses, while the poor have it brought to the doors on terms more advantageous to them than when they had it without charge, taking into account the value of the time which they then lost. Before this system came into operation, all classes were obliged to go out of their houses to be washed at the public washing-house in the Green, the well water being too scanty and hard for the purpose. The clothes of the poor, and of many others who formerly used the public houses, are now washed at home, in consequence of which the rent of the washing-house has decreased from 600l. a year to 1774.

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THE LAGO MAGGIORE.

[View on the Lago Maggiore, from the Inn, Baveno.]

The Lago Maggiore is the largest of all those beautiful lakes that lie at the foot of the Alps, on the Italian side. It is about forty-five English miles long, but its breadth is small in comparison to its length, varying from two to five miles, while in the lower part of its course, below the towns of Arona and Stresa, it becomes so narrow as to look rather like a stately river than a lake. Its greatest breadth is at Baveno, where, turning the promontory of Intra and Palanza, it forms a deep bold bay. The distance from Baveno on the western side to Laveno, on the eastern shore, is not much short of seven English miles, and at either of these points it presents a magnificent sheet of water, and the most picturesque combination of islands, hills, and mountains. It is fortunate that these two pleasant towns, which are built on the very margin of the lake, and present the finest views of it, lie immediately on the high road of travellers. In going southward from Switzerland, and crossing the Alps by the grand Simplon road, the tourist descends suddenly on Duomo d'Ossola, at the very foot of the Alps, and a few hours afterwards he reaches the posting town of Baveno, where the first burst of the scene is like enchantment. In coming northward from Milan, by Varese, with its little miniature lake that lies sleeping among vineyards, a fine posting road leads to Laveno, where it stops, and thence, after admiring the reverse of the beautiful picture as seen from the opposite shore, he can embark, cross the lake to the islands and Baveno, and then continue his route by the Simplon. Year after year hundreds of English travellers make their first acquaintance with the Lago Maggiore at one of these two points.

The views from the windows and terraces of the inn at Baveno, which commands the whole of the inlet or bay we have mentioned, and in which the Borromean islands are grouped, are eminently beautiful; but to obtain the true point of sight, if he does not intend to cross over to Laveno, the tourist should take a boat and row a little beyond the islands to the middle of the lake. There the bosom of the lake, the gentle shores, and the green hills doted with towns, villages, and country seats, and the granite mountains of Baveno and Montorfano disclose themselves with the happiest effect; on one side (to the south) the mountains decline into bosomy hills, which are gradually lost in the rich and boundless plain of Lombardy, while on the other hand (to the north) the eternal-looking Alps, with their coronets of dazzling snow, tower over lake, hills, and mountains, and dash sublimity into a picture
which otherwise would only be remarkable for its smiling, placid loveliness. From the particular point we speak of the whole panoramas is almost made less the small fairy-like islands, brought under the lee of your boat, the white sails glancing across the bay, and the romantic little town and pleasant inn of Baveno, are there all beautiful accessories to the picture, and are seen nowhere else to such advantage.

The capital attraction to most travellers is the Isola Bella, or Beautiful Island, one of the Borromean group near to Baveno. We think this particular island, which is thoroughly artificial, rather curious than picturesque or beautiful, but it tells well at a distance. Without lofty race, its terraces, and formal groves and gardens, and contrasts in a striking manner with the simplicity or wild nature of the other islands, while it calls for that tribute always due to the art and industry of man when they have overcome great natural difficulties. Le Isole Borromee, as they are called, after the name of the noble Lombard family to which they have belonged for several centuries, are four in number—the Isola di San Giovanni, or, as it is frequently called, the Isola Madre (mother island), which stands in the midst of the group, the Isola Bella, and the Isola Superiore, which is often called L’Isola de’ Pescatori, or Fishermen’s Island. This last island, with its humble home-steads and church spire, always struck us as being the prettiest of the group, and it is the one represented in our engraving, which is taken from an original drawing, wherein the artist set down without change or composition a scene he saw from the pleasant inn at Baveno.

This little island, which is entirely inhabited by fishermen, who pick up a tolerable livelihood on the lake, and the many rivers, well stocked with trout and other delicious fish, that fall into the lake, is one of the most thickly-peopled spots on earth. Scarcely more than half a mile in circumference, it contains a fixed population of 220 or 230 souls. It should be mentioned, however, that sundry of these islanders possess a vineyard, or some little bit of land on terra firma, whence, of course, in exchange for their fish, and the labour they have to offer as boatmen, &c., they draw nearly all their provisions. As it is the only one of the islands that has a church, (though there is a magnificent private chapel on the Isola Bella,) the pescatori are very proud of this distinction; and it is a pleasant sight, on a Sunday or Saint’s day, to see the people from the other islands going across the lake in their boats to hear mass in that humble place of worship.

The church was built in the seventeenth century by the Cardinal Frederic Borromeo, who first established a curate there at his own expense. On approaching this island you see a narrow strand covered with boats, oars, fishing-nets, and the like, strewn in picturesque confusion; but we are sorry to say that on landing and entering the village a good deal of the romance and picturesqueness is put to flight by less pleasant sights and very unpleasant smells. The houses are low, dark, and smoky; the streets narrow and festooned with nets retaining the strong scent of the fish prey; the men and the women, too, who take their turn at the ear, are sun-burnt, and shrivelled by their constant dabble in the water, and they all smell of fish. All kinds of fresh-water fish meet your eye whichever way you turn it, and at certain seasons these are apt to be not over sweet; in short, there is nothing on the Isola de’ Pescatori, not even the trees and bushes, “but hath suffered a lake change,” and hath a fishy smell. The people, however, are by no means so poor as they look—indeed, under their rather slovenly appearance the more inexcusable. We hope they may improve in these respects, but in the meanwhile their island will be best seen at a distance. Some years have elapsed since then, but we have now before us the marly hovel of an hospitall, into which we were shown when we wanted some refreshment, and we perfectly understand how the flavour of some of the finest red-spotted trout ever caught in the Lago Maggiore, or anywhere else, were spoiled by the odours of the place and the smoke that almost blinded us.

The landing at Isola Bella is certainly a very different affair, for although there are from fifteen to twenty common houses, the island seems covered all over by the Borromean Palace, its gardens, hanging-terrace, and accessories. There everything is clean, sweet, and seducing. The writer of the late Henry Mather who says the Isola Bella “might serve as a model for a description of the island of Calypso.” Our great historian Bishop Burnet visited it, described it with an excess of pleasure, and always spoke of it with transport. Keysler, an old-fashioned German traveller, who went to it about the year 1735, painted it in words that are meant to be equally flattering, but he made use of one expression which both sounds ludicrously, and yet in part conveys to our mind a correct though not a very poetical notion of the place. The honest German said that the Isola Bella could be likened unto nothing but a pyramid of sweetmeats, ornamented with green festoons and flowers. The island, though it attains no great elevation, really rises in the pyramidal fashion.

Ten artificial terraces, covered with gardens, groves, and shruberies, and slightly retiring in a diagonal line, rise one above the other in regular gradation. These terraces are bordered with marble flower-pots, and statues of gods, goddesses, men, and horses, glaring whence, of course, in exchange for their fish, and the out from a green background of trees. The orange, the lemon tree, with its bright green leaves, the citron, the cedar, the dark funereal cypress, and the high ever-virtue, all grow there, and where not exposed to the cutting northern winds that descend from the snowy Alps, they grow luxuriantly: but yet they seem all to have caught somewhat of the formality incident to such a place. Among the fine large laurels, which in Italy are trees and not mere shrubs, there is one to which a local tradition is attached that has interested many visitors. They say that a few days before his splendid victory at Marengo, Napoleon Bonaparte cut out with a pen-knife on the bark of that laurel the word Battaglia (Battle). When we were there an old gardener told us the story, and said we might easily make out the first syllable of the word, BAT—but we looked, and could not, which might be owing to our want of sight. If the word were ever there, it was more probably cut by some silly visitor to record his name, Battaglia being by no means an uncommon name in the locality.

In the midst of this singular island stands the Palace of the Borromeo family, who only inhabit it during a very short portion of the year. Though certainly no model of architecture, it has an air of elegance and even grandeur. It perhaps even improves in the interior, where, mixed up with much magnificence, there are several truly delightful apartments that offer that union of comfort and elegance which is always so dear to French taste and slovenliness. Statues and paintings in considerable numbers are distributed over the house. Among the first we remember nothing of supreme excellence, but in the
collection of pictures there are some fine specimens of Proccaccini, and of that rarer old master Schidoni. The lower part of the palace made the greatest impression on us. Supported by arches, it overhangs the lake on one side; several apartments in it are arranged in the style of marine grottoes; the walls, the pillars, the floors, and roofs, are all inlaid with shells, fragments of marble, and varicoloured blocks of marble, and are of a few sea-shells covered in the same manner. There are also a few cool-looking marble statues; everything, in short, is fresh, silent, and it is a positive fact that in a very hot climate there is coolness in silence, and in perfect keeping. The beauty of the views and the coolness of the atmosphere united, render this portion of the palace a most delicious summer retreat. In spite of their artificiality and trimness, some of the groves and bowers are pleasant places to rest and muse in, particularly those under which the waters of the lake flow and murmur. A large portion both of the garden and the palace is thus upheld in air over the lake by means of stone walls and arches, of which the foundations are laid on rocks beneath the usual surface of the water.

We learn from an old Lombard writer, that originally the Isola Bella was nothing but a bare rock cut through and through, in some directions, by the constant lashing and biting of the waves, which are occasionally sufficiently stormy. About the year 1670 the wealthy Count Vitaliano Borromeo conceived the idea of converting this rock into what he considered a terrestrial paradise. He began by quarrying a portion of the rock to get materials to build with, after which he erected piers, arches, walls, and buttresses, and that part of the work being done, he, at an immense expense, caused earth to be brought in boats from the mainland, and had it laid down over all, to form a stony island. About the year 1690 the Isola Bella was nothing but a barren rock cut through and through Mount Sinai, and darting upon St. Catherine’s tomb. A genealogical tree of Christ, from Abraham to Joseph, gives us the portraits of forty-two of Christ’s ancestors; and in the print of the ‘Last Judgement’ is an immense serpent, each of the parts of whose tail is appropriated to some one or other of all the vices of human nature; while the birds and fishes, in accordance with Holy Writ, are disgorging themselves of the flesh of man. A Catalogue of the pictures, and the prayers and litanies which are accompanied by a circumstantial enumeration of the number of drops of blood which the Redeemer lost for mankind’s sake. In a large circular ‘Map of the World,’ Asia is called the ‘quarter of sin and sin;’ and it ends with the Happy Island of Mecaria, next to Paradise. Africa is termed ‘Noon,’ and, in one direction, extends from Egypt to the White Sea and Atlantic; Europe retains its proper name, and is assigned as the portion of Noah’s eldest son Japheth; while to remaining part is ‘discovered by Spanish and French’ ‘Niemiya,’ or dumb persons, as the Russian designates all foreigners, is represented as the largest of all islands, and inhabited by a people who know no written characters, have no religion, live five hundred years and upwards, eat baked meat and strange cakes, and are subjects to the French and Spanish monarchs. The island of Malta is set down as full of teachers and wise men, herbs, and vegetables, and the island of Minorca as inhabited by sages; but the city of Moscow, with its walls and towers, its churches, towers, and capes, occupies a larger share of the print than either Asia or America. Petersburg, however, seems to have been out of the designer’s good graces, for its site is designated by only seven miserable stunted firs and beeches. After all this, the parts which are cunningly devised with reference to the traditions current among an ignorant and superstitious race; any attempt to break in upon them would be but ‘cutting blocks with a razor.’—From the Quarterly Journal of Education, No. XX.

CHARACTER OF SIR JOHN MOORE.

* * *

Thus ended [at the battle of Corunna] the career of Sir John Moore, a man whose uncommon capacity was sustained by the purest virtue, and governed by a disinterested patriotism more in keeping with the primitive than the luxurious age of a great nation. His tall graceful person, his dark searching eyes, strongly-defined forehead, and singularity of manner, gave him a noble disposition and a refined understanding. The lofty sentiments of honour habitual to his mind, adorned by a subtile playful wit, gave him in conversation an ascendency that he could well preserve by the decisive vigour of his actions. He manifested the resolution of yielding upon fierceness, and every important transaction in which he was engaged increased his reputation for talent, and confirmed his character as a stern enemy to vice, a steadfast friend to virtue, —a resting place for the suffering of his country. The honest loved him, the dishonest feared him; for, while he lived, he did not shun but scorned and spurned the base, and, with characteristic propriety, they spurned at him when he was dead. A soldier from his earliest youth, he was thirsted for the honours of his profession; and, feeling that he was worthy to lead a British army, hailed the fortune that placed him at the head of the troops destined for Spain. The stream of time passed rapidly, and the inspiring hopes of triumph disappeared, but the mourner glory of suffering remained: with a firm heart, he accepted that gift of a severe fate, and confiding in the strength of his genius, disregarded the clamours of presumptuous ignorance.

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No insult could disturb, no falsehood deceive him,—no remonstrance shake his determiation. Fortune foresaw that he was cut out for constancy;—death struck, and the spirit of the man remained unbroken when his shattered body scarcely afforded it a habitation. Having done all that was just towards others, he remembered what was due to himself. Neither the shock of the mortal blow nor the long continued acute pain which preceded his dissolution, could quell the pride of his gallant heart, or lower the dignified feeling with which (conscious of merit) he asserted his right to the gratitude of the country he had served to the utmost. If glory be a distinction, for such a man death is not a leveller!—Napier’s History of the Peninsular War.
The parish of Farnham, in Surrey, possesses several points of interest. Its name is perhaps the most generally known from the celebrity of the hops produced within its limits; while another class of people know it best as containing the principal official residence of the bishops of Winchester; and antiquarians feel some interest in it on account of the remains of the castle built by the ancient bishops. Our present wood-cut directs our attention to the castle and palace principally.

The manor of Farnham was given to the see of Winchester by Ethelbald, king of the West Saxons, and it has ever since remained the property of the bishops. The castle, which stands upon a hill on the north side of the town of Farnham, is said to have been built by Bishop Henry de Blois, the brother of king Stephen, in the year 1129. In that age bishops were nearly as much soldiers as ecclesiastics, and, in the spirit of the times, found or thought it necessary to erect fortresses after the manner of the temporal peers; often, however, deeming it also necessary to counterpoise an act so exclusively secular by founding a number of ecclesiastical or learned establishments equal to that of their military structures. There are few points of interest in the history of Farnham Castle. It was one of the fortresses which, in the unhappy reign of King John, fell into the hands of Louis, the Dauphin of France, who possessed himself of it in June, 1216; but it was, not long afterwards, recovered for Henry III. In the course of the wars between that monarch and his barons, this castle was held by the latter, but, being taken by the king, was in a great measure destroyed by his directions. It was afterwards rebuilt in a style of considerable magnificence, with a deep moat, strong walls, and towers. No notice of it, however, occurs in history until the civil war in the time of Charles I. Sir John Denham, who was nominated for sheriff of the county in 1642, took possession of it for the king, and was appointed its governor; but he soon after withdrew to join the king at Oxford, leaving the castle to the mercy of Waller, the Parliament's General, who, after making the small garrison prisoners, blew up the fortress on the 29th of December, the same year. About a year afterwards, Sir William Waller is mentioned as having drawn up his forces in Farnham Park, and as marching from thence to Alton (nine miles distant), where he put Lord Craford to flight, and returned to Farnham with 700 prisoners, whom he secured in the castle and parish church. The next notice of the castle occurs in July, 1648, when it was referred to the committee at Derby House to take "such effectual course with Farnham Castle as to put it in that condition of indefensibleness as it may be no occasion for endangering the peace of the county." A rate was made in the county to defray the expense of this service. From this and the pre-
It may not be out of place to remark that the town owes the name of Farnham (anciently Fernham) to the fern growing on the extensive heaths by which it is surrounded on all sides except the south-west. We have already alluded to the extraordinary fame which has long been enjoyed by the hops of this parish. The force of this prejudice is, or was not long ago, very apparent in the decided preference given to the Farnham hops above those cultivated in a parish from which it is only parted by a hedge, and which is equally well cultivated. "A higher price," observes Bray, it is always given at Weyhill Fair, the great mart for hops in this part of the kingdom, for those of the growth of the parish of Farnham than for any other." How long the hops of Farnham have borne this high character and price; at what period they became so famous; and what circumstances first led to that peculiar mode of management by which they command a price so much higher than that of other districts; are all questions which have never been, that we are aware of, satisfactorily answered. Mr. Stevenson, in his work on the 'Agriculture of Surrey' (1809), concludes that the reputation and superior quality of the Farnham hops arise solely from their being better sorted and cleaned, and from their being picked before they are fully ripe. To the latter circumstance alone he attributes what is termed their superior delicacy, but which he seems disposed to call their weakness. He maintains that the high price which they bring is not so much commanded by the soil, the management, or the delicacy of the produce, as by the name which they have acquired. He thinks the growers of other districts, where the rent of land is not so enormously high as in Farnham, might produce the same quality of hops at a lower cost, but for want of the name would not be able to sell them so well, even at an inferior price. The Farnham hops generally fetch one-third more, and sometimes double those of other districts. They are chiefly bought by dealers to be retailed to private families, who prefer them on account of the pale colour and delicate flavour which they impart to malt liquor. Every pocket of hops is stamped with a particular device, which is changed every year; and the hop-growers bind themselves under a severe penalty not to put into the pockets thus marked any other hops than those which are grown about Farnham.

We may probably take an early opportunity of describing a hop-garden.

\section*{CHINA.—No. VII. Tea.}

In a country so extensive as China, reaching from the neighbourhood of Hindoostan to the borders of Siberia, and containing every variety of soil and temperature, a great diversity of natural productions must be expected to prevail. Almost all the animals and minerals of China are, however, common to many other countries, and are so well known as to require no description, but many of its plants are found in no other country, and from their great utility and peculiar importance they must be particularly noticed in such an account of the country as it is our object to furnish. This account will perhaps consist of that which is most closely associated in our ideas with China is tea. Industry and perseverance have succeeded in naturalizing in Europe many exotic plants, but, in defiance of every attempt, tea has hitherto remained unalienable; and although it appears to flourish in our own climate, and with care will stand the rigorous winter of this country, as well as many other plants which are completely acclimatized, no attempts to render the leaf available appear to have succeeded. The tea-plant, by the aid of a few Chinese gardeners, has however been cultivated with success at Rio Janeiro. Mr.
Clarke Abel also saw it flourishing on the hills of St. Helena; and this gentleman is of opinion it may be grown on the mountains of most tropical islands, and on the inland hills of temperate continents, if care be taken to select a meagre soil and a moderate temperature. Of all the British dependencies, he is of opinion that the Cape of Good Hope is the best adapted for its cultivation, both on account of its geographical situation and the nature of its soil, which is, like that of the tea-districts of China, mainly composed of disintegrated sand-stone, schistus, and granite, with but little accumulation of vegetable mould.

The gentleman meets the objection that has been started as to the difficulty of transporting tea-plants from China in sufficient numbers, and in such health as to give a fair chance to the experiment for their cultivation in our colonies or elsewhere, by asserting that a great number of plants, which were on board the Arabite, bore the voyage without suffering; were in the most vigorous state the day before the unfortunate wreck of that ship; and would doubtless so have reached the places of their destination,—the island of St. Helena and the Cape of Good Hope.

As to the preparation of tea, he is of opinion that it is less complicated and difficult than has been imagined; that every information respecting it might be easily obtained at Canton; and in fact, that such information is, in all probability, already in the possession of many Europeans. He concludes, on this important subject, that "if ever it shall suit the policy of this country to derive the tea from any of our own dependencies, there can be no doubt that we shall cease to be indebted to China for an article that enters so essentially into the comforts of all classes of my countrymen."

The immense consumption of tea in this country entitles it to precedence in a notice of Chinese plants. It has become with us no longer a luxury, but a necessary of life. It would be difficult, or almost impracticable, to return to the quarters of ale and rounds of beer described to have formed the breakfasts of Queen Elizabeth's maids of honour; and, with our present population, the consumption of any native produce, consequent on the abandonment of tea, must be attended with a decrease of other productions which would greatly augment the expenses of living. Only a century and a half ago, two pounds of tea was deemed a present worthy of being made to a British monarch; and at the present time, 30,000,000 of pounds are annually consumed in this country.

It has been said that the use of tea among the Chinese is not of ancient date, founded on the assertion that the character representing tea is not found in any ancient Chinese work. If this be true, it is but negative evidence, and it would require vast research and a close acquaintance with Chinese literature to prove that it is true. We have, however, positive evidence of its being used as early as the eighth and ninth centuries. A tax on tea leaves is mentioned in the "Annals of the Dynasty of Tang;" and in the Journal of the voyage of the Arabite, which traded with the Chinese at that early period, mention is made of the infusion of a herb named sak, much drunk by the inhabitants: this herb is evidently tea, and its name sak is an approximation to the Chinese name cháh, as the Arabic alphabet is capable of expressing it.

It may be interesting to trace the gradual increase in the use of tea with us,—from the time when it was first tasted as a curiosity to the present period. The first time we find it mentioned in this country is in an act of parliament passed in 1660, by which we find it charged with a duty of 1£, 6d. per gallon when drunk in public-houses. In the following year Pepys speaks of it in his Diary in the following terms:—"Sept. 25, I sent for a cup of tea (a Chinese drink), of which I had never drank before." In 1664 a present of two pounds two ounces of tea was made by the East India Company to Charles II.,—probably all that could be procured in London. The price was then about two guineas per pound; and the tea appears to have been procured from the continent, as the first importation by the Company was in 1669, when two canisters were received by them containing 150 lbs. It appears, however, to have been hardly considered as an article of commerce, the first order for tea being sent to Madras. The singular terms of this order will show how recent was the introduction of the herb, and the estimation in which it was held. "In regard tea is grown to be a commodity here, and we have occasion to make presents thereof to our great friends at court, we would have you yearly send us five or six canisters of the very best and freshest; that which colours the water in which it is infused most of a greenish complexion is best esteemed."

In the year 1678 nearly 5000 lbs. were imported: this quantity, which would now be sold at one large shop in London, appears to have overstocked the country, for we find only 410 lbs. imported altogether in the six following years, but after this time the demand for tea slowly increased: our ancestors gradually acquired a preference for the social and exhilarating beverage over the heady ale which accompanied their former repasts, and about the end of the century nearly 30,000 lbs. of tea were brought every year to England. In twenty years from this time the annual importation reached above a million pounds, being an increase of fifty-fold in twenty years.

From this time the consumption of tea, almost without fluctuation, increased to its present enormous amount; which is perhaps greater than the quantity consumed in all the countries of the world, excepting China.

The Chinese are in the constant habit of using tea: the mandarin in his palace, and the labourer in the field, are equally accompanied by the kettle and the tea-pot; and the elegant handling of the cups and service of the beverage form an essential branch of female education. The tea-pot forms an important part of the equipment of the traveller, and for those who have not time or convenience to prepare their own tea, boots are erected for its preparation and sale on every great road. As the sensualists of Europe celebrate the qualities of wine, so those of China exhaust the language of poetry in describing the effects produced by tea; and even an emperor has censured those who do not drink it. It has been said that the use of tea is not of ancient date, founded on the assertion that the character representing tea is not found in any ancient Chinese work. If this be true, it is but negative evidence, and it would require vast research and a close acquaintance with Chinese literature to prove that it is true. We have, however, positive evidence of its being used as early as the eighth and ninth centuries. A tax on tea leaves is mentioned in the "Annals of the Dynasty of Tang;" and in the Journal of the voyage of the Arabite, which traded with the Chinese at that early period, mention is made of the infusion of a herb named sak, much drunk by the inhabitants: this herb is evidently tea, and its name sak is an approximation to the Chinese name cháh, as the Arabic alphabet is capable of expressing it.

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Tea is prepared in a peculiar form for the use of the Tartars; before the leaves are quite dry, they are moistened with a slightly glutinous liquid, said to be the serum of the sheep, and then pressed into moulds, from which they take the form of a large brick, whence this sort of tea is denominated brick-tea.* All Tartars, from the borders of Russia to the Eastern ocean, use this tea: they prepare their drink by scraping off a portion of the brick, and boiling it in a saucepan with butter, flour, and milk,—a mixture which would scarcely seem agreeable to our palates, but which Europeans who have parted of it assure us is palatable, and, after a very little use, equally pleasant with tea prepared in our way.

As to the qualities and properties of tea, notwithstanding our constant experience of its effects, nothing seems to be decided. Almost every good and every bad quality has been by some person or other attributed to this herb, perhaps with equal truth. It is doubtless of great use in correcting the putrid quality of stagnant water; and as much of the water used in China is taken from ponds or canals, it is probable that the use of tea had its origin from such a cause. Much of this effect is without doubt produced by the boiling; and toasted bread would perhaps be as useful for this purpose: but there is an exhilarating property in tea which will never have its use indispensible to the ladies, and to those of the other sex whose employments are of a sedentary nature.

The Chinese attribute a thousand excellent qualities to the use of tea: they assert that without it the pork and fat meats which are much used by those whose circumstances admit of anything beyond a vegetable diet would be very prejudicial to the system; but, at the same time, they will always make use of strong tea is very weakening, from the continual irritability which it produces, unless that excitement is corrected by eating abundantly of fat meat.

The tea-tree grows to the height of five or six feet: it is generally allowed to be of two sorts, the black and green, though it has been asserted that there is only one sort of tea, and that the difference between black and green tea consists in the green being young and the black old leaves. If this were the case, we should surely find the green leaves smaller than the black, but as they are of the same size, the hypothesis must be unfounded. The distinguished naturalist Mr. Clarke Abel inclined to believe that there were two species of the tea-plant, though he could not at first sight define their characters, and afterwards lost the specimens, by which he expected to establish them, in the unfortunate shipwreck of the "Alceste." He remarks, however, "that the plants which had been brought from the black and green tea districts differed in the form, colour, and texture of their leaves; those of the black tea-plant being longer, thinner, and of a lighter colour than those of the black, although growing in the same soil." And Mr. Abel also observed at his leisure, and in the growing plants, the same difference of character in a large tea-plantation near Macao. Still he admits, immediately afterwards, on the authority of those perfectly conversant with the Chinese method of manufacturing the leaf, that either of the two plants will afford the black or the green tea of the shops, but that the thin-leaved plant is preferred for making the green tea. He is of opinion that the difference between colour and quality between the two teas may be explained by the different management of heat used in drying the plant. "There can be little doubt," he says, "that a leaf dried at a low heat will retain more of its original colour, and more of its peculiar qualities, than one that has suffered a high temperature. Supposing, therefore, the leaves of the same species or variety of the tea-plant to have undergone such different degrees of heat in their preparation, their peculiar properties would be expected to occur in greatest strength in those of the greenest colour, or in those to which both Chinese and Europeans attribute the most powerful properties. I may here add, that by far the strongest tea which I tasted in China, called 'Yu-tien,' and used on occasions of ceremony, scarcely coloured the water. On examining it with a view to ascertain the form of the leaves, I found it to consist of the scarcely-expanded buds of the plant.*

Others have ascribed the difference to the mode of drying the leaves, which are said to be naturally black, and to become green by being dried on copper plates, which process communicates a tinge of verdigris to them. A very little acquaintance with chemistry will however dispel such an idea: the presence of one-thousandth part of copper would be very easily discovered in tea, and it is certain that the most delicate analysis has been unable to find any. A more probable opinion is, that the two sorts of tea were originally one, but that soil and cultivation have made the difference between them. In proof of this assertion, it is stated that a green tea-tree transplanted to certain provinces will produce black tea; and a black tea-tree transferred to a soil usually productive of green tea will produce green tea. It is not material which opinion is correct; the mode of preparation, with some slight differences of care and manipulation, is the same in both.

The tea-tree is usually cultivated in valleys or on the declivities of hills, and the neighbourhood of a running stream or the bank of a river is considered desirable. Holes of five or six inches depth are made for the reception of the seeds, which are carefully deposited, four or five in each hole. When the young tree appears, it is very carefully attended to, occasionally watered, and closely examined, in order that the tender leaves may not be injured by the many destructive insects produced in China. Although the youngest leaves produce the best infusion, it is not considered advantageous to gather any until the third year, when the tree usually attains the height of four feet, as an early gathering would prevent the future produce green tea. It is not material which are so expert that they are able to gather a dozen pounds in the course of a day.

The first gathering is performed in the month of March, when the best tea is prepared. Great precautions are taken in this gathering: the persons employed are said to prepare themselves for some weeks previous by eating only of such food as may communicate agreeable odours to the skin and breath, and to wear gloves of a peculiar material when employed in their work. Such precautions are probably taken only when tea is gathered for imperial use; and it is usual in this gathering to pluck each leaf separately; but the labourers are so expert that they are able to gather a dozen pounds in the course of a day.

The second season for tea-gathering is the month of April; the tea produced at this season is coarser and cheaper than the former, and prepared with less care, but is still of a fine sort, and occasionally the smaller and more delicate leaves are selected, and sold as tea of the first produce. In the month of June those trees which were left untouched in the spring are covered with an abundant crop; the leaves are now larger and coarser, and are consequently of an inferior price: but the abundance of the harvest compensates the owner for the delay and inferiority of the produce. Above nine-tenths of the tea consumed in China and in Europe are prepared at this season.

When the tea leaves are gathered, the labourers of the producer are only begun. Baskets full of the leaves are

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taken to a drying-house, which is generally a public building in the neighbourhood of the tea countries, and where persons may send their leaves and dry them by their own servants, on payment of a small sum to the owner of the house. These drying-houses are provided with a great number of small stoves or furnaces, each furnished with a thin plate of iron at the top; a gentle fire is kindled in the stove, and increased until the iron is sufficiently heated: this is ascertained by throwing a fresh leaf upon it, and listening attentively to the sound produced; a peculiar crackling noise shows the experienced workman that he may proceed to business. He begins by throwing a heap of fresh leaves upon the heated iron, he then shifts them from place to place as rapidly as possible, that they may be all sufficiently heated, but not scorched. When the leaves begin to shrink and curl up with the heat, they are all swept quickly off the iron, and thrown upon a large table covered either with paper, or with soft matting as fine as damask. They are there received by another set of workmen seated round, who dexterously roll the cooling leaves between their hands, while a third set stand, by fanning that they may cool rapidly, and readily take the proper curl. When the leaves are quite cool, they are again thrown upon the hot iron-plate, and again rolled between the fingers as before; and this operation is repeated three or four times, until it is ascertained that the leaves are quite dried. The common taste of the last gathering is usually exposed to the vapour of hot water before it undergoes the operation of drying, probably in order to soften the harsh leaves, and allow them to take the proper curled form; but, according to the Chinese, their steaming process is necessary to drive away a certain noxious quality always found in the coarser kinds of tea. When the tea has undergone the operation of drying, it is packed up in baskets, and prepared for transportation to the purchaser for sale or exportation, it is taken out once more and dried before a gentle fire: it is then closely trampled into chests or vessels prepared to receive it.

The poorer people in the country, who grow a little tea in their own gardens, content themselves with drying their leaves in an iron-kettle over a low fire, shaking the kettle as the leaves dry, and stirring them up with their hands; when they judge the tea to be well done, they hang it in their houses, and in the roof of their huts, through which, like their less civilized neighbours, they allow the smoke of their fires to escape, not having adopted the convenient accommodation of chimneys. As no tea is drunk in China until it has been prepared at least a twelvemonth, we may suppose that the smoking it receives in this situation will not communicate a very agreeable odour to the favourite beverage.

The best tea-grown in China is cultivated in the province of Kiang-nan, that beautiful province of which Nankin is the capital, and which produces an abundance of every necessary and luxury; but the greatest part of the common black teas exported to Europe comes from Fokien, where formerly European traders were permitted to resort, until the disorders supposed to arise from the intercourse with foreigners induced the government to restrict all communication to a single port.

The Russians, however, who carry on the overland trade in tea, derive their supplies from another province; and a merchant long resident in Russia, and conversant with the China trade, has assured us that the superiority of the tea brought into the European market by the Russians does not depend on its not having been exposed to a sea-voyage (commonly supposed in England to be injurious to the flavour of the herb), but entirely on the greater fitness or excellence of the soil, &c., in the districts from which the Russians alone are permitted to draw their teas.
CONVENT OF MOUNT SINAI.

The present wood-cut exhibits the convent of St. Catherine at the base of Gebel Mousa, or Mount Horeb, or rather at that elevated part of the entire mountain where it begins to separate into the two peaks to which the respective denominations of Sinai and Horeb have been given. The mountains having been sufficiently noticed in the article to which this may be regarded as a sequel, the present account will be limited to the Convent. The best and fullest account of this establishment has been given by Burckhardt in his "Travels in Syria and the Holy Land;" and little more remains for us to do than to condense the information which he has furnished, and to make some transpositions in the form of its arrangement.

The local traditions date the origin of the Convent of Mount Sinai in the fourth century. It is said that the Empress Helena, the mother of Constantine, caused a small church to be erected over the spot where Moses was called to his great mission from the bush that burned without being consumed. As to the part the Empress Helena had in the transaction, we may notice that in the south-east of Europe and the west of Asia this lady has the credit of more good works than she did; for she did so many of this sort, that it became a custom to attribute to her almost every establishment of remote and unascertained foundation.

As this church helped to draw many visitors and monks to the mountain, small convents were erected in different parts of the peninsula of Sinai during the following century. But the monks and recluses who had settled themselves in these establishments, were so much distressed by the Bedouins who frequented this region, that they were induced to petition the emperor Justinian to build a fortified convent in which they might be protected against their oppressors. He listened favourably to their application, and sent workmen from Constantinople and Egypt, with instructions to build such a convent upon the summit of the mountain of Moses. This exposed and elevated site would have been a most uncomfortable situation for its inmates, on which account, as well as from the want of water there, the persons to whom the work was intrusted were discreet enough to erect it on its present site. When it was completed, Justinian sent some slaves, natives of the shores of the Black Sea, to act as servants to the convent, and they established themselves with their families in the neighbouring valleys. A few years afterwards, the convent acquired possession of the bones of St. Catherine, as already mentioned. This circumstance greatly strengthened the claim of the convent church to the veneration of the Greeks.

It is a cherished belief among the monks of Mount Sinai the convent is thus the most ancient establishment of its kind in the world.
Sinai that Mohammed himself, in one of his journeys, alighted near the walls of the convent, and that, impressed with a due veneration for the mountain of Moses, he presented to the convent a firm to secure to it the respect of his followers. It is said that the document was written by the famous Ali, his cousin and son-in-law; and that the property of the convent was so great that the monks, being unable to write, confirmed it by impressing his extended hand, blackened with ink, upon the parchment.

The story goes on to say, that this document remained with the convent until Selim I. conquered Egypt, when, hearing of this precious relic, he sent for it, and added it to the other relics of Mohammed in the imperial treasury at Constantinople, sending the monks, instead, a copy of the original, certified with his own cipher. This they still profess to have, and Burckhardt examined it, and finding its contents at variance with the statements of the monks, concluded from intrinsic as well as from collateral evidence, that the document is a forgery, and the story an utter fiction.

Notwithstanding the difficulties to which the monks must have been exposed from the warlike and fanatical followers of the new faith, the strength of the building, the meekness and patience of its occupants, and their judicious distribution of money, preserved the convent from injury. It would seem from the statement of the monks, that their predecessors were made responsible by the sultans of Egypt for the protection of the caravans of Moslem pilgrims from Cairo to Mecca, on that part of the road which lay along the northern frontier of their territory from Suez to Akaba. To enable themselves to discharge this duty, they thought it proper to invite several tribes of Bedouin Arabs to settle in the fertile valleys of Sinai, and become protectors of the road. The Arabs came, but their power increasing, as that of the monks declined, they gradually took possession of the whole peninsula, and confined the monks to the convent.

The convent is situated in a valley so narrow, that one part of the building stands on the western mountain, while a distance of twenty paces only is left between its walls and the eastern mountain. This valley is open to the north, whence the road from Cairo approaches; but to the south, close behind the convent, it is shut up by a third mountain, less steep than the other, over which passes the road to Sherm. The convent is an irregular quadrangle, of about 150 paces on each side, enclosed by a high and solid wall, the lower part built with blocks of granite, and fortified by several small towers. The upper part of the wall is built of a mixture of granite-sand and gravel, cemented together by mud, which has acquired great hardness. The convent contains eight or ten small court-yards, some of which are neatly laid out in beds of flowers and vegetables; and a few date-trees and cypresses also grow there, with a great number of vines. The distribution of the interior is very irregular, in consequence of the position of the buildings standing; but the whole is very clean and neat. There are a great number of small rooms in the lower and upper stories, few of which are now occupied.

The principal building of the interior is the great church, which, as well as the convent, was built by Justinian, but has since undergone frequent repairs. The form of the church is an oblong square; the roof is supported by a double row of fine granite pillars of different designs, which have been covered with a coating of plaster, perhaps because the natural colour of the stone was not agreeable to the monks, who saw granite on all sides around them. The dome over the altar still remains as it was originally constructed by Justinian, whose portrait, with that of his wife Theodora, may still be distinguished upon the dome, together with a picture of the Transfiguration, in honour of which event the convent was erected. The walls around the altar are profusely adorned with silver lamps, paintings, and portraits of saints, among whom figures St. Christopher with a dog's head. The floor of the church is finely paved with slabs of marble.

Here are deposited the remains of St. Catherine, who has given her name to the convent and to the mountain on which it stands. Attention is also attracted to the silver lid of a sarcophagus, on which is represented a full length figure of the Empress Anne of Russia. It was sent here by that princess, who entertained an intention, which was never carried into effect, of being interred within it. In a small chapel adjoining the church, the monks show the place where they suppose the burning bush to have stood; and this is considered as far the most holy spot in the mountain. Besides the great church there are twenty-seven other churches and chapels dispersed over the convent, in many of which daily masses are read, and in all of them at least one every Sunday. This establishment resembled, in fact, that of the Holy Sepulchre at Jerusalem, containing chapels for all the principal Christian sects, except those of the Protestants. Many of them have long been deserted by their owners. The most remarkable thing is to find amongst them a Mohammedan mosque, large enough to contain 800 persons at their devotions, and standing close by the great church. The monks say it was built to prevent the destruction of the convent, and that they relate that the sultan Selim took a great fancy to a young Greek priest, who happened to fall sick, and was sent to this convent for the recovery of his health. The man died; whereupon the sultan, who considered the monks the cause of his death, gave orders to the governor of Egypt to destroy all the Christian establishments in the peninsula, of which there were several at this period. The monks of St. Catherine hearing of this order, and the preparations which were making to put it into execution, hastened to erect the mosque in question, in the hope that the whole convent would be spared for its sake. Their device succeeded, and the mosque has, on the same principle, ever since been kept in repair. But the Arabic records in the convent describe the mosque as existing more than a century previous to the date which this tradition assigns, and mentions circumstances which seem to demonstrate that it really was so. It is kept in order by the Bedouin servants, who use it on Fridays for their devotions. It is sometimes visited by Moslem pilgrims, and it is only when Mecca is the object of distinction happens to be there that the call to prayer is made from the minaret.

There are two deep and copious wells of spring-water within the convent. One of them is called the Well of Moses, in the belief that he was the first who drank of its water. The other is declared to have been the work of an Edglish lord, and bears the date 1760: there is also a reservoir for rain-water. The monks say the rains of the peninsula depend on the mountain of Sinai, and that when rain came, they encouraged the belief that it was owing to their intercessions. They succeeded in this object, but had not calculated on the result; which was that the Bedouins, naturally enough, inferred that if the monks could bring rain, they also had it in their
power to withhold it; and the consequence is, that whenever a dearth happens, they accuse the monks of malevolence, and often tumultuously assemble and compel them to repair to the mountain to pray.

"Some years since," says Burckhardt, "soon after an occurrence of this kind, it happened that a violent flood burst over the peninsula and destroyed many date-trees: a Bedouin, whose camel and sheep had been swept away by a torrent, went in a fury to the convent and fired his gun at it; and, when asked the reason, exclaimed—'You have opened the book so much, that we are all drowned!' He was pacified by presents; but in parting he begged that in future the monks would only half open the 'Taourat,' in order that the rains might be more moderate.'

None of the churches or chapels in the convents have steeples. There is however a bell, which seems to be the excellent air of the convent and the simple fare, which contains a prior and fifty monks, Mount Sinai; they are permitted to indulge even during the fasts. Other parts of the least, especially in the Archipelago, previously to 1760, the Archbishop used to reside in the affiliated convent at Cairo. Besides this last convent, which is the only solace the recluse's enjoy, and in which the monks live very rare diseases very rare rending their vegetables from a pleasant garden adjoining the finest quality; but it is seldom visited by the monks, excepting the few whose business it is to keep it in order: for although enclosed by high walls, it is not inaccessible to the Bedouins, who for some years past have been the sole gatherers of the fruits, leaving only the vegetables for the monks, who have thus been obliged to re-purchase their own fruits from the pilgrims, or else to buy it in other parts of the peninsula.

The excellent air of the convent and the simple fare on which the monks live render diseases very rare among them; and many of them are very old men, in the fullest possession of their bodily and mental powers. They have all taken to some profession,—a mode of rendering themselves independent of Egypt, which was also practised in former times, when the three hundred private chambers now empty were occupied. Among the monks, Burckhardt found a cook, a distiller, a tailor, a carpenter, a mason, a smith, a gardener, a candlemaker, &c. Each of these had a workshop, and traces of the former wealth and industry of the establishment may still be discovered in the worn-out and rusty utensils of the various trades. The bakehouse and distillery are still kept up on a large scale. In the latter they make brandy from dates, which is the only solace these recluse's enjoy, and in this they are permitted to indulge even during the fasts.

Previously to 1760 the Archbishop used to reside in the convent; but the cost and inconvenience which his residence would entail upon the convent in the present declining state of its affairs has rendered it expedient for him to reside abroad. His presence would entitle the Bedouins to great fees, particularly on his entrance, when also the walled-up gate must be opened to admit him, and then all the Bedouin Sheiks would also have a right to enter within the walls.

The Bedouins contrive to keep the good monks poor as possible, and as constant a feeder, as the reader will already have perceived. They have established the custom that whoever amongst them comes there, whether man, woman, or child, is to receive bread for breakfast and supper, which is lowered down to him from the window, as no Bedouins, except the servants of the house, are ever admitted within the walls. Fortunately there is no good pasture in the immediate neighbourhood, which renders it necessary for the monks to have their encampments at some distance, and hence their visits are by no means so frequent as might be supposed. Yet scarcely a day passes in which the monks are not required to furnish bread to thirty or forty persons. In the last century the Bedouins enjoyed still greater privileges, and had a right to call for a dish of cooked meat at breakfast and another at supper. It is difficult to understand how the monks persuaded them to relinquish this privilege. When a sheik or head-man calls at the convent, he receives, besides his bread and water, an onion and sometimes a handkerchief, medicines, or articles of clothing. It seems, however, that such of the tribes as are styled protectors of the convent, are, in return for the privileges they enjoy, expected to protect, or rather to abstain from molesting, the pilgrims to the mountain, and to respect and assist in transporting loads destined for the convent. Such services entitle the more distant tribes to annual presents in clothes and money. This state of the relations between the

THE PENNY MAGAZINE, 451
monks and the Arabs often occasions serious disputes. If a sheik calls at the convent, for instance, and is not well satisfied with the present he receives, he immediately declares himself the enemy of the monks, and begins to lay waste some of their gardens, and is only to be appeased by a present. Notwithstanding all the exactions to which they are exposed, Burckhardt conceives that about 1000£ a year is sufficient to cover all the ordinary and extraordinary expenses of the establishment. The same writer informs us that "The Arabs when discontented, have sometimes seized a monk in the mountains and given him a severe beating, or have thrown stones or fired their musquets into the convent from the neighbouring heights. About twenty years ago a monk was killed by them. The monks in their turn have fired occasionally upon the Bedouins, for they have a well-furnished armory, and two small cannon, but they take care never to kill any one. And although they dislike such turbulent neighbours, and describe them to strangers as very devils, yet they have sense enough to perceive the advantages they derive from the better traits in the Bedouin character, such as their general good faith and their pliability. 'If our convent,' as they had observed to me, 'had been subject to the revolutions or oppressions of Egypt or Syria, it would long ago have been abandoned; but Providence has preserved us by giving us Bedouins for neighbours.'"

HOPS.

The hop is a perennial-rooted plant with an annual twining stem, which, on poles or in hedges, will reach the height of from twelve to fifteen feet, or even more. It is a native of Britain and most parts of Europe, in hedges, flowering in June, and ripening its seeds in September. It has been cultivated from time immemorial in Europe on account of the useful properties of its flowers in the preservation of beer. The female blossom is the part used; and as the male and female flowers are on different plants, the female only is cultivated. It is nowhere cultivated in the East, and although it grows wild in different parts of Asia (a fact which may not be generally known), its flowers are nowhere in that quarter of the world applied to a useful purpose. The generic name of the plant, lupulus, is formed from humus, "fresh earth,"—the hop growing only in rich soils; and the specific name of the common hop, lupulus, is a contraction from lupus salicarius, the name by which it was, according to Pliny, formerly called, because it grew among the willows, to which, by twining round and choking up, it proved as destructive as the wolf to a flock. It is rather curious that an allusion to the wolf is also contained in the ancient British name of the plant, llewic y blaidd, or "bane of the wolf." The current name, hop, seems to proceed from the Anglo-Saxon hoppan, to climb.

The proverbial distich given in Baker's 'Chronicle,' "Turkey, carp, hoppes, piccaret, and beer, Came into England all in one year," has led to the impression that hops were not known in...
this country till the reign of Henry VIII., or about the year 1524; but, in truth, the plant was known long previously, for it grew wild by the side of hedges and upon banks in many parts of England, and its young shoots were and are often gathered by poor people, and boiled as an esculent vegetable. The young shoots of the cultivated hop are now also gathered in the spring, and eaten as asparagus, being sold under the name of hop-tops. The fact seems to be, that the culture of the plant was introduced from the Low Countries in the time of Henry VII.; but that it had before that period been imported and used on a limited scale in the preparation of beer, would appear from the fact, that in the reign of Henry VI. (A.D. 1428) the hop was petitioned against as a "wicked weed." Hops are first mentioned in the English Statute Book in 1532, in the act 5 Edward VI. chap. 5, where lands "set with saffron or hops" are mentioned among other exceptions to the operation of the statute itself, which enacted that so much land should be kept in tillage as had been at any time in tillage since the first of Henry VIII. It does not appear, however, that the culture of hops proceeded very rapidly at first; for so late as the reign of Queen Elizabeth they were fetched in considerable quantities from the Low Countries. But from an Act of Parliament in the year 1603, it seems that hops were then cultivated in great abundance. The introduction of the culture itself, and the consequent extended use of hops in the preparation of beer, seem to have revived the alarm which the previous petition indicated. This appears from the third and improved edition, published in 1652, of a work originally published in 1649, under the title of "The English Improver, or a New Survey of Husbandry, by Walter Blith, a Lover of Ingenuity." In the chapter on hop-plantations, he says,—"As for hops, it is grown to a national commodity. But it was not many years since the famous city of London petitioned the parliament of England against two ancient commodities, that were likely to come into great use and esteem, and that was Newcastle coal in regard of their stench, &c., and hops in regard they would spoil the taste of drink, and endanger the people, and from some other reasons I do not well remember: but petition they did to suppress them, and had the parliament been no wiser than they, we had been in a measure pined, and in a greater measure starved, which is just answerable to the principles of those men that now cry down all devices or ingenious discoveries as projects, and so this day thereby stifle and choak improvements; yet we see what nationall advantages they have since yeelded, and no less will many of the other."

There is only one species of the hop-plant under cultivation; but it has several varieties, which are employed in various circumstances and situations, such as the red-bind, the green-bind, the white-bind, and some others. The first of these affords a very small hop, growing on a red-bind, and is by no means so much prized as the others; indeed it would hardly be cultivated at all were it not that it is a much more hardy plant than the rest, bearing more exposed situations, and remaining strong and healthy when the others are covered with flies and lice. During the picking season, also, it is less exposed to injury from the effects of sun and rain. These qualities secure it the attention of the cultivator, who may calculate with tolerable certainty on obtaining a crop from this variety even should the others prove unproductive or be spoiled. The green-bind sort, though less hardy than the preceding, is a very productive bearer, and often succeeds well in the medium description of hop soils, even where the exposure is by no means favourable. The white-bind variety, however, although a more tender and delicate plant, is held in the highest estimation by the hop-planters, as it reaches maturity more early and bears a higher price in the market. Hops are also distinguished by planters, as the Flemish, the Canterbury, the Goldings, the Farnham, and some other similar titles. The Farnham, as we had occasion to notice in our last Number, is the most prized; and the Flemish is in the lowest estimation, being the red-bind sort, which has just been mentioned. The varieties come to maturity at different times, which occasions them to be laid out in different plantations.

We must refer the reader to works on agriculture, and the articles on Hops in Encyclopædias, for details respecting the soils most suitable for hop plantations, only observing that the most productive grounds are those which have a deep rich loamy surface, with a sub-soil of deep, loamy, brick earth; and that this kind of land forms the principal part of the plantations in the eastern division of Kent, which is proverbially the great hop-growing county of England.

After the land has been properly cleared and prepared, dung is laid in the field in small heaps near the places where it is intended to plant the hops lips or root sets. The places are commonly marked off by a number of short stakes being driven into the ground at proper and equal distances from each other. Circular holes of about eighteen inches in diameter are then made by taking out the mould to the depth of about twelve inches. These holes are then partially filled with manure, upon which is placed the mould which had been taken out in the first instance; and in this way a series of small risings or hillocks are formed, generally at the distance of about six feet from each other. Planters differ in the mode of arranging the hills, some choosing to place them, with continuous regularity, in rows at equal distances, while others prefer planting in quincunx. On each of these hillocks, the sets or roots, to the number of five, six, or seven, are planted by means of a dibbling stick. One is placed on the top or centre of the hill, and the rest, at equal distances around it, being made to incline towards that in the centre. This business of planting is usually in February or March; but when bedded plants—or such as have pre-
After the plantation has received some common acts of attention, such as hoeing, weeding, stirring, manuring, and the young shoots being earthed up to strengthen them, the next important operation is that of setting the poles, which is usually performed as soon as the binds have sprung to the height of three inches above the surface of the ground, and this is commonly about the end of April or beginning of May. The poles are straight, slender shoots of underwood, ash, chestnut, or willow, from sixteen to twenty feet high. Planters are by no means agreed as to the most advantageous number of poles on each hilltop; but as a full and free admission of air, light, and sunshine is necessary to the health of the plants, it is evident that the poles should not be so crowded as to occasion much closeness. Three is the number most commonly preferred in practice, though more are occasionally employed, and sometimes only two. They are placed in such a manner as to leave the largest openings towards the south, to admit the sunbeams. The poles are generally fixed in the earth by means of a tool termed a crow, which is made of iron, and forms the holes to the depth of eighteen or twenty inches. Into these holes the root-ends are put, and then the earth is rammed so hard in about them that they very seldom alter from the position in which they are placed, unless by the operation of very violent gales of wind. They are made to lean outward, so as to prevent the binds from housing or interlacing above them. Mr. Loudon mentions that wires of iron or copper have been used in the south of France as substitutes for wooden poles, but having seen a plantation treated in this way he is not disposed to think it an improvement.

After the poles are set, the next operation is that of tying the shoots or vines to them. This branch of the culture affords employment to a good number of persons, generally women, who tie the plants in several places with withered rushes, but so loosely as not to prevent them from easily advancing in their progress to the tops of the poles. When the vines have ascended out of reach upon the poles, proper persons go round with standing ladders, and confine all such as appear inclined to stray.

Hop-plantations require some years to come to perfection, and it is rarely considered advisable to take them from them till after they are formed, as by this means great detriment is likely to be done to the future produce which they should afford. There are modes of planting, however, (as in Suffolk,) which render the practice of taking produce in the first season not injurious. Also when bedded or root sets have been used in planting, a small produce may safely be taken in the first season, as such plants are then as forward as those from cuttings in the second season.

The time of hop-gathering is a season of great animation and interest, and the motley groups that assemble to this labour are most amusing. The proper time for gathering the hops is indicated by their giving a strong scent, and the seeds becoming firm and of a brown colour. This usually happens early in September. The operation varies in different districts. We give the following account of the process in the words of Mr. Loudon, as appearing to us the most correct.

"As a preparation for pulling the hops, frames of wood, in number proportioned to the size of the ground and the pickers to be employed, are placed in that part of the field which, by having been most exposed to the influence of the sun, is the soonest ready. These frames, which are called bins, or cribs, are very simple in their construction, being only four pieces of board nailed to four posts or legs, and when finished are about seven or eight feet long, three broad, and about the same height. A man always attends the pickers, whose business it is to cut over the vines near the ground, and to lay the poles on the frames to be picked. Commonly two, but seldom more than three poles are laid on at a time. Six, seven, or eight pickers, women, boys, and girls, are employed at the same time, three four being ranged on each side. Those, with the man who sorts the poles, are called a set. The hops after being carefully separated from the leaves and branches, or stalks, are dropped by the pickers into a large cloth, hung all round within the frame on tenterhooks. When the cloth is full, the hops are emptied into a large sack, which is carried home, and the hops laid in a kiln to be dried. This is always done as soon as possible after they are picked, as they are apt to sustain considerable damage both in colour and flavour, if allowed to remain long in sacks in the green state in which they are pulled. In very warm weather, and when they are pulled in a moist state, they will often heat in five or six hours; for this reason the kilns are kept constantly at work both night and day, from the commencement to the conclusion of the hop-picking season."

When the crops are tolerably full, a good picker will separate from eight to ten bushels of hops from the binds in the course of a day; which, after being stored or dried, generally weigh about a hundred weight.

The work is sometimes done by the bushel. The price paid is exceedingly variable, depending less, however, on the goodness of the crops than the abundance or scarcity of labourers. The greatest part of the hops cultivated in England is picked by people who are in the habit of coming from Wales for the purpose every year. Our second wood-cut represents the hop-queen, or persons, generally women, who tie the plants in several places with withered rushes, but so loosely as not to prevent them from easily advancing in their progress to the tops of the poles. When the vines have ascended out of reach upon the poles, proper persons go round with standing ladders, and confine all such as appear inclined to stray.

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The Close of Autumn.

To the naturalist the close of autumn is not without considerable interest. He beholds changes taking place in the animated beings around him, which enlarge his views of the economy of Nature, by affording him an insight into modes she employs for the preservation of animal and vegetable life during the severities of winter. In this point of view the close of autumn is as interesting as the opening of spring.

The changes exhibited in the vegetable kingdom scarcely come under our present design. As far, however, as they influence the operations of the animated tribes, we must not altogether pass them by. The leaves and the juices of plants afford nutriment to myriads of insects, which are themselves the food of birds. With the exception of the hardy, firm-leaved evergreens which endure through the winter, the vegetable tribes either pass into a sort of lethargy, or wither and perish. This death, whether temporary or permanent, cuts off the supply of food from hosts of insects, from some mammals, and from some birds also, while the seeds and fruits which are now matured and are carried about by the winds, or have dropped upon the earth, or still hang in red clusters on the branches, afford a rich feast to mammals and birds, as if their demands on the actions of the vegetable world were increased. With the death of one and vegetable world is linked the death or the torpidity of the insect world. Those which do not perish have retired into crevices, sought refuge beneath the bark of trees, or bored deep into the ground. Of the caterpillars which devoured the leaves, some have assumed a chrysalis condition, which will endure till spring, but not till; for many undergo their transformation before the summer is over, and leave their eggs only to be hatched into caterpillars on the return of the spring. The abundant supply of such kinds of insects as form the staple diet of our summer birds of passage fails; and this, independently of the cold which they are ill fitted to endure, renders our latitudes no longer a resting place for them. Where are moths and chafers for the goatsucker, gnats and flies for the swallow tribe and the fly-catcher? Unlike the red-breast or the hedge-sparrow, which brave our winters and cheer the gloom with their strain, and which though insectivorous, can accommodate themselves to a mixed diet, as is the case with the tits also, these birds and others, were they bound to our clime, must now inevitably perish. But the instinct which guided them hither from the southern regions, now prompts them to return. The swift, as it is one of the last to visit us, is one of the first to leave our shores; it has long since taken its departure. The multitudes of swallows, which we have in vast flocks, have left a few stragglers only to bring up the rear, the main body is already far to the south. It is singular that the swallow comes in flocks, disperses in pairs over the country; and again, previously to its departure, collects into flocks to take its migratory flight. On the contrary, the wheatears, though both coming and departing in multitudes, do not seem to act in concert. The pairs that are scattered over the country gradually move to our downs along the south-eastern part of our coast, till the ground is almost covered with them; but not the wheatears about in flocks, nor cross the Channel in a body; each bird acts for itself, and takes the opportunity most favourable to itself individually; numbers, it is true, take the same opportunity, and steer in the same track: the old males are the first to disappear, but we have seen multitudes of females and young males late in the season still on the downs, as if lingering ere the final step be taken. We suspect, indeed, that this is the case with most of our migratory summer birds; females come before the males, so do they precede both them and the young on their departure. We have seen numbers of the young and females of the red-backed shrike in Sussex at the latter part of autumn, when not a single adult male could be anywhere discovered.

Many circumstances conspire to prove that night is the time in which our migratory birds begin their flight. By night they commence their station; but it is certain, as we have observed, that the birds whose powers of flight do not render them adequate, like the swift or swallow, to take a protracted journey at a stretch. To what part of the world do our summer visitors retire? is a question often asked, and not very easy in all cases to answer. It would seem, however, as far as the researches of naturalists have extended, that Africa is the place of rendezvous to which most direct their course. Senegal is said to be the winter retreat of the swallow, which, with quails, wagsails, kites, and some other birds of passage, are reported by M. Adanson to arrive there after the month of October. During the latter part of September and the beginning of October, myriads of swallows arrive at Gibraltar from the more northern portions of Europe, and migrate daily to the Barbary shore. Their course across the straits is not due south, but inclining to the west, that is, towards Cabrita point. They appear fatigued on their arrival, having most probably crossed the Bay of Biscay (and include more particularly to such as leave our island), and traversed Spain, making very few halts upon the road. It is doubtful, however, whether all our birds of passage retreat to Africa; some probably (and it is perhaps more especially the case with such as dwell during summer on the north-eastern borders of Europe) take up their winter abode in the country between the Black and the Caspian seas; at all events, many of our birds have occurred in collections made in that locality.
Though the swallow and other birds of powerful wing traverse whole realms without much difficulty,—without needing rest,—such is far from being the case with all our migratory visitors, many of which are by no means remarkable for the rapidity or endurance of their flight. These proceed by stages,—they work their way by degrees,—they follow the sun; resting on various places for a longer or shorter period according to the abundance of food and the temperature of the atmosphere. Migration, then, is one of the means employed by Nature for the preservation of animal existence. These feathered beings, unable to sustain, fly from the severities of our northern winter. But there are many animals as little able to withstand the cold as our birds of passage, and from which the winter, in like manner, locks up all supply of food, but which cannot thus leave the winter behind:—how are they provided for? The bat, the hedge-hog, the snail, the lizard, the frog, the small, are in this condition. They hibernate,—they fall into a deep sleep, during which they require no food, and during which, though the vital spark be not extinct, the temperature of the body is reduced very nearly to that of the surrounding atmosphere. The torpidity of hibernation is the preservation of life to a large assemblage of animals. 

Hybernation is either partial or complete. Many animals, as the dormouse for instance, awake now and then from their trance, revived by a little sunshine, creep about, take food, a store of which they have laid up in reserve, and presently relapse into their quiet slumber. The bat indeed occasionally rouses, when a few warmer days than ordinary have occurred, and may be seen flitting in the air. With cold-blooded animals the torpidity is much more intense: the tortoise in the garden has buried himself in the earth, and will not make his re-appearance till the latter end of spring;—the snake and the lizard have retired to their lurking-places in the bank, beneath manure-beds, or stacks of brushwood;—the toad has crept into his hole, and the king-fisher has drawn toward the coast in winter. The beautiful sylviadæ, or warblers, sometimes visit our warmer latitudes. We have mentioned the bat as one of our hibernating animals; several species certainly hibernate, but there is some reason to believe that one or two are migratory, passing perhaps to the southern portions of Europe to hibernate there. Hybernation is by no means peculiar to the animals of northern latitudes; the tameens (cardenés) of Madagascar hybernate from April to November, that is, during the winter there, and are only active during the intense heat of summer. If winter drives some animals to seek a snug retreat in which to doze away the months of cold, or drives others from our shores to seek a more congenial climate, it also brings a large train of visitors from regions yet more northerly than our own, by whose hardy frames our coldest weather is borne with ease and comfort. Our winter birds of passage, with an exception or two, consist of three distinct groups:—hard-billed birds, of the Insessorial order, such as the black-bird, the siskin, the waxen fruits, berries, &c.; birds of the Grallatorial order, which glean their sustenance in our morasses, swamps, and along the margin of the mouths of rivers and inlets of the sea, such as the sandpiper (arenaria calidris), the turnstone (strepsilas interpres), the woodcock and the snipe: birds of the Natatorial order, such as the wild swan, the Brent goose, various species of ducks, the mergansers, &c. All these are driven by the intensity of the cold of an arctic winter to take a southward flight. The degree of latitude at which they terminate their journey depends much on the season; mostly, however, vast flocks content themselves with our middle latitudes, where the inlets of the sea and the mouths of rivers are never locked up by the frost, and where the hedges and coppices afford food and shelter. Many birds, stationary in our island throughout the year, as the thrush and the lark, are migratory in the higher regions of the continent; and hence it happens that every winter brings multitudes from the north to swell the numbers of our permanent residents. Among these we may notice the golden-crested wren (one of the sylviadæ, or warblers), which sometimes visits our island in numerous flocks. It feeds much like the hedge-sparrow (a permanent resident), upon the eggs and the larvae of insects, which it searches for in the crevices of the bark of trees, and in similar situations, adding also berries to its diet. The woodcock and the snipe both breed with us, though not numerous, especially the former; but, as we know, immense flocks visit various parts of our country when the colder weather sets in. At this season, a north-east wind during the night will often bring in multitudes of woodcocks, where, the day before, not a single bird of the kind was to be discovered. Great bodies of woodcocks rest merely for a few days with us, and then proceed, by a nightly departure, still farther southward.

Besides the migrations of which we have been speaking, there is also a partial migration to be observed in many birds which never leave our shores. It consists in a departure from the interior of the country to the borders of the sea, or to the mouths of the larger rivers. The golden plover (chorodrius pluvialis), which breeds in the upland districts, mountains and high moorlands, spends the winter in flocks on the downs and the lowlands that border the sea; the same may be said also of the lapwing (anellus cristatus), which draws towards the coast in winter. The beautiful king-fisher is another example; this bird, which frequents clear brooks and rivers, in the banks of which it rears its young, gradually migrates down the stream till it arrives near the river's embouchure, where it sometimes dines during its flight, and from which it then draws toward the coast in winter. The beautiful sylviadæ, or warblers, sometimes visit our warmer latitudes. We have mentioned the bat as one of our hibernating animals; several species certainly hibernate, but there is some reason to believe that one or two are migratory, passing perhaps to the southern portions of Europe to hibernate there. Hybernation is by no means peculiar to the animals of northern latitudes; the tameens (cardenés) of Madagascar hybernate from April to November, that is, during the winter there, and are only active during the intense heat of summer. If winter drives some animals to seek a snug retreat in which to doze away the months of cold, or drives others from our shores to seek a more congenial climate, it also brings a large train of visitors from regions yet more northerly than our own, by whose hardy frames our coldest weather is borne with ease and comfort. Our winter birds of passage, with an exception or two, consist of three distinct groups:—hard-billed birds, of the Insessorial order, such as the black-bird, the siskin, the waxen fruits, berries, &c.; birds of the Grallatorial order, which glean their sustenance in our morasses, swamps, and along the margin of the mouths of rivers and inlets of the sea, such as the sandpiper (arenaria calidris), the turnstone (strepsilas interpres), the woodcock and the snipe; birds of the Natatorial order, such as the wild swan, the Brent goose, various species of ducks, the mergansers, &c. All these are driven by the intensity of the cold of an arctic winter to take a southward flight. The degree of latitude at which they terminate their journey depends much on the season; mostly, however, vast flocks content themselves with our middle latitudes, where the inlets of the sea and the mouths of rivers are never locked up by the frost, and where the hedges and coppices afford food and shelter. Many birds, stationary in our island throughout the year, as the thrush and the lark, are migratory in the higher regions of the continent; and hence it happens that every winter brings multitudes from the north to swell the numbers of our permanent residents. Among these we may notice the golden-crested wren (one of the sylviadæ, or warblers), which sometimes visits our island in numerous flocks. It feeds much like the hedge-sparrow (a permanent resident), upon the eggs and the larvae of insects, which it searches for in the crevices of the bark of trees, and in similar situations, adding also berries to its diet. The woodcock and the snipe both breed with us, though not numerous, especially the former; but, as we know, immense flocks visit various parts of our country when the colder weather sets in. At this season, a north-east wind during the night will often bring in multitudes of woodcocks, where, the day before, not a single bird of the kind was to be discovered. Great bodies of woodcocks rest merely for a few days with us, and then proceed, by a nightly departure, still farther southward.

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In consequence of the intimate connexion which subsisted between England and Normandy during the long period in which they were united under the same crown, the usages and manner of life of the present inhabitants of that province seem to have peculiar claims upon our attention. These claims are the stronger as it happens that they are a very primitive race, attached to old habits, old costumes, and all old things. This might enable us to discover circumstances in Normandy to which the origin of similar things in England may be traced, and other circumstances which the influence or example of England may have operated in producing. It is a pity that sojourners and travellers in Normandy have not furnished materials by which this most interesting view of the subject might be elucidated. They have however supplied a mass of information, some points of which may advantageously occupy three or four articles in the 'Penny Magazine,' each of which will be illustrated by a wood-cut.

Normandy is a country which in its general features has often been compared to England; and certainly there are sufficient points of resemblance to justify the comparison. The comparison holds in respect of climate, in the extent of undulating plains with few mountains, in the excellence of the pasture, and in common vegetable products. The climate of Normandy is rather drier, and has a little more warmth and steadiness of atmosphere, than that of England; but the same winds prevail, and produce the same effects, and the seasons are nearly similar. Agriculture is, however, in a comparatively backward condition, from the want of capital and the absence of improving example, rather than from any lack of ingenuity in the cultivator. The farms are small, and a much larger proportion of the population is dispersed over the country in small villages and petty places than in England.

The villages are mostly situated in bottoms, the cottages being built with mud and covered with thatch. In the great towns most of the houses are of wood and plaster. A great deal of timber runs upwards, downwards, and crosswise; the first story of the building projecting over the ground-floor, and the second-floor over the first, the roof being pointed with large stacks.
of brick chimneys at each end. A traveller, who was in Normandy about eighty years since, makes a remark upon these houses which is worth transcribing: "Many of their old houses, when they are pulled down, have a great deal of chestnut-wood about them; and as there are no forests of chestnut-trees in Normandy, the inhabitants have a tradition that this wood was brought from England, and there are some circumstances which, when rightly considered, add strength to this tradition. Many of the old houses in England contain a great deal of this kind of timber. Several of the old houses in London, particularly the Black Swan Inn in Holborn, situated near Fetter Lane end, (which exceedingly resembles the houses in Normandy,) and many others in the neighbourhood; and most of the ancient houses in Cheshunt, in Hertfordshire, so named, as some etymologists tell us, from the quantity of chestnut-wood that plied here built of this wood. There are also some woods and woody places in England called Chestnut-wood, particularly one near Sittingbourne in Kent, although no wood is now growing there. Many houses in Hertfordshire, Rutlandshire, and other counties of England, are of the same kind in figure and materials; and indeed Normandy does so nearly resemble Old England that the English traveller could scarcely believe himself to be in England; time has diminished this resemblance, so far as the houses are concerned; for while houses continue to be built in Normandy as in former times, similar buildings of wood and plaster, with projecting stories are rapidly disappearing from our own towns, although a few still survive in London, and some in the older provincial towns. A variety of the same species of house is mentioned by Mr. Dawson Turner. It consists of a frame-work of wood, with the interstices filled up with clay, in which are imbedded small pieces of glass, disposed in rows, for windows. The wooden sheds are preserved from the weather by slates, laid one over the other like the scales of a fish, along their whole surface, or occasionally by wood over wood in the same manner. At one end the roof projects four or five feet beyond the gable, in order to protect a doorway and ladder, or staircase, that leads to it; and this elevation has a very picturesque effect. A series of villages consists of these cottages, and these are connected one with another from Yvetot to Rouen, and may be seen in other parts. The gentry usually occupy houses of stone in the towns, such things as country-seats being rarely seen.

The farms, as already intimated, are rarely large, scarcely ever exceeding 100 acres. The buildings attached to the dwelling-houses on a farm are very extensive, as neither corn nor hay are ever stacked out of doors; but they are very indifferently built. The implements of agriculture are in a very primitive state: the ploughs are heavy, the harrows continue to have wooden teeth, the threshing-machine is not known, and the fan for winnowing corn has only partially been introduced. Nothing can be more simple than the mode of life at these farm-houses, and among the labouring population at large. Their food is bread, a few vegetables, and cider. Animal-food is never or very rarely used; but coffee and treacle are among the articles which the common people use. Cider is extensively drunk by the whole population, and has an antiquated appearance. This is true also of all the various classes of the population, except the gentry and affluent citizens, who live and dress much in the same way as Parisians of the same rank in life. Some of the peculiar costumes of the province will hereafter claim our notice more particularly.

Having mentioned cider as a common beverage, we may add that apple-trees are extensively planted in this province, both those of the road being lined with orchards for miles together. The plantations are generally in large open fields, in which the trees grow about fifteen feet apart. "The apple-tree and pear-tree in Normandy," says Mr. Turner, "far from being ugly, and distorted and stunted in their growth, as is commonly seen in England, are trees of great height and symmetry, both in foliage and ramifications. The Coecus, too, which has caused much destruction among our orchards, is still fortunately unknown here." The cider of Normandy is famous all over France. It is chiefly produced in the western portion of the province, where scarcely any other beverage is used by the lower classes of the inhabitants. The cider of the first pressing is of a strong quality, but that of the second pressing is much inferior. The cider does not seem to be much relished by English travellers, who, however, are by no means agreed in the grounds of their dislike.

Another common object of cultivation in Normandy is flax. There are few farmers who do not raise more or less of it upon their grounds; and they get it carried through the different processes of manufacture by their family on their own premises. A stock of linen thus manufactured in general forms the chief portion, if not the whole, of a young woman's dowry; and it is there considered as a great object with unmarried girls to accumulate as large a stock of it as they possibly can. This linen is of a coarse and strong quality, and forms the most general branch of manufacture in Normandy. Lace also is an important object of manufacture, and gives employment to a great proportion of the female population in different parts of the province. Men and women in Normandy generally marry young; but they never do so till they are in some regular employment. A labourer earns on an average 24l. a-year, on which he can subsist comfortably. The wages of a weaver are about 3l. a-year. The young girls, however, are by no means agreed in the grounds of their dissatisfaction at the general absence of the hedge which is nodoubt owing to the superiority of its site.

The horses are of small size, with long tails, and in very fair condition. They have a low build much greater than might be expected from their size. The mules are larger than ours. The cows are small; but give a good supply of milk. Oxen are generally employed in ploughing. Sheep are abundant, and their flesh is good. Turner says, "Throughout this part of France, large flocks of sheep are commonly seen in the vicinity of the sea, and as the pastures are unclosed, they are all regularly guarded by a shepherd and his black dog, whose activity cannot fail to be a subject of admiration. He is always on the alert and attentive to his business, skirting his flock to keep them from struggling, and that apparently without any directions from his master. In the night they are folded upon the ploughed land, and the shepherd lodges, like a Tartar in his kibitka, in a small cart, roofed and fitted up with doors." Normandy supplies Paris with great quantities of cattle, corn, butter, and cider, as well as with its manufactures of linens. A great part of the revenue of the capital is carried on exclusively by land-transport. The high roads, being kept in repair at the expense of the government, are broad and in good condition, being paved wherever the boggy character of the ground renders it expedient; but the by-roads are here, as in other parts of France, in a very wretched condition, being very seldom repaired. The English eye, which is seldom easily pleased, is apt to be dissatisfied at the general absence of the hedge-rows which in England line the roads and separate the fields. The extensive fisheries on the coast not only
THE SAPPHIRE GROT.

(From Dr. Hogg's Visit to Alexandria, Damascus, &c., vol 1, p. 18.)

In the 147th Number of our Magazine we gave a description of the island of Capri, and of the remarkable natural grotto that has been discovered there. That account was written by a gentleman who had frequently visited the island, but as the grotto was unknown in his time, he took a short description of it from Mrs. Starke's useful Guide to Travellers in Italy. A fuller account has just appeared, and as the subject is interesting, (the grotto attracting many visitors to Capri who never thought of going there before,) and as the author has given a clear explanation of the phenomenon, we extract the passage for the benefit of our readers.

"The sapphire grot at the northern extremity of the island of Capri having only been lately re-discovered, of course excites considerable attention. The sole entrance to this remarkable cavern is a small semicircular opening, close to the edge of the water, at the base of an almost perpendicular cliff, which dips from a great height into the sea. In form it closely resembles the mouth of an oven, which it exceeds but little in size; yet immediately within it enlarges into a grotto of considerable dimensions, with an arched roof that spans, like a dome, a placid expanse of water of the deepest azure. A signal being made, a long narrow boat, specially constructed to convey visitors within the cave, pushes from the shore; but the entrance can only be effected when the weather is perfectly calm, and at the favourable moment of the reflux of the waves. The visitor now places himself below the edge of the boat, which two guides adroitly and speedily conduct through the narrow passage. He then finds himself in a spacious circular cavern, into which the direct rays of light only penetrate through the aperture by which he has entered; and this not being more than four feet either in height or breadth, the space within would be a mere gloomy and obscurer recess, were it not so amply flooded by a deluge of light from all other sources of light within caverns, by the peculiarities which has conferred upon it the name of the Sapphire Grot. To understand this it must be remembered, that the entrance to this singular cave is to be considered as the apex of a subaqueous arch, springing on one side from the bottom of the sea, and on the other from a ledge of rock near the surface of the water. Thus the greater part of the light within is derived from the rays that pass through the blue waters of the surrounding ocean. By this denser medium some of these rays are intercepted and absorbed, while the remainder, refracted by passing through the water, and then reflected upwards from the bottom, diffuse a rich blue colour over the roof and sides of this beautiful grotto, which is finely varied in appearance by the direct rays that pass through the entrance, as they fall on the undulating surface of the waves within.

The singular effect of light thus passing through an aqueous medium is here further illustrated by the shadow of the boat being thrown up upon the roof of the cave, as well as by an experiment, easily made, of closing entirely the entrance of the grot, which increases the intensity of the rich cerulean tints that so conspicuously distinguish it. That portion of the cave which is filled by the sea, does not possess a width of perhaps more than seventy or eighty feet, yet the imagination is so powerfully aided by the blue aèrial perspective, that it requires a positive exertion of the reasoning faculty to form a correct estimate of its real dimensions.

"At the farthest extremity of the cavern, a wide and shelving portion of rock affords a convenient landing-place, beyond which are some vestiges of steps. These appear to lead to the termination of a subterraneous entrance from the island, now obstructed with rubbish, and hitherto unexplored, as it cannot be supposed that the present opening to this remarkable grotto escaped the notice of the ancients, or that the imperial votary, who sought with such avidity new sources of enjoyment, neglected, during his long residence here, the advantages presented by a cavern apparently designed by nature to contribute to royal luxury.

SEA TERMS.

(From the Journal of a West India Proprietor, by M. G. Lewis.)

"Windward, from whence the wind blows; Leeward, to which the wind blows; Starboard, the right of the stern; Larboard, the left of the stern; Starboard helm when you go to the left; but when to the right, instead of larboard helm a port; Luff you may, go nearer to the wind; Then (thus), you are near enough; Luff no near, you are too near the wind; The tiller, the handle of the rudder; The capstan, the weigher of the anchor; The buntines, the ropes which move the body of the sail, the bunt being the body. The halyards, those which spread out the sails and make them swell. The ratlines, the rope ladders by which the sailors climb the shrouds. The companion, the cabin-head; The reef, the divisions by which the sails are contracted; The fore, main, mizen-mast; The topsails, additional sails, spread for the purpose of catching all the wind possible; The fore-mast, main-mast, mizen-mast; Fore, the head; Aft, the stern; Being propped, having the stern beat in by the sea; To belay a rope, to fasten it. The sheets, a term for various ropes; The yardarms, ropes which extend the top-sails. The painter, the rope which fastens the boat to the vessel.

Tests of Folly.—Æneas Sylvius, amongst many others, sets down three special ways to find a fool by. He is a fool that seeks that he cannot find: he is a fool that seeks that, which, being found, will do him more harm than good: he is a fool that having variety of ways to bring him to his journey's end, takes that which is worst. "If so," says Burton, "no man thinks most men are fools." The first test, however, is a very bad one, in our opinion: for how is a man to know that a thing is not to be found until he has sought for it; and a man in seeking what is not to be found, often finds something as good or better than that which he sought.

Anxiety of a Mother for the Education of her Children.

"The truth of the following anecdote comes within my personal knowledge. A few years ago a poor woman, in a small village on the west coast of Scotland, was, by her husband's death, left dependent on her own exertions for the support of herself and four children, the eldest of whom was about eleven years of age. Unable to bear the expense of educating each in the customary way, and yet eager that they should be instructed, she bargained with the village schoolmaster that for the price of teaching one, he would allow two to attend the school alternately, one on the one day, and the other the next; by this ingenious device she procured for both of them the invaluable blessing of education, and furnished striking instance of the honourable shifts by which the poor can acquire for themselves advantages which are seemingly beyond their attainment.—

Duncan's Travels through Part of the United States and Canada,
Having, on a previous occasion, noticed the history of the fables of Bidpai, in Persia, it does not seem desirable to proceed to the apologues of another country until we have noticed that extraordinary and characteristic collection of poetry and prose,—of fables, tales, and apophthegms,—called the Gulistan, or 'Rose-garden;'—a work which is intensely admired wherever the Persian language is spoken, and which is known far beyond the limits of that tongue, having been translated into various European languages, and, among the rest, into our own. We have a complete translation by Mr. Gladwin, and translations of parts by various hands. The author seems to have been conscious that his work was destined to last. After having alluded to the fact that the physical rose-garden is of transitory duration, he says—"I am able to form a book of roses which will delight the beholders, and gratify all who are present; whose leaves the tyrannic arm of the autumnal blasts can never affect, nor injure the blossoms of its spring. What benefit will you derive from a basket of flowers? Carry a leaf from my garden. A rose may continue in bloom for five or six days, but this rose-garden will flourish for ever." In an European author, this would not be a modest appreciation of his own powers; but modesty is not a virtue expected in an Oriental author; and in this instance the merit of the work, combined with the fact of its continued and increasing popularity after a lapse of more than six centuries, seems sufficiently to warrant the terms in which he speaks of his own production. The work consists of a great number of tales, fables, and conversational anecdotes, many of which are very fine, and all written with exquisite beauty of language, to which no translation can do justice. These are profusely interspersed with beautiful maxims and admirable moral precepts, mostly conveyed in verse; giving to the whole the semblance of one of those rich and beautiful mosaics which are numbered among the most exquisite productions of Persian art.

The name of the author was Saadi, a native of the city of Sheeraz. There is no literary name in this country—not even that of Shakspeare—the popularity of which admits of the least comparison with that of this author in Persia. His name and his sayings are as household words throughout the nation—from the king on his throne to the muleteer by the wayside. The latter in answering your remonstrances, and even the beggar in soliciting alms, will give utterance to some appropriate passage from the Gulistan; and probably would, if he were asked,—and will often without asking,—repeat verbatim the stories and anecdotes which it contains. In fact, to be instructed in this work forms an essential part of education; and even those without education contrive to get their memories stored with choice passages from this moralist, and from the lyrical poet Hafiz. There is no estimating the degree of influence which this practice has had in preserving some degree of refinement and right feeling in Persia throughout all the barbarous and debasing circumstances with which its history is replete; and there is no question that the intimate acquaintance which the princes of that country are made to form very early in life with the often bold and honest morality of Saadi, has had much effect in subduing the natural intoxication of absolute power, and in softening that hardness of character and feeling which it is calculated to produce. It is only in such a country as Persia that the influence of such an author as Saadi, and of such a work as the Gulistan, can be well estimated; and it is perhaps only in such a country that the same degree of influence could have been acquired.

Our space will not at present allow us to notice the
and asked how this was brought about. The philosopher replied, 'At first he had never experienced the danger of being drowned; neither knew he the safety of a ship.' In like manner, he knew the value of prosperity who had encountered adversity. O thou who hast satisfied thine hunger, to thee a barley-loaf is beneath notice; that seems loveliness to me which in thy sight appears deformity. To the nymphs of paradise purgatory would be hell; but ask the inhabitants of hell whether purgatory is not paradise.'

The next, which is from the second chapter, conveys a very useful lesson, and is also interesting for the personal anecdote it contains. "I remember that in the time of childhood, I was very religious: I rose in the night, was punctual in the performance of my devotions, and abstinent. One night I had been sitting in the presence of my father, not having closed my eyes during the whole time, and with the holy Koran in my embrace, whilst numbers around us were asleep. I said to my father: 'Not one of these lifteth up his head to perform his genuflexions; but they are all so fast asleep that you would say they are dead.' He replied, 'Life of your father, it were better if thou also wert asleep than to be searching out faults of mankind. The boaster sees nothing but himself, having a veil of conceit before his eyes. If he was endowed with an eye capable of discerning God, he would not discover any person weaker than himself.'

Our next extract is from the third chapter, on Contention. The lesson it teaches is one of those universal truths which every man under the sun might study with advantage. "They asked Hatim Tai if he had ever seen or heard of any person more noble-minded than himself. He replied:—'One day, after having sacrificed forty camels, I went along with an Arab chief to the skirt of a desert, where I saw a labourer who had made up a bundle of thorns. I asked him why he did not go to the feast of Hatim Tai, to whose table people were repairing in crowds? He answered, 'Whosoever eateth bread from his own labour will not submit to be under obligation to Hatim Tai.' I considered this man as my superior in generosity and liberality.'"

Our next extract is from the sixth chapter, and, like a former passage, contains a personal anecdote equally cast in the form of a parable. It is related that Nousheerwan, being at a hunting-seat, was about to have some game dressed, and as there was not any salt, a servant was sent to fetch salt from a village; and the monarch ordered him to pay the price of the salt, that the exaction might not become a custom, and the village be desolated. They say unto him, 'From this trifle what injury can arise?' He replied, 'Oppression was brought into the world from small beginnings, which every new comer has increased, until it has reached this degree of enormity. If the monarch were to eat a single apple from the garden, the servants would pull up the tree by the roots; and if the sultan orders five eggs to be taken by force, his soldiers will spit a thousand fowls. The iniquitous tyrant remaineth not, but the curses of mankind rest on him for ever.'"


In furnishing a few extracts from the translations of the Gulistan, it is necessary to premise that the verse of the original is included in the prose of the translation, without being distinguished from it. It is no small merit of Saadi, that his style, although sufficiently ornamented, is simplicity itself, compared with that highly embellished accumulation of figurative expressions, which is considered in Persia at the present day as the crowning merit of literary composition. The following apologue, on the benefit of good society, may be quoted as a fine illustration of the simplicity we mention.

"A little man, being struck with a pain in his eyes, say unto him, 'From this trifle what injury can arise?' He answered, 'I was a despicable piece of clay, but I was some time in the searching out faults of mankind. The boaster sees nothing but himself, having a veil of conceit before his eyes. If he was endowed with an eye capable of discerning God, he would not discover any person weaker than himself.'"

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[NOVEMBER 28, THE PENNY MAGAZINE.

462

weighty matter, besides suffering repentance, will, in the opinion of the wise, be considered of a weak understanding. The wise man, of enlightened mind, intrusts not an important business to one of mean abilities. The mat-maker, although a weaver, is not employed in the silk-manufacture.”

The eighth and last chapter consists chiefly of miscellaneous advice, which would not well come under the previous heads. We can only quote from this part the following anecdote, which affords a pleasing illustration of the dulity and prudence of the camel.

“It is well known that if a child lays hold of the bridle of a tractable camel he may be led a hundred parasangs without being in the least disobedient: but if the road becomes dangerous and threatens death, and the child, through ignorance, wants the camel to go that way, he slips the bridle out of his hand, and will not obey him any longer; because in the time of danger courteousness is a crime.”

These extracts will serve to give the readers of the ‘Penny Magazine’ some idea of the character of one of the principal classical works of the Persian nation, than which there is probably no work in existence which has had a more abiding and active influence in correcting that which is bad, and improving that which is good, in the character and feelings of a people.

Our present wood-cut is an illustration of the well-known and useful fable of the 'Dog and Shadow.' We give the quaint old version which we find in the edition of 1658. “He that coveteth other men's goods, he often loseth his own; whereas Esop relateth this fable. In time past there was a dog which went over a bridge, and held in his mouth a piece of flesh; and as he passed over the bridge he beheld the shadow of his own self, and of his piece of flesh within the water; and he, thinking that it had been another piece of flesh, forthwith he thought to have taken it; and as he opened his mouth, the flesh fell into the water, and thus he lost it. Right so is it with many an one; for when they think to rob another, they lose that they have of their own.”

LITTLE THINGS.

Although this is an apparently insignificant title, yet it embraces a field of such extent and importance, that it may well be approached with dilidence and anxiety. The mind of the writer, however, having been, on many occasions, deeply impressed with the subject, and never having seen it expressly dwelt on by any author, he feels impelled to lay before the readers of the ‘Penny Magazine’ what has occurred to him in relation thereto.

Things small in themselves are often great in their consequences. — Inattention to this truth has led, especially in less civilized periods, to the ridicule or neglect of many both of the subjects and instruments of knowledge, and to the consequent retardation of the progress of knowledge itself. The smallness and seeming insignificance of the objects of examination appeared to be sufficient reasons for treating them as utterly unavailing towards any useful purpose. The coxcomb insect and the silk-worm egg are in themselves insignificant enough, yet are they the source of employment and wealth to multitudes. The same erroneous view of things caused, and still causes, those who employ a portion of their time in attending to such matters to be despised as weak persons by the uneducated and the unreflecting. There is no show, nothing to strike the imagination, about their pursuits. The path to knowledge, however, consists of a long series of slow and painful steps, which must be successively trodden. The brightest achievements of science — those which arrest the attention of the most careless and uncultivated—are the offspring of slight observations recorded in the course of centuries — of failures and even of errors innumerable. Such, indeed, is the condition and imperfection of the human mind, that even the most absurd views and opinions have frequently led to the discovery of highly important truths, while servant and improving systems, fair enough to look upon, have served only to lengthen the reign of error. Witness the labours of the alchemists in search of the philosopher's stone; labours insane in themselves, but which through the incidental, though at the time disregarded, discovery of many truths relating to the nature and properties of substances, have become the parents of modern chemistry with all its wonderful power.

On the other hand, one of the great impeding causes of the progress of science and true philosophy was the neglect of little things — a neglect of the observation of humble facts, and substituting in lieu of them regularly-built systems, becoming "the dignity of human nature," as was said. The great characteristic of modern philosophy, and that by an attention to which knowledge has in our times made such rapid progress, is a zeal in collecting facts, and a determination to deduce theories from them, instead of adapting facts to ready-framed theories. All the great improvers of mankind have been distinguished by a curious attention to observation. Newton was pre-eminently so. The story of the falling apple will be readily recollected.

In perusing a modern work of credit on any branch of knowledge, we are struck with the clearness of statement, with the accumulation of facts brought to bear on the subject, in short, with the general luminousness and utility of the treatise. For a few shillings we obtain an inestimable practical guide. Towards this result the labours of 100,000 individuals probably have contributed, from the humble collector of weeds by the wayside to the ablest professor in the highest perfection of the steam-vessel, or to reducing the exes of wine, and then by chance placed very near the fire, (and of his piece of flesh within the water; and he, thinking that it had been another piece of flesh, forth) by which such a work has been at last produced be at a glance placed before the mind's eye, we should be overwhelmed with astonishment, and penetrated with regret and shame if we have been hitherto numbered among the deriders of little things. The same may be said of the wonders of the modern age. Can the progress of any science, now far advanced towards perfection, be traced backwards, the multitude of small and gradual accessions, and the trivial occasions of many of them, would confound the most reflecting. Everyone can feel both surprise and admiration at witnessing the progress of a steam-vessel advancing rapidly against the opposing forces of both wind and tide; yet there are few who duly appreciate observations such as that which gave the first hint of the mighty power of steam, namely, plunging into cold water an inverted bottle, (which had been just emptied of wine, and then by chance placed very near the fire,) from which steam was then observed to issue. Many a present admirer of the steam-vessel would laugh at the observer of any similar fact. Steam, however, is but one—the principal, no doubt—among the many requisites for such an admirable machine. The ship-builder, the iron-founder, the cordage-manufacturer, the ship's-gunner, the number of men who have contributed to the success of this great and mighty work might be counted, whose services are indispensable, and an improvement in one of whose branches tends to the greater perfection of the steam-vessel, or to reducing the expense of the accommodation afforded by her to the public, or to both these objects. Almost every great machine now in use was at first so inferior, that its first form would now be thrown aside with contempt.
From such a view only of the subject can we justly estimate the importance of little things.

Persons not much accustomed to such inquiries, and whose occupations are not connected with any walk of science or literature, frequently believe, with much sincerity, that learning and knowledge generally, except what directly bears on the particular pursuit of the individual, are useless. *Cui bono?* say they. Of what use is it? They are not aware that all branches are connected together, more or less intimately, and that the philosopher in his study is preparing employment for the operative man in the manufactury or workshop—that he is in fact contributing to the stock of comforts and benefits enjoyed by mankind. If a brewer, for example, had been shown 200 years ago a little coloured liquid moved up and down in a tube by the expansion or contraction of the air within, as the hand might be applied or removed, and had been told that at some time such an instrument might be found useful in business, he would have thought the speaker mad. Yet this was the first thermometer, without which his business, and many others, could, at present, hardly be carried on. The indirect effect of observations and consequent discoveries, is indeed equal at least to their more immediate results. "The hand cannot say to the foot, I have no need of thee." Lemon-juice enables us to circumnavigate the globe. It is useless for navigation, but is found to be an effectual preventive of the sex of the sailor. Lemon-juice prevents rust; it makes new iron fresh for a length of time by putting them ready-cooked into vessels from which air is excluded, is of nearly equal importance for the same purpose. Yet without the air-pump we should probably have remained without the latter. The observer of any physical fact, or the discoverer of any physical truth, cannot even guess what effect his labours may have on branches apparently the most remote? The term star-gazer is, or was, one of popular ridicule; yet the art of the star-gazer, or astronomer, is essential to navigation, and consequently to commerce. But for his long-continued labours, seamen would be incapable of guiding their vessels over the ocean, and of thus exchanging the produce of one country for that of another. Many a rich merchant and manufacturer owe their fortunes to the star-gazer. The chronometer, the greatest present, next to the compass, ever made by science to navigate, is the child of star-gazers. Without them, man might fill a number of the *Penny Magazine* in showing how many branches are required for the completion of the chronometer, and how many slight observations made by persons whose pursuits were wholly unconnected with that instrument have tended materially to its present state of excellence, and therefore to the extension of commerce. Yet as the visionary labours of the alchemists laid the foundation of modern chemistry, so astronomy was for ages supported and advanced for the purposes of still more visionary and intellectual objects, and the latter no longer seek to be delivered from them. The ores of various metals have indeed been discarded as rubbish by the working miner on many occasions. A mine is worked for a particular mineral. In the course of the operations some other mineral, more valuable perhaps than the original object of search, is discovered. Being unknown to the workman it is rejected with other waste. By-and-by some mineralogist comes round picking up "bits of stone" here and there, and is astonished to find a valuable ore treated as refuse. On inquiry it turns out that the miners were ignorant of both its name and importance. In England the application of coal for smelting, and of steam for blast-furnaces, form two grand epochs in our mining history, yet from what slight circumstance did both originate?

Should an unreflecting person be asked what is the first step towards obtaining a loaf of bread, he would probably answer—"To get a shilling," or some equally inadequate reply would be given. The first step in reality is that a tree should be planted, either by the hand of nature or of man. Thence is obtained a material for the hoe or plough, and also for the miner, whose art, together with those of the carpenter, the smelter, the founder, the smith, the road-maker, the navigator, the natural historian, the chemist, the mineralogist, and finally the practical agriculturist, with many others, is essential to the production of good and cheap bread. Every little thing, therefore, which improves any one of these branches contributes so far towards the production of a loaf of bread.

Even those pursuits which appear to be most remote from the common arts of life and the employments of the operative labourer, often bear essentially thereon. Thus the classical scholar of the fifteenth and following centuries, by his labours in hunting out and preparing for the press dusty manuscripts, placed before mankind good editions of the ancient Greek and Latin authors. The perusal of these models was the commencement of modern civilization. It produced or fostered that state of mind which is essential to an adequate knowledge of the phenomena of nature, and to the cultivation of science generally. These have been already shown to be intimately connected with the common arts of life. The cultivation of letters also draws men off from warfare, once almost the only occupation of the rich, and gives them other pursuits. It leads nations to value the arts of peace: it tends, too, to expel those absurd prejudices which have so seriously injured mankind, and which also often arm them against each other and their own interest. To the formation of enlightened legislators the improvement of the mind through books and observation is essential; and it is almost needless to observe, that wise laws (among which must be included the absence or repeal of foolish ones) are indispensable to the profitable exercise of industry. The astronomer, again, by foretelling eclipses accurately, and by explaining the true nature of comets.
and other celestial phenomena, has helped to deliver men from those terrors so common in ignorant ages, and of which the serious practical effects are well known to every student of history. Even the antiquarian and the metaphysician also contribute their share of practical usefulness.

It may be instructive to enumerate, with a few comments, some of those little things which have had a marked influence on the destinies of mankind, and which have, by their consequences, changed for the better the course of human affairs.

That property of the loadstone by which it points north was discovered in the eleventh century. The observation of this apparently trifling matter has led to the whole course of modern navigation and maritime discovery. Neither American nor Australian colonies could have afforded a resource for a superabundant population but for this. Tea, coffee, sugar, tobacco, and how many other articles have been hereby rendered accessible to all classes, while nations have been enriched by the traffic in them! To take a higher view of the subject:—the way has thus been opened for sending missionaries, as the heralds of Christian truth and all its attendant blessings, to heathen nations.

The art of printing, probably the parent of more good than all others, owes its origin to rude impressions taken (for the amusement of children) from letters carved on the bark of a beechni-tree. This was a slight matter, which thousands would have passed over with neglect.

Gunpowder was discovered from the falling of a spark on some materials mixed in a mortar; or perhaps we should rather say that artillery was the consequence of this spark, and the due observation of the circumstance. Some persons may not consider this discovery to be any great advantage. To this, however, aided by the arts of the miner, the founder, the chemist, and others, we owe that perfection of modern artillery which preserves Europe from the irruptions of barbarians, so fatally destructive during a long period, and by which her surface became almost a desert. Uncivilized warriors cannot long compete with artillery scientifically directed. Internal order has also been obtained by the same means, since no person, however powerful, can now hope to resist the government of his country, and make spoil of his peaceful neighbors. Before the invention of army Lists, great subjects often fortified their castles with success against their sovereign, and disturbed public order. The nobility of Europe at that time never abstained from warfare on each other, and consequent rapine, but at certain seasons, or on certain days of the week. Thus, by the change introduced through gunpowder, those pursuits have been protected which require security for their exercise, and to which we owe all the wealth and commodities of modern times. War, as it is now carried on between nations, is a trifling evil, when compared with the state of things before the invention of artillery.

The stupendous results of the steam-engine may all be traced (as noticed above) to an individual observing steam issuing from a bottle just emptied and placed casually close to a fire. He plunged the bottle-neck into cold water, and was intelligent enough to notice the instant evaporation which ensued from this simple condensing apparatus.

Electricity was discovered by a person observing that a piece of rubbed glass, or some similar substance, attracted small bits of paper, &c. Galvanism again owes its origin to Madame Galvani's noticing the contraction of the muscle of a skinned frog, which was accidentally touched by a person at the moment of the professor, her husband, taking an electric spark from a machine. He followed up the hint by experiments. Pendulum clocks were invented from Galileo's observing the lamp in a church swinging to and fro. The telescope we owe to some children of a spectacle-maker placing two or more pairs of spectacles before each other, and looking through them at a distant object. The glimpse thus afforded was followed up by older heads. The barometer originated in the circumstance of a pump, which had been fixed higher than usual above the surface of a well, being found not to draw water. A sagacious observer hence deduced the pressure of the air above the surface of the atmosphere. The Argand lamp was invented by one of the brothers of that name having remarked that a tube held by chance over a candle caused it to burn up with a bright flame—an effect before unattainable, though earnestly sought after. Without the Argand lamp, light-houses (to pass over minor objects) could not be made efficient, and on the importance of these it is needless to dwell.

Every one can now appreciate the importance of the slight matters above referred to, because the great results are before the world. Yet we know that the observers of them were, for the most part, treated with ridicule or contempt at the time. We know also that any failure in similar experiments is too often regarded with malicious delight. Since such great discoveries have been made from the due observation of trifling accidents, we should encourage, instead of despising, those who notice the phenomena of nature under all circumstances, however unimportant some of them may appear. In the small building which was once Peter the Great's workshop in Holland, is the inscription "Nothing is too little for the attention of a great man."

It may be objected by the reader that these remarks relate to the cultivation of knowledge generally, of which he well knows the importance, and wonders to hear little things so much dwelt on. But it is plain that science and the arts depend for their progress on the observation of many small matters; on an attention to obscure and often trifling objects and occurrences; and that he who throws ridicule on these, does in effect, as far as his influence may extend, deprive men of the numerous advantages for both body and mind which the cultivation of knowledge affords.

Newspapers.—Plutarch notes that the country people were very busy in inquiring into their neighbours' affairs. The inhabitants of cities thronged the court and other public places, as the Exchange and Quays, to hear the news. The old Gauls were very great newsmongers; so capable, says Caesar, of stopping the progress of news. He was in his day, says he, the most assured of news, and the most important of them all. The Argand lamp was the first means by which the news was conveyed to the remotest part of the world. The English Mercury, then, as afterwards, in the shape of a pamphlet, appeared in the reign of Queen Elizabeth. Fosbroke.

LONDON.—CHARLES KNIGHT, 22, LUDGATE STREET, Printed by WILLIAM CLOWES and Sons, Stamford Street.
THE CAPITALS OF RUSSIA.
Ancient Capitals.—Although Moscow is called the ancient capital with respect to St. Petersburg, it is, in chronological order, but the fourth of the five cities to which metropolitan dignity has been successively annexed. The first was Novgorod, near the lake Ilmen, which is connected, by the river Volkhov with the lake Ladoga, and is only 100 miles south by east from the present metropolis. This was a town of great commercial importance, and the original Slavonian metropolis, before the annals of the Russian monarchy commence, about the middle of the ninth century. Previously to this time the coasts of the Baltic were occupied by an enterprising and warlike Scandinavian tribe called the Varangian, who brought under subjection all the different nations in this quarter—the Slavonians among the rest. The latter, however, ultimately shook off the yoke, defeating the Varangian in battle; but at the same time a marriage was contracted between the Varangian prince and the daughter of the leader of the Slavonian chief magistracy of Novgorod, called Gostomielz. After this the Slavonians fell into desperate confusion from internal dissensions, and its chief thought it right to take the dying advice of Gostomielz, who said,—"I see no union among you; you wish to be your own governors, but you are governed by your passions; the great Novgorod will perish if you do not choose princes worthy of ruling you. My three sons are dead, and your only hope of safety is in my nephews, the Varangian princes Rurik, Sinna, and Hardeker." The circumstances were the issue of the marriage just mentioned. The principal citizens repaired to them, saying,—"Our country is large and fruitful; come and govern it according to our laws." The old record, from which Segur quotes this account, adds, that "the princes hesitated, for they knew the pride and licentiousness of Novgorod." It is very likely that the whole story is a fabrication to soften the actual conquest by the Russians*, who, under Rurik, certainly did come at the time indicated, and established a dynasty which reigned in the country about 700 years, and gave it the name it now bears. Novgorod became the capital of the new empire; and before this, and also long after, when, as a republic, it overawed the numerous sovereignties into which Russia became divided, it was of such power that the saying was proverbial,—"Who can withstand God and the great Novgorod." Its greatness has long departed; and its present population does not exceed 15,000. In former times it is said to have amounted to 400,000; but this estimate probably included the numerous strangers who resorted to it for the purposes of trade in the summer months and left it on the approach of winter.

Novgorod did not remain long enough the capital of the new monarchy to lose the republican character and principles which, for many subsequent ages, placed it apart from the principalities around it, and from the distractions by which they were rent asunder. The peculiar position of this powerful and proud republic—until the consolidation of all the separate principalities into which the empire had been broken, enabled Ivan Vasilievitch to abolish its separate existence and privileges in the sixteenth century—presents a phenomenon in history and politics which is every way worthy of far more attention than it has hitherto received.

When Rurik died, a stern but able man named Oleg became regent for the infant son of the late monarch. He obtained possession of Kief, a city on the banks of the Dnieper, in southern Russia, and which he considered the metropolis of his new conquest to the wealthy empire of the Greeks (which was then and ever since has been a prey earnestly coveted by the Russians), and when, moreover, he contrasted its mild and genial climate with the rigour of that from which he had come, he exclaimed, in a transport of delight, "Henceforth let Kief be the mother of all the Russian cities!" Kief accordingly became the seat of the chief authority for nearly 900 years, yet so that Novgorod did not wholly lose its importance, that the being, in a sort, two capitals—Novgorod being the

* The Varangians were also called Russians, and seem to be identified with the Normans.
Moscow, and Kief the Petersburg of those early times.

About three centuries after the establishment of Kief as the capital, that is, about the middle of the twelfth century, we find Russia governed by seventy-one sovereign princes, all descended from Rurik, and all acknowledging the prince of Kief as grand duke and lord paramount. At this period, however, by means of partition on partition, and civil war on civil war, the grand principality had dwindled into little more than the city of Kief. Its paramount sovereignty was nothing but a vain title; and yet, whether it arose from the influence of a name, or that it was still looked upon as the Capua, the Babylon of the Russians,—the metropolis of their religion,—the emporium of their commerce,—the source of their civilization,—it is certain that all the anarchy of the princes continued to be obstinately bent against Kief. The eye becomes hardened in gazing upon the confusion. In this contest, a prince who inherited a most extensive territory in the very centre of Russia looked with discontent upon his own cheerless dominions and inclement climate, and longed for the luxury and softness of Kief.

He made himself master of that city, and soon became the victim of the indulgences which had rendered it attractive to him. His son Andrew regarded Kief with other eyes than his father; and, instead of removing them, determined to aggrandize his own domains by rendering Vladimir, his chief town, the capital of the grand duchy. This town, which is situated about ninety miles to the east of Moscow, remained the metropolis until Moscow rose to importance; and its princes attained such power as, in the first instance, enabled them to render it the seat of the grand duchy, and ultimately the single capital of an undivided empire. However, during most of the period in which Vladimir was the capital, and in which Moscow acquired power, the country was subject to the Tartars, the successors of Genghiz Khan, who contented themselves with the southern provinces, and allowed the Russian princes to govern, as tributaries, the central and northern regions. Their capital was Sarai, a town on the Wolga, north of Astrakhan; and as the Russian princes, during this long period, were for ever dancing attendance there to seek the favour of the great Khan and the chiefs of the "golden horde," and to enable them to aggrandize themselves, the scene of their degradation and of their intrigues against each other,—Sarai may perhaps be regarded as the political capital, being the seat of paramount power, and within the Russian territories.

Moscow.—The town of Moscow, according to old traditions, would derive its name from Mesech, or the nomination to the grand dukedom, when the wrath of Usbeg was excited by the attempt of the actual paramount capital until the succession of his brother Yury, then, was the first grand duke of the Moscow branch; but his own city did not become the paramount capital until the succession of his brother Ivan, surnamed Kalita*, who, on his return from receiving the investiture at the hands of the Great Khan, transferred the throne to Moscow, where he had been accustomed to reside, and where the metropolis of Russia had already settled himself. This was in 1328; and from that time Moscow remained the national metropolis, until St. Petersburg arose to divide if not to appropriate the distinctiveness.

It is foreign to our purpose to trace the steps by which the Muscovite princes proceeded from this time forward to aggrandize their power and establish a united autocracy. We need only mention that this

* Kalita, "The Purse." He got this name, according to different authorities, either from his usual place of money in centralizing Moscow the diffusion and broken power of Russia, or from his great wealth,—or from the purse, filled with alms for the poor, which was always carried before him.
object was completed by Ivan III., at the termination of whose reign, in 1505, Russia had become one great despotism with Moscow for its capital. The Tartars, weakened by internal dissensions, had been easily driven out; the small Russian sovereigns had become nobles at the court of the Grand Duke; and the great Novgorod, which had seemed so long the northern parts of the country, had been subjugated and reduced to a provincial town. The way for these results had been gradually preparing under previous sovereigns; but they were almost all actually obtained in the last-mentioned reign, that of Ivan III., surnamed the Great, because greatly successful; and he was successful, not by bold and immediately decisive measures, but by measures of deep policy and by well-managed designs, which made him master of the results which the fulness of time had ripened to his hand. At the commencement of his reign, in 1462, he held but a divided power in his own capital: Tartar residents, their retaines, and their merchants, were established even in the Kremlin; and it was only by an underhand intrigue with a Tartar woman that he got an order from the khan that the Mongols should no longer reside as masters in his chief city. At a still later period, the ceremonials with which he was surrounded, and even those with which the khan was inexpressibly degrading. He was to go forth and meet him, and spread a carpet of sable fur under the hoofs of his horse: he was to prostrate himself at his feet, and to hear the letter of the khan read to him on his knees; and, lastly, he was to present to the envoy a cup of koumiss, and was expected to lick from the neck of the barbarian's horse any drops of the beverage which might fall upon it!

At this time, and afterwards, the Kremlin was considered as the proper metropolis, all the rest of the town being regarded as suburb. It contained the palace of the prince, the public buildings, the ecclesiastical establishments, and the mansions of the nobles. This it still does, but not exclusively as then. The Kremlin, the original nucleus of the town and afterwards its fortress, may, in the most literal sense possible, be called the heart of Moscow, and is to the Russians an object of more intense veneration than can be ascribed to any other building or to any one of the other buildings, however revered in their antiquity or holy in their uses. If a city had been built by angels and set down on the earth, all the associations which would be connected with it could not produce on any class or minds stronger feelings than those with which the mass of the people regard Moscow as a whole, and in particular the Kremlin, which is by many degrees the holiest of them all. Ambition ever sought to win power and glory in the Kremlin, and the wealthiest merchants dwelt in buildings of stone. Moscow is still, in a very considerable degree, a wooden city.

In consequence of fires, together with the injuries occasioned to buildings of stone and brick by the expansive force of freezing water, assisted by the progress of improvement and the love of change and alteration, there are no structures of any considerable antiquity in Moscow, except monasteries and monastic churches which claim an earlier date; but as they are generally known by the same names, and their age is computed from the time of the original foundations, rather than from the date of the existing fabrics, it is not easy for a stranger to ascertain whether any are really older than the cathedrals. Besides this, frost, and some of the other causes already specified, render such frequent and extensive repairs and alterations necessary that many of the older structures are very different from what they originally were. Yet travellers speak of the ancient appearance of Moscow. But in truth the aspect of Moscow is strange but not antiquated; and this is not the fault of the insatiable progress of time, which has converted the churches of small towns into cathedrals. The churches in small towns are still almost always of wood. We may not recollect to have seen a church of brick or stone anywhere but in cities.

From the time of Ivan III. to within our own times nothing very extraordinary occurs in the History of Moscow. Like that of other cities, the most prominent points of the register are fires, pestilences, tumults, ceremonies, and progressive improvements. We may pass all this by, only remarking that there is perhaps of all the clementines, exception being made to such frequent and extensive conflagrations as Moscow. The reason of this may be found in the fact that the larger proportion of the houses have been of wood*, the number of which has only been very gradually diminished after each fire. Until the early part of the fifteenth century many of the churches were wholly or in great part of wood†, and the princes and nobles inhabited large wooden mansions; and long after this, or indeed down to the great conflagration of 1812, only they and the wealthiest merchants dwelt in buildings of brick or stone. Moscow is still, in a very considerable degree, a wooden city.

In mentioning the circumstances which have operated in producing changes in Moscow, it is impossible to abstain from some notice of the last and most important of all. We of course allude to the imposing expedition of Napoleon against Moscow in 1812, the conflagration of the city which ensued, and the consequent retreat and fearful ruin of one of the noblest armies with which ambition ever sought to win power and glory in the world. That amazing event which, by destroying the charm which had connected invincibility with the name of the extraordinary man who had declared that he would dictate terms to the Czar from his own capital, put new vigour into the arms which had grown weary in opposing him, did, in effect, determine the fate for the conqueror of nations, which was but confirmed by the defeat at Leipzig in 1814, and sealed by that at Waterloo in 1815. Certainly such consequences of general importance never did result from the conflagration of any city since the world began; and these circumstances must render the burning of Moscow

* See an Article on 'Fires in Russia' in No. 195 of the Penny Magazine.
† The churches in small towns are still almost always of wood. We cannot recollect to have seen a church of brick or stone anywhere but in cities.
one of the grand historical events which will astonish and instruct the most remote future ages, when perhaps Moscow herself may not have one stone left upon another. The Russians themselves are deeply and abidingly impressed with the importance of that event. The 25th of December, besides being Christmas day, has been made a day for the religious commemoration of "the deliverance of the church and of the Russian empire from the invasion of the French and twenty other nations who came with them;" and it is common for the natives to use the same event in conversation as an era from which to compute modern time, speaking of a circumstance as having happened "so many years before, or so many years after, the French."

The question "Who burnt Moscow?" is one concerning which much has been written. Everywhere, except in Russia itself, it seems now to be considered a settled point that the Russian government directed the sacrifice in order to save the empire, by depriving the French of the shelter and supplies which alone could enable them to support the intense severity of a Russian winter. This is in fact the only rational supposition; for it is utterly absurd to imagine that the French could be so insane as to destroy a place upon
the preservation of which their very existence depended; whilst that their existence depended on it was the very best of reasons that the Russians themselves should destroy it. That it is still attributed to the French in Russia is probably owing to the fact that the government precluded themselves from avowing this grand act of policy or patriotism, by having in the first instance used the pretext of preventing the feelings of the country against the French, which could not be more effectually done than by charging them as the destroyers of the Holy City. It well answered this purpose; and it would now hardly be decent to retract the charge. It would not have been possible then, nor is it now, to convince the people of the necessity or propriety of such a sacrifice, and if the probability of it be mentioned to them, with a stare of astonishment at your stupidity or madness, they will indignantly repel the suicidal imputation. Nevertheless, the truth must be generally known in the upper classes of society, but that the belief is entertained can scarcely ever be gathered but from incidental expressions and indirect allusions.

So also in the works of Russian authors; and we may quote a pretty plain arrival on the subject as given by the Russian historian and poet Karamzin, in a poem which has thus been rendered by Dr. Bowring in his *Russian Anthology*:

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"Proud City! Sovereign Mother thou
Of all Sclavonian cities now
With thee, thenation's holocaust!
To whelmin ashes all thy pride:
With thee, thenation's holocaust!
Blaze! blaze! thy guilt in flames be lost;
Farewell! Farewell! thy children's hands
Have seized the all destroying brands;
To thine, the nation's holocaust!
And heaven and earth be satisfied
Of all Sclavonian cities now
Toil.gathered riches blest thy sons,
And glory were around thee spread;
Farewell! Farewell! thy children's hands
With thee, the nation's holocaust!
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The extent of the devastation is very differently estimated; but the difference is greater in terms than in fact. It is to be understood that the houses in Moscow were principally damaged in course of each of which, besides the principal building or house, contains appendages which are more or less numerous according to circumstances, being kitchen, stables, coach-houses, cellars, and houses for servants. Some writers regard the whole as one house, and others number the appendages separately. Adopting the former mode of computation, Moscow may be said to have contained about 10,000 houses, of which not more than 3,000 escaped the flames. One statement mentions that nearly 8,000 of the entire number of houses were of wood. Another computation, which does not make the whole exceed 9,100, says that 6,591 were of wood. In either case the extent of the devastation is not surprising. It speaks favourably for the resources and energy of the nation that the whole has now been rebuilt with more uniformity and elegance, and with a much larger proportion of stone and brick buildings than before.

The plan, as we have already intimated, on which we judged that this Supplement might be rendered the most useful, precludes us from more than a very brief notice of the characterizing features of Moscow or Petersburg as they now appear. Moscow, since the fire, has been much improved, but not altered in its essential characteristics. The comparison of a picture and a caricature of the same object often gives a truer idea of the original than a picture only. Take then the picture of Coxe in 1874, and the caricature of Clarke in 1800, which, with our corrections and remarks, will convey as true an idea of the present city as our remaining limits allow us to supply. First for Coxe:

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If I was struck with the singularity of Smolensko, I was all astonishment at the variety and immensity of Moscow. A city irregular, so unimposing, so extraordinary, and so contrasted, had never before claimed any attention. The streets are in general exceedingly long and broad, some of them are paved, others, particularly those in the suburbs, are formed with trunks of trees, or are bordered with banks, like courtyards. The hovels of the poor are blended with large palaces; cottages of the story stand next to the most superb and stately mansions; many brick structures are covered with wooden tops; some of the wooden houses are painted, others have iron roofs. The numerous churches presented in every quarter, built in a peculiar style of architecture; some with domes of copper, others of tin, gilt or painted green, and many roofed with wood. In a word, some parts of this vast city have the appearance of a sequestered desert, others of a populous town; some of a continent, others of a village, others of a great capital. Moscow may be considered as a town built upon the Asiatic model, but gradually becoming more and more European; exhibiting a motley mixture of discordant architecture.
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This is an excellent condensed picture, and will answer quite well for the present town, excepting that the appearance of the place has become more European since the fire of 1812; and that the contrast of meaneness and magnificence, though often obtrusive enough, is not nearly so glaring as before. To this we may add that the wooden buildings are now generally covered with stucco, so that it is difficult to distinguish them from brick houses, which, for the most part, are similarly covered, although in some cases the frontage of red brick is considered sufficient of itself.

Now for Clarke:

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"Moscow is in everything extraordinary, as well in disappointing expectation as in surpassing it,—in causing wonder and derision, pleasure and regret. Let me conduct the reader back with me against the gate at which we entered, and thence through the streets. Numerous spires, glittering with gold, amidst burnt domes and painted palaces, appear in the midst of an open plain for several vers before you reach the gate. Having passed, you look about, and wonder what is become of the city, or where you are, and are ready to ask once more, 'How far is it to Moscow?' You will tell your listener that the city resembles the city of Paris, and you behold nothing but a wide and scattered suburb, huts, gardens, pig-styes, brickwalls, churches, dunghills, palaces, timber-yards, warehouses, and a refuse, as it were, of materials sufficient to stock an empire with miserable villas. One might imagine that all the states of Europe and Asia had sent a building by way of representative to Moscow; and under this impression the eye is presented with deputies from all regions holding congress; timber-huts from regions beyond the Arctic; plastered palaces from Sweden and Denmark, which are painted since their arrival; painted palaces from the Tyrol; mosques from Constantinople; Tartar temples from Bucharia; pagodas, pavilions, and pirandas from China; cabarets from Spain; dungeons, prisons, and public offices from France; architectural ruins from Rome; terraces and trellices from Naples; and warehouses from Wapping."
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We have called this sketch a caricature; but it is a caricature in the best style of 'H. B.'s likenesses. Possibly it was a true likeness in 1800, and has been rendered a caricature by the improvements which the subject has undergone. The idea of a representative fire as a means of exciting the public, and of showing the improvements which the subject has undergone, although it might be outrageous if it occurred in any other metropolis. As we trod its streets and explored its Kremlin, astonished at the wildering intermixture of styles and characters in its public and domestic buildings, we found pleasure in merging the question of taste altogether, and in considering it as a fit and beautiful thing that the metropolis should thus be rendered an epitome of that extraordinary empire which comprehends within its
bosom almost every grade of civilization, from the savage hunters and barbarous nomades to men far advanced in enlightenment and knowledge and in the refinements of taste and the comforts of social life, an empire which embraces so many languages, nations, religions, and which, territorially considered, extends in one direction from the Arctic to the “sweet south,” and in another spans the whole breadth of two great continents, and encroaches on a third. Unity would be the real incongruity in such a metropolis; and for this reason, among others, Petersburg.

The pleasant capital of painted snows, is never felt to be a proper or characteristic metropolis for the empire as a whole, whatever it may be for the more European part of it. Moscow is the universal capital.

Now the result of all this is, that Moscow is an exceedingly striking city, regarded as such hole, and is pretty, and even beautiful, in many of its parts; but it nowhere possesses anything like grandeur, or makes any approach to it. There is indeed scarcely a single building which can be called grand, considered separately. Even the cathedrals, the crowning glories of Moscow, cannot be excepted. St. Paul’s would hold three or four of the largest, including the most extensive of all, that of the Assumption, commonly distinguished as the great cathedral, on account of its magnificence as compared with the other churches of the city.

St. Peters burg.—The facts connected with the origin of this capital, and the views of national benefit which have operated in changing a desolate morass to a great and splendid city, form a subject that deserves to be most carefully and attentively studied. The early history of no city that we have in recollection is half so interesting or instructive. It is completely modern, too, native or foreign productionsto the value of between 40,000,000l. and 50,000,000l.; there the fate of Europe was decided, and the whole moral and political aspect of the northern regions was to undergo a change. To secure these buildings, and even the humblest wooden cottages from the ravages of fire, he himself set the example of devotedness; he took the station of a police-officer of the second class. In this occupation, which gave him the superintendence of the others, he has been seen to run over the burning beams. To preserve his now city he daily manifested a devotedness, a forgetfulness of self, equal to the ardour and temerity with which, eighteen years before, he had wrested from the Swedes this pestilential and uninhabited spot—a memorable example of that perseverance which is the distinguishing quality of all great men; and which, wherever it is found, awes and inspires respect, even when its object is reprehensible; but which here was the more worthy of remark, because it was consecrated to the accomplishment of the noblest and most patriotic of all the intentions of genius.

It is in such great foundations as these that we recognize its impress. Alexander left his in Alexandria; Peter in Petersburg. This unnoted spot of earth, transformed by the will of a great man, was destined to become, a hundred years after his death, the centre and emporium of a commerce which ranks among the most extensive of the world; its 300,000 inhabitants exporting or importing native or foreign productions to the value of between 40,000,000l. and 50,000,000l.; there the fate of Europe was to be decided, and the whole moral and political aspect of the northern regions was to undergo a change.

In a small island of the Neva, near the citadel, is still preserved the small wooden house which Peter occupied, while directing and superintending the foundation and progress of the city. It is a simple and rudely-constructed cottage, containing a sitting-room, a bed-room, and a dining parlour. This monument of the great Czar’s unostentatious and simple manner of life has been carefully preserved, and is pointed out to strangers with becoming pride by the inhabitants, who also show a boat in the same place built by Peter’s own hands.

The city of St. Petersburg is in most respects a very complete contrast to that of Moscow. In speaking of it as a whole, we can only state the results of a detailed inspection, as its extremely low and level situation precludes any considerable part of it from being seen to advantage in one view. On approaching from the Gulf of Finland, indeed, the glitter of the gilded spires in the sun prepares the mind for something extraordinary, and when, on a nearer approach, the long and wide vista opens, which is formed by the deep and broad river lined with granite quays, and bordered by public and private buildings of diversified claim to notice, but all tasteful and elegant, the expectation seems to be more than realized. The avenue formed by this noble, clear, and rapid stream, would alone be sufficient to entitle the city to be called splendid; and we have certainly, either from personal observation or from description, no knowledge of any stream that passes through a town so much alike as the Neva passes through St. Petersburg. The make-shift appearance of the pontoon bridges, however, detracts somewhat from the otherwise uniform beauty of this view; and it is to be lamented that the nature...
of the stream, and the floating masses of ice which are brought down from the lake Ladoga, has precluded the erection of stone bridges, while the lowness of the ground through which it passes offers obstacles to bridges on the suspension principle.

Petersburg is not in this instance only a city of long and fine vistas: the fact that the nature of the ground precluded a proper display of the city by any other method probably suggested the arrangement of the more imposing parts of the town in long, wide, and straight streets, affording a continuous view from one end to the other, the principal of them having that fine building, the Admiralty, for a terminating central object. Most of the streets are from 60 to 120 feet wide, and there are some that are considerably wider. Nearly all the streets are in perfectly straight lines, but run to various lengths, and intersect each other at different angles. None of the streets can be called mean or dirty, although, in the outskirts of the town, mean cottages of wood may be found. There is often a great delusion in estimating the length of streets; and before we put any confidence in figures we must know how they are measured. Such a city as London loses some of the credit it might claim for long streets by naming a line of street differently where intersected by a cross street, while Petersburg gains in a corresponding proportion by continuing the same name throughout the whole line. However, the Russian city has certainly some of the character of the street which unfitness always inspires. There is also at Moscow, having their fronts covered with stucco, often another uncomfortable feeling from the continual change in the coinmercial streets of London. The windows of persons of distinction reside in the upper stories. The shops form one of the chief branches of that rich display which appears in the commercial streets of London. The windows are small, as to a private house; but the principal articles on sale are painted on a board or on the shutters in a style of art much on a par with that which the London signs exhibit. All things are thus represented, not excepting even articles of dress, although the rapid alterations of fashions soon make the painting appear antiquated. Even trades are thus figured forth, and a stranger may be much amused and interested by this class of signs, as where the barber in the same piece is represented in the act of performing his manifold functions of trimming a beard, cutting hair, drawing a tooth, breathing a vein, and sometimes even cupping. These observations about houses and shops will apply very well to other streets; and we shall only further remark, that the English eye is apt to get tired of the everlasting white-wash and yellow-ochre, and may sometimes be tempted to cover the dull sobriety of red brick. The truth may be that, except upon the Neva, Petersburg has a fine and pleasing rather than a dignified or imposing appearance.

Besides the different branches of the Neva, and some small streams, there are three fine canals, which altogether distinctly mark out the different quarters of the city and form them into so many insular portions. These water-streets, as they may be called, add very much to the beauty of the town, particularly as a great number of small bridges thus become necessary, many of which are, in various degrees, highly picturesque and elegant: they are about seventy in number.

The public buildings of Petersburg and the palaces of the princes and nobles are mostly in the Roman-Greek style of architecture, and have principally been erected from the designs of Italian architects, who have had the principal hand in most of the architectural improvements of Moscow and Petersburg, and have given to the latter more of the air of an Italian city than seems well to be a city in which are, in various degrees, so many churches and other places of worship. The Byzantine-Greek style of ecclesiastical architecture, with its single or clustered domes, is that which prevails at Petersburg.

We have already intimated that there seems to be in Petersburg a want of adaptation to the climate and to the people which tends to detract very much from the effect which such a city must produce in its proper season. It has not so much the appearance of an exotic production to be contemplated with unalloyed satisfaction. It is too gay, too light, too tasteful, for the stern region and the people among whom its lot has fallen. It is not an emanation from them, but was created for them, and is above the mark to which they have yet attained; therefore, however pleasing in the abstract as the idea of a city, it cannot, as the capital of Russia, be regarded without some of that dissatisfaction which unfitness always inspires. There is also another uncomfortable feeling from the continual consciousness of the palpable and detailed triumph over Nature which Petersburg exhibits. The indications are too visible of the constraint and violence which have been employed.

In this Supplement our personal recollections and reflections have been assisted principally by reference to Segur's *History of Russia,* Clarke's *Travels,* Lyall's *Moscow,* Gra Vive's *Petersburg,* and Henderson's *Biblical Researches in Russia.*

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LONDON:—CHARLES KNIGHT, 22, LUDGATE STREET.

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"Lo! higher still the stately palm-trees rise,
Chequer ing the clouds with their unbending stems,
And o'er the clouds amid the dark blue skies
Lifting their rich unfading diadems.
How calm and placidly they rest
Upon the Heaven's indulgent breast,
As if their branches never breeze had known!
Light bathes them 'mid glancing showers,
And Silence 'mid their lofty bowers
Sits on her moveless throne."

There is one district where, in consequence of the extreme aridity of the soil, and the want of moisture in the air, none of the Cerealia will grow: that district is the margin of the mighty desert which extends with but few interruptions from the Atlantic to the confines of Persia, an extent of nearly four thousand miles. The shores, the banks of the rivers, and every part of the region in which there is humidity, are exceedingly fertile; and even with unskilful culture produce the most abundant crops and the choicest fruits. But along the verge of the desert, and in the smaller oases or isles which here and there spot that wilderness of sand, the date-palm is the only vegetable on which man can subsist. Over the lowly vegetables, of a saline and succulent description, which appear on this soil, the date-palm raises its trunk and spreads its leaves, and is the sole vegetable monarch of the thirsty land. It is so abundant, and so unmixed with any-
thing else that can be considered as a tree in the
country between the states of Barbary and the desert,
that this region is designated as the Land of Dates
(Biledulgerid); and upon the last plain, as the desert is
approached, the only objects that break the dull
outline of the landscape are the date-palm and the
tent of the Arab. The same tree accompanies the
margin of the desert in all its sinuosities; in Tripoli, in
Barca, along the valley of the Nile, in the north of
Arabia, and in the south-east of Turkey. Rearing its
stem, and expanding its broad and beautiful shade, where
there is nothing else to shelter man from the
burning rays of the sun, the palm-tree is hailed by the
wanderer in the desert with more pleasure than he hailis
any other tree in any other situation. Nor is it for its
shade alone, or even for its fruit, that the palm is so
desirable in that country; for wherever a little clump
of palms contrast their bright green with the red wild-
derness around, the traveller may in general be sure
that he shall find a fountain ready to afford him its
cooling water.

Although there are some palms more majestic, the
date-palm is still a beautiful tree. Its stem shoots up
in one cylindrical column to the height of fifty or sixty
feet, without branch or division, and of the same thick-
ness throughout its whole length. When it attains this
height, its diameter is from a foot to eighteen inches.
From the summit of this majestic trunk it throws out
a magnificent crown of leaves, which are equally
graceful in their formation and arrangement.

The main stems of the leaves are from eight to ten
feet long, firm, shining, and tapering; and each em-
braces, at its insertion, a considerable part of the trunk.
The trunk of the palm is, in fact, made up of the
remains of leaves, the ends of which are prominent
just under the crown, but more obliterated towards the
root of the tree. The bottoms of the leaves are en-
volved in membranous sheaths, or fringed with very
tough fibrous matter. These leaves are pinnated, or
in the form of feathers, each leaf being composed of a
great number of long, narrow leaflets, which are alter-
nate, and of a bright lively green. Near the base of
the leaf these leaflets are often three feet long; but
then they are not one inch in breadth, neither do they
remain with a ridge in the middle, something like the keel of a boat. When the leaves are
young they are twisted together and matted up with
loose fibres, which open and disperse as the leaf
expands. The young leaflet is also armed at the
extremity with a hard black spine or thorn. They are
more stiff and firm than the leaves of any other tree.

The flowers come out in large bunches or spikes
from between the leaves; they are at first enclosed in a
spatha, or sheath, which opens up and then shrivels and
withers. The date-palm is a diocious tree, having the male flowers in one plant,
and the female, or fruiting ones, in another. The
male flowers are considerably larger than the female;
and the latter, instead of having stamens in their
centres, have the rudiments of dates, about the size of
small peas.

The two distinct sexes of the date-tree appear to
have been known from the remotest antiquity, as they
are noticed by all the ancients who describe the tree.
It is not a little remarkable that there is a difference in
the fructification of the wild date and the cultivated.
Wild dates impregnate themselves; but the cultivated
ones do not without the assistance of art. In every
plantation of cultivated dates, one of the labours of the

* Moor.
ardent spirit, which, as it does not come within the prohibition of the Koran against wine, is much used in some of the Mohammedan countries, and answers the same purpose of false excitement as the various kinds of fermented liquors and distilled spirits used by other nations. Palm-wine is also made from the date, and is also without the statute of the prophet. It is the sap of the tree, and can only be obtained by its destruction, so that such trees only as are unproductive are selected for the purpose of obtaining it. The time chosen for the purpose is when the tree is in the most active state of vegetation. The crown is then cut off and a cavity scooped in the top of the trunk. As the sap rises it exudes into this cavity at the rate of nearly a gallon a day; and, in fact, the genuine arrack, of the East is obtained from the juice of palms. In Egypt and Arabia the date-trees that have become unproductive through age or any other circumstance are commonly disposed of in this manner. What is called the cabbage of the palm is a conical tuft in the centre of the crown of leaves, and is formed of the future leaves in their undeveloped state. When the outside is removed, this part of the date-tree tastes very much like a fresh chestnut; but, like the palm-juice, it is obtained only by the destruction of the tree, and therefore it is not taken except from those trees that are cut for the sake of the sap or juice.

The fibrous parts of the date-tree are made into ropes, baskets, mats, and various other articles of domestic use; and so are the strings or stalks that bear the dates. The cordage of the ships navigating the Red Sea is almost exclusively of the inner fibrous bark of the date-tree. The trunk answers very well for poles, raftering, and other coarse purposes but it is not fit for being worked into planks, as its fibrous nature makes it easily split lengthwise into threads. The medullary part is much more abundant and soft towards the centre of the tree than towards the circumference, and therefore when it is to be used as timber, the trunk is generally cleft in two down the middle, for the purpose of allowing the heart to dry and harden. The medullary part of the tree is partly farinaceous, and soluble in water; and a nutritious substance may be obtained from it, resembling in consistency the sago which is obtained from another kind of palm. In the proper date-tree the quantity of this is small, and the quality not good; and is, in both respects, much exceeded by a smaller species of palm, a native of the East Indies.

Even the leaves of the date-palm have their uses;—their great length and comparatively small breadth, and their toughness, render them very good materials for the construction of coarse ropes, baskets, bags, fans, brooms, panniers, and mats. The stem of the leaf, which forms a long and stout tapering rod or staff, serves many useful purposes. At Bagdad it is a trade to work them up into sorts of domestic articles, such as bedsteads, couches, cages, and even tables and stools. When the scabs and solid surface is desired, the sticks are laid side by side, and then the surface planed to something of a level. The circular boats of the Tigris and Euphrates are also entirely made from the leaf-stem and leaflets of the date-tree. The former serves for the ribs, which are interwoven with the leaflets, the whole being afterwards coated with bitumen. On the continent of Europe palm-branches are a regular article of trade; and the religious processions, both of Christians and Jews, in the greater part of Europe, are supplied from some palm-forests near the shores of the Gulf of Genoa.

The cultivation of the date-tree is an object of the highest importance in the countries of the east. In the interior of Barbary,—in great part of Egypt,—in the more dry districts of Syria,—and in Arabia, it is almost the sole subject of agriculture. In the valleys of the Hedjaz there are more than a hundred kinds of dates, each of which is peculiar to a district and has its own peculiar virtues. Date-trees pass from one person to another in the course of trade, and are sold by the single tree; and this is a custom which a girl's father on marrying her often consists of date-trees.

Southey, in his poem of 'Thalaba,' has a passage or two in which the palm-tree and its uses are alluded to. The following is a pleasing picture of Arab domestic life:

"Under the common shelter, on dry sand,
The quiet came's ruminate their food;
From Moath fails the lengthening cord,
And patiently the old man.

*Entwines the strong palm fiores;* by the hearth
The damsel shakes the coffee grains
That with warm fragrances the tent;
And while, with dexterous fingers, Thalaba
Shapes the green basket, haply at his feet
Her favourite killing grains the twig,
Forgotten plunderer for Ozena's sake!"

The agility of the Arab is witnessed to great advantage when he is seen to climb to the top of the branchless trunk, and attains the tufted summit either to gather the fruit or to perform some one of the operations we have mentioned. The following passage, also from 'Thalaba,' invests the gathering of dates with some picturesque circumstances—

"Under the common shelter, on dry sand,
That were stretched by an island of palms,
In the desert sea of the sands
That seemly traveller came.

Herself as shapely, than she damsel stood;
She held her ready robe,
And look'd towards a boy,
Who from the tree above,
With one hand clinging to its trunk,
Cast with the other down the cluster'd dates."

A pleasant anecdote was related to Sir John Malcolm, which will serve to illustrate the indispensible character of this tree in the eyes of the Arabs, to whom indeed it seems to occupy much the same place in the vegetable kingdom as the camel does in the animal; and to be in an equal, perhaps a superior degree, a beautiful provision of nature for their wants and the peculiar physical circumstances of the country they inhabit. The story runs thus:—"Some time since an Arab woman, a native of Abusheher, went to England with the children of a Mr. Beaumon. She remained in your country four years. When she returned, all gathered round her to gratify her curiosity about England. 'What did you find there? Is it a fine country? Are the people rich? Are they happy?' She answered, 'The country was like a garden; the people were rich, had fine clothes, fine houses, fine carriages, and were said to be very wise and happy.' The audience were filled with envy of the English, and a gloom spread over them which showed discontent at their own condition. They were departing with this sentiment when the woman happened to say, 'England certainly wants one thing.' What is that?' said the Arabs eagerly. 'There is not a single date-tree in the whole country! Are you sure?' was the general explanation. 'Positively!' said the old nurse: 'I looked for nothing else all the time I was there, but I looked in vain.' This information produced an instantaneous change of feeling among the Arabs: it was pity, not
envy, that now filled their breasts, and they went away wondering how men could live in a country where there were no date-trees."

Our wood-cut represents a wild date-palm, found by MM. Leon and Laborde in the Sinai mountains. It exhibits none of the elegance of form under which the palm-tree is usually represented, and which is commonly supposed its proper characteristic, although actually caused by art,—the simple art of cutting away year by year the lower branches, or rather leaves, as the tree ascends in its growth. This not being attended to, a rampart is formed with the decayed branches, and the tree continues to grow from the midst of its own debris. Neglected by the desert Arab, who considers all culture as below his dignity, the palm-trees sometimes form impenetrable forests; but more frequently isolated near some spring, as in the engraving, it stands a most cheering beacon to the traveller, promising on the one hand water whereby his thirst may be appeased, and on the other a grateful shade under which he may repose.

A considerable part of the above article is abridged from 'Vegetable Substances,' in the 'Library of Entertaining Knowledge.' Something has been introduced from other sources, and from a personal acquaintance with the tree in its native country.

DERBY.

The town of Derby is situated in the southern and level part of the county, in the hundred of Morleston and Litchurch. It lies in an open valley, low, but not flat, and is surrounded by a pleasant undulating country. It is situate on the west bank of the Derwent, a few miles above the junction of that river with the Trent. The soil in the valley is in general good, and the land in the neighbourhood of the town is in a high state of cultivation. Water is plentiful, in fact too much; for the floods caused by rains in the mountainous part of the county, where the river has its source, have sometimes proved very destructive. The town is ancient, possibly British; there is no doubt that it took its name from that of the river Derwent, for which several etymologies have been devised. The name is common to several short rivers and brooks in England, as the Derwent, in Cumberland, and York, and perhaps we may add to the number the Darent in Kent. The Roman station Derventio, on the east bank of the river, opposite to Derby, is no doubt the British name latinized. It does not appear that there was a Roman town on the spot where Derby now stands, though some habitations were most certainly there. Roman remains have been occasionally dug up, and in 1825 a tesselated pavement was found in making a foundation for a new house. The Ikenild Street passed close by the site of the town, on its way to Derwent, over the Derwent, which crossed by a bridge, the foundations of which, it is said, are yet existing, and may be felt in the bed of the river by an oar or long pole. Notwithstanding its antiquity, there are but few historical facts of importance connected with Derby. It came early into the possession of the Danes, being occupied by the Danish chief Halden in the reign of Alfred. It remained in their possession until a few years, when Ethelfleda, a daughter of Alfred, and wife of Ethelred, the Earl of Mercia, recovered possession of it, after a bloody battle within the town, from which the Danes were driven out with considerable slaughter. This was in the year 918; but the Saxon dominion was of short duration. The Danes soon returned in greater force, recovered the town, and retained it with little interruption so long as they held any power in England. This people knew it by the name of Deoraby, which, with a mere orthographical change, it still retains; while the Saxons, to whom it might be called a foreign town, gave it the unsound appellation of Northworth Ting.

Derby attained considerable importance before the Norman conquest, and it is stated in 'Domesday Book' to have contained 243 burgesses in the reign of Edward the Confessor; but a very few years reduced that number to little more than a third of its former amount. This diminution is attributable to losses in war; the vassals of Edwin Earl of Mercia, in which division of the kingdom Derby was comprised, had joined those of Morcar Earl of Northumberland to repel the attacks of Norway on the northern part of the kingdom; and the town was immediately after drained of those who remained by Harold, and carried to the south to fall in battle against William the Conqueror. When the domesday survey was made, the number of burgesses was only 100. The town was granted by the Conqueror to his natural son William Peveril, whose name has been made known to every reader by the pen of Sir Walter Scott.

A charter granted to the town by Richard I. distinguishes Derby for intolerance above the ordinary degree so universally prevalent in that dark period. At the urgent prayer of the inhabitants, the charter enacted that they should have the power of expelling all Jews from the town, and the privilege of preventing any Jew from residing there in future. But contumacy and expulsion might be considered moderation in comparison with the cruelties so often inflicted upon that unhappy race in England until their entire banishment from the country.

The most remarkable event in the history of Derby in modern times is the arrival of the Pretender in 1745, on his march to dethrone the King of England, and his subsequent retreat two days after. On this ill-advised expedition the young prince with his small army reached the town on the evening of the 4th of December. Here he called a council; and finding the opinions of his officers unfavourable to the success of the enterprise, at the same time apprehending an attack from the Duke of Cumberland, who was rapidly approaching, he determined on abandoning his project, and retreated on the 6th, after levying between 20001. and 3000l. on the inhabitants during his short stay.

Several wicker bridges, which crossed the Derwent from an early period. A monastery of Augustine canons was founded in the reign of Stephen, and soon after removed to Derby, about a mile farther up the river, where a few ruins may yet be seen. Derby Abbey, at the dissolution, was valued at 2581l. annual revenue. The abbot of that house founded a nunnery of the order of St. Benedict about the year 1160, which was granted at the suppression to the Earl of Shrewsbury. This foundation was erected at a spot still called Nun's Close, where ancient remains are occasionally found. A stone coffin, within two feet of the surface of the ground, containing the skeleton of a female, was dug up on the site of the nunnery about ten years ago. There was also an Abbey of Dominicans, dedicated to the Virgin Mary, in the thirteenth century,—a cell of Cluniac monks, subject to Bermondsey Abbey in Southwark, and two hospitals for lepers; but of all these no very reliable account exists. The general appearance of the modern town is neat but irregular; the streets are narrow, but most of the houses are good, and some of a superior description. The streets are well paved, and lighted with gas. The town extends nearly a mile in length along the Derwent, and is about half a mile broad. The Markeaton brook runs through the town to the Derwent, and is one cause of the floods, which have occasionally produced much damage to the town. Several small bridges cross the brook, and a handsome one of three elliptic arches.
traverses the Derwent. This bridge replaced the old and dangerous structure described by Hutton as very narrow, high, and difficult—dangerous to men, and fatiguing to horses. An attempt was made, about a century and a-half ago, to get at the foundation of the old bridge by turning the course of the river. This was to be effected by driving piles above the bridge, and compelling the stream to find a way elsewhere. The piles were driven;—boxes laden with clay and covered with pitch were lowered into the bed of the stream. The attempt was long persevered in, but in vain;—the river would not be controlled, and the project was abandoned: but the piles remained visible for many years after, and might be seen in a clear day within the present century. Derby is well supplied with water from springs, and also by water-works from the river. It is conveyed from the Derwent by pipes leading to a reservoir on the top of St. Michael's church, whence it is distributed through the town. The river was made navigable in the beginning of the last century; but since the formation of branch canals to the Erwash and the Trent, the navigation of the river has ceased. These branches are each eight miles and a half long:
The government of the town is vested in a mayor and corporation: there are ten aldermen, a high steward, recorder, town-clerk, &c. Hutton states, that in his day the burgesses loudly complained of their magistrates for pillaging their property, in erecting to their private benefit, the common lands which belonged to the community; "but," he observes in his quaint language, "I should hope, for the honour of my native country, that no man would steal except when he cannot be detected."

Derby is divided into five parishes, and has five parish-churches, besides a chapel of ease lately erected, a Catholic chapel, a meeting house for Quakers, one for Swedenborgians, and several for other dissenters of various sects. Little is to be said of four of these churches; the last is dedicated to St. Peter, St. Michael, St. Alkmund, and St. Werbergh: but All Saints' Church is "the pride of Derby;" and is ludicrously compared by Hutton to a "a lien between her four chieftveks."

The tower is very lofty, being nearly 150 feet in height; it is in the later English style, is much enriched towards the top, and is surmounted by four pinnacles. On a fillet round the tower is an inscription in old English characters, beginning with the words: "young men and maidens," probably from the 14th century, a veneration of which so begins. The remainder is so defaced as to be illegible, but the visible portion is interpreted by the people of Derby to import that the tower was built to the height of that inscription by the youths and maid of the town; and in corroboration of the fact it is stated that the bachelors used to ring the bells whenever a young woman born in the town was married. The tower was built in the reign of Henry VIII., and is furnished with a peak of ten bells and chimes. The body of the church was rebuilt, chiefly by voluntary subscription, in the years 1733, 1724, and 1725. It is a handsome edifice, but un luckily in a style most incongruous with that of the tower, being of the Roman-Doric order, with circular arched windows, divided by double pilasters, and surmounted by a balustrade. It is 130 feet in length and 83 in breadth, and is divided by a handsome screen of iron into two portions. The western end only is appropriated to public worship; the eastern division is subdivided into three parts, one of which is the vestry, a second the chancel, and the third is the dormitory of the Devonshire family, most of whom are buried in the church. The family vault received in March, 1810, the body of Henry Cavendish, 35 percent. in ten years, and of nearly 81 percent. in 1747 boys and 156 girls; and a Sunday-school, in which many improvements on the usual arrangements have been suggested; what none hath dared, thou hast done; what none hath thought of, thou hast persuaded; what none hath dared, thou hast done; and whom all the world hath flattered, thou alone hast cast out of the world and despised. Thou hast drawn together all the far-stretched greatness, all the pride, cruelty, and ambition of man, and covered it all over with these two narrow words, Hic jacet."

An excellent infirmary was opened in Derby in 1810, in which many improvements on the usual arrangements of such places were adopted. Ventilation and cleanliness were enforced; the patients were classified, and such as were able to leave their beds were removed in the daytime to separate rooms, instead of remaining in their sleeping wards.

The free-school of Derby is believed to be one of the most ancient foundations of the sort in the kingdom. It was founded in the reign of Henry II., and is free for sons of burgesses only. The celebrated Flamstead received his early education in this school. The income of the school, stated by the Commissioners of Inquiry to amount to 34l. 18s. 9d., and the number of free scholars to be generally about two. A national school was established in Derby in 1812; in 1834 there were four, containing 217 boys and 156 girls; and a Sunday-school, in the same connexion, attended by 140 boys and 130 girls. A Lancasterian school was also begun at the same date; and there is an Infant school for twenty-five of each sex.

Derby, in proportion to its size, has long maintained a fair literary and scientific rank. The novelist Richardson was born here. The Derby Philosophical Society for the Promotion of Scientific Knowledge was begun by Dr. Darwin in 1788; it still consists of many members, and possesses an extensive and valuable library.

The engraving represents the Town Hall, lately erected in the New Market Place; the Old Town Hall was erected in 1739, and although well adapted to its object, and in good repair, it was awkwardly and inconveniently placed. The erection of the New Town Hall and Market is felt to be necessary in point of convenience, but is generally considered an ornament to the town. The other public buildings are a Theatre, Assembly Room, County Hall, and Jail. The manufactures of Derby are considerable. As to its celebrated silk-mill, we shall only refer to No. 191 of the 'Penny Magazine,' where it is fully described. The cotton manufacture has long flourished; it was in this town that Arkwright first succeeded in weaving calicoes in 1773. A good deal of machinery for cotton manufactories and stocking-frames is made in the neighbourhood. The manufacture of porcelain employs about 200 hands, many of whom are engaged in making the fine biscuit-ware for which Derby is so well known as Derbyshire spar, is manufactured into a great variety of ornaments for halls, windows, chimney-pieces, pendulets, &c. &c. It is therefore a prosperous place, it is said, even in a normal state.

An excellent infirmary was opened in Derby in 1812; in 1834 there were four, containing 217 boys and 156 girls; and a Sunday-school, in which many improvements on the usual arrangements have been suggested; what none hath dared, thou hast done; what none hath thought of, thou hast persuaded; what none hath dared, thou hast done; and whom all the world hath flattered, thou alone hast cast out of the world and despised. Thou hast drawn together all the far-stretched greatness, all the pride, cruelty, and ambition of man, and covered it all over with these two narrow words, Hic jacet.

The population in 1831 was 23,607; in 1821 it was 17,423; and in 1811, 13,043, being an increase of 35 per cent. in ten years, and of nearly 81 per cent. in twenty years: an extraordinary advance, as the number of inhabitants for some centuries had been stated at pretty nearly 8000, without much variation.

Conclusion of Sir Walter Raleigh's History of the World.—We have heard some persons speak of the following passage, which concludes the 'History of the World' by Sir Walter Raleigh, as the finest bit of prose in the English language. We do not feel quite certain on that chimney-piece, but it is certainly very grand. "It is therefore Death alone that can suddenly make man to know himself. He tells the proud and insolent that they are but objects, and humbles them at the instant, makes them cry, complain, and repent; yea, even to hate their forepassed happiness. He takes the account of the rich, and proves him a beggar, a naked beggar, which hath interest in nothing, but in the gravel that fills his mouth. He holds a glass before the eyes of the most beautiful, and makes them see their deformity and littleness, and they acknowledge it. O eloquent, just, and mighty Death! who, when thou hast persuaded, what none hath dared, thou hast done; and whom all the world hath flattered, thou alone hast cast out of the world and despised. Thou hast drawn together all the far-stretched greatness, all the pride, cruelty, and ambition of man, and covered it all over with these two narrow words, Hic jacet."
UMBRELLAS IN THE EAST.

[From a Correspondent.]

It seems difficult to understand how a busy people could ever manage without so essential a convenience as an umbrella for rainy weather; yet it is certain that they did not make use of it in the early periods of their history. The fact is, that an umbrella forms one of the numerous conveniences of civilized life which seem indispensable when so much time has passed since they were discovered that the contrivances in which some imperfect degree supplied their use before have passed into oblivion. We feel the convenience we possess without being always aware of the steps which intervened between it and the complete inconvenience—as, for instance, the inconvenience of being altogether unsheltered from the rain; yet, no doubt, our fathers had conveniences to obviate complete exposure on which they plumed themselves as much as we do upon our umbrellas, and that (as we know they did) they looked upon the new practice as exceedingly coxcombical, silly, and unnecessary. Very possibly some new contrivance in a future age will make our posterity look back upon the umbrellas-people with the same compassion which we feel towards the people who lived before us. The umbrellas in China are a remarkable thing worth while to give to the subject has not enabled me to make out a complete history of umbrellas; but the notices which I have collected in the course of my reading, or have obtained by personal observation in eastern countries, will still be interesting to many readers of the 'Penny Magazine,' and may tend to remove some mistaken impressions which are commonly entertained.

Notwithstanding the more stately appearance of the umbrella, it is but the child of the parasol, or rather, the original and almost exclusive use of the umbrella is that to which the parasol is now appropriated,—to afford shelter from the sun. The applicability of the same implement as a defence against rain was sufficiently obvious, but is scarcely known in the original countries of the umbrella except as introduced from Europe.

The umbrella is of Asiatic origin. Some commentators on the Bible think they can discover it in some passages where a "shade" defending from the sun" is mentioned. This is not unlikely. The article has, however, from times immemorial, been so well known in all the warm countries of Asia that it is impossible to discover in which of them it originated, although there are circumstances which seem to point to a common origin. It is more in use in China than elsewhere in Asia; and when we find a practice in that country we seem naturally disposed to look there for the origin of it; but there is no evidence for the prior claims of China, nor is the point well worth investigating.

Except in that country, and in some Europeanized parts of Turkey, the umbrella is nowhere in Asia an article in common use among the people. In most of the Asiatic nations it forms a distinction peculiar to royalty, while in some others it is also conceded to persons high in authority and place, particularly to governors of provinces, who in most Asiatic countries are, for purposes of government, invested with powers almost regal.

In the farther peninsula of India the umbrella is strictly confined to royalty itself. Here prevails one particular in the title of the king of Ava, who, in his letters to foreign princes, declares himself to be "king of kings, to whom all kings should be obedient, he being friend and near kinsman to all the gods in heaven and earth, by whose regard for him all animals are nourished and preserved, and the seasons have their constant returns. He is brother to the sun, and the moon and stars are his near relations: he is lord of the ebbing and flowing of the sea, king of the white elephant, and lord of the twenty-four umbrellas."

This is a most exquisite specimen of the bathos, to our apprehension, but certainly not as locally understood. For the umbrella being an ensign of royalty, their number would seem to express the number of the kingdoms and states which have been subjected to the king. Sir John Malcolm observes that the title of the "chattrapati," or "lord of the umbrella," is still maintained as a peculiar mark of honour by one of the highest officers in the Mahratta state. Sir John is also of opinion that "satrape," the old Persian title for a prince or governor of a province, is derived from this same word "chattrapati," and has the same significations, namely, of "lord of the umbrella or shade of state." "Chatta," which signifies an umbrella both in Persian and Sanskrit, seems about the same as "chattra." The attention I have thought it scrit, and "pa," a contraction of "pati" (lord), though in some others it is also conceded to persons of high rank, while in some it is only covered with a small parasol, or rather, the parasol is now appropriated,—to afford large umbrella which he holds over the royal head. The fly-flapper is always present, but not the umbrella-man, whose services seem to have been only required when the king was in the open air. In other sculptures on the rock at Takht-i-Bostan, which are less ancient than the former, although not less than twelve centuries old, there is, among others, a remarkable piece of sculpture representing the king seated on a throne. The king is introduced rather as a spectator than as one actively engaged in the sport. He and the horse on which he sits are of colossal proportions, much exceeding any of the other figures in the piece, such being a distinction frequently conferred upon royalty in the paintings and sculptures of the East. The king has a square, bluff countenance, bearing a remarkable resemblance to our Henry VIII.; and the horse which he walks into the field is a heavy and stately thing, seeming as if modelled after one of the magnificent cattle which condescend to drag the various "entires" of Meux and Co., Reid and Co., &c. &c., about the streets of London. Close behind the horse walks a man who holds, with both his hands, over the royal head (which is only covered with a small cap) an umbrella, having an exceedingly close resemblance to the chaise-umbrellas in use among ourselves.

The king seems here to appear in state, nor does it seem as if the great horse on which he sits could ever be provoked into anything like speed; and hence we may be at liberty to hope for the sake of the umbrella-bearer, that the king was not thus attended in his ordinary rides. We are not, however, bound to suppose that any consideration for the umbrella-bearer operated in preventing the ordinary use of the umbrella in this way,—witness the "shaitirs," or running footmen, of our own time, who are bound to run on foot before the king's horse at whatever speed he chooses to ride. The umbrella is still a distinction confined to royalty in Persia.

We learn from Niebuhr that the umbrella is also a
mark of authority among the Arabs, and it was probably by them that this use of the umbrella was carried into Africa, where we still find it so employed as a royal distinction, not only among the Moorish tribes of the north, but the negro nations of the west of that continent. I may here confidently state that in the empire of Morocco, where I find the custom illustrated by a sentence or two quoted by Mr. Charles Taylor, in his 'Fragments' from the 'Life of Mulay Zeerit,' a work which I have never myself happened to meet with.

It is related, that as the emperor "went out of the palace gate, the violence of the wind broke his parasol; which was interpreted as an omen of the approaching end of his reign. The accident made a great impression on the old monarch himself, which, however, he endeavoured to hide, and called for another parasol," and again:—"The Effendi was careful to send to his new master the parasols, the launces, the bed of the old king, and all the other things belonging to him, which were considered as distinctive marks of barbarian royalty." Ali Bey is more precise in his information. An umbrella was among the presents which he himself offered to the Emperor of Morocco; and when, on a subsequent occasion, he described the entrance of that monarch, he says:—"The centinels of the sultan was composed of a troop of fifteen to twenty men on horseback; about a hundred steps behind them came the sultan, who was mounted on a mule, with an officer bearing his umbrella, who rode by his side also on a mule. The umbrella is a distinguishing sign of the sovereign of Morocco. Nobody but himself, his sons, and his brothers, dare to make use of it: however I had this high honour conferred upon me." (Travels, vol. i. p. 109.) This is curious, as in some degree with violence from my hand, and thrust me forward, which contains the above costumes represents a soldier in his undress, sitting enounced under an umbrella of oiled canvas, affording shelter also to a child.

Turkey is the only other Asiatic country where the umbrella is in common use, and used as a defence against rain. It is, however, only seen in the western parts of Turkey. Arriving at Constantinople from countries further to the east, and having learnt to regard the umbrella as a mark of high distinction, I was much astonished to find it in very common use there. I therefore imagine that the example of the Europeans established in the suburb of Pera brought it into use, and much opposition to the innovation was not to be expected from the present reforming sultan. However, I had soon occasion to learn that traces still remained of the distinction so usually throughout the east associated with that article. I resided principally at Orta Köy, a village on the Bosporus, about three miles above Constantinople; and having urgent occasion one wet day to go down to Pera, I set out, umbrella in hand. On arriving at the water-side, none of the boats that usually ply between the village and the Golden Horn remained, and I was therefore under the necessity of walking all the way along the road behind the row of buildings that face the Bosporus. One of these buildings is a favourite palace of the sultan, in which he was then residing. As I approached the gate of this mansion with my umbrella over my head, I observed that one of the centinels stationed there accosted me in a commanding manner; but not comprehending what he said, I went on, on which the soldier ran towards me with his fixed bayonet levelled, and without any indication of a friendly intention towards my person. That I took it safely that day to the great city, was probably owing to the good-nature of a Turk who was walking close behind me at the moment, and who, on observing the advance of the soldier upon me, snatched my umbrella from my hand, and thrust me forward, partially interposing himself between me and the assailant, who then returned to his station, and allowed me to proceed in peace. The friendly Turk, in returning my umbrella, endeavoured to explain a fact which I afterwards ascertained more distinctly, that it was incumbent on every one to take down his umbrella on passing the actual residence of the sultan. I had indeed observed with some surprise that persons walking before me had lowered their umbrellas as they approached the palace, and again, elevated them when they had passed; notwithstanding the heavy rain; but without imagining that this was a matter of obligation. Now that my attention was directed to the circumstance, I failed not to observe, on subsequent occasions, that persons passing on the Bosporus in boats never omitted to take down their umbrellas as they approached in front the mansion which 'the brother of the sun and moon' honoured with his presence.

Thus much for "Umbrellas in the East." I hope, on a future occasion, you will not think a page or two ill bestowed in allowing me to trace umbrellas to the west.

Why Churches are not always built due East and West.

One end of every church doth point to such place where the sun rises at the time the foundation there was laid, which is the reason why all churches do not directly point to the east. For if the foundation was laid in June, it pointed to the north-east, where the sun rises at that time of the year; if it was laid in the spring or autumn it was directed to the south-east. If in winter— but if in winter— standing of these churches it is known at what time of the year the foundations of them were laid. —Chaucer's Herfordshire.

* The Office of the Society for the Diffusion of Useful Knowledge is at No. 59, Lincoln's Inn Fields.

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THE LÄMMERGEYER, OR BEARDED VULTURE.

The rapacious birds or birds of prey (raptores, V.) constitute one of the most interesting and remarkable of the families into which the feathered race is divided. Like the carnivora among mammalia, they have instincts and bodily powers fitting them for a life of warfare and aggression. As, however, the carnivora exhibit among themselves various modifications of their instincts and habits, some boldly attacking their prey, some insidiously stealing upon their unsuspicuous victim, some contenting themselves, except when made daring by hunger, with the offal and putrid carcasses which chance may throw in their way, so do we find among the raptores the same variations. Though to a superficial eye the habits of birds of prey may seem all alike, yet to one who observes more narrowly, a multitude of details in which marked differences subsist will not fail to be presented. Some, the tigers of their race, daring, rapid, and impetuous, pursue their prey in the air, and strike...
down with a swoop to the ground. Their excellence in this kind of aerial tilting, together with their ferocity, gave them the name of birds of prey, species of falcons, such as the jerfalcon and the peregrine, in the days when falconry was cultivated, the highest reputation. Others, as bold as the falcon, dart silently and instantaneously upon their prey, not while it is in the air, nor by a swoop, but by a sidelong arrow-like flight, striking or seizing it while it rests unconscious of the approach of its enemy. Others, on wide and buoyant wings, sail over meadows, downs, and moors, preying upon mice and reptiles, which they mark while hovering above. Some are wide and broad wings, and the feet too short and robust, are covered with rough hard scales; destroyed, for though elongated, the beak is hard and sharp, and incapable of grasping a heavy victim. It is these that the eagle plunges deep into the agonizing body of its prey as he proceeds to lacerate it with his beak, and it is in their grasp that he bears off the fawn, or the lamb, or the wildfowl, into the abyss down which it plunges to its rapacity. Young or small animals are easily taken, though not anywhere numerous, very widely dispersed, being the longest; the tail is graduated; the head is fairly seated him within the ring they had formed. The vulture, as the eagle, fills up its appointed station, but the station is different; it is destined to be one of the purifiers of the surface of the land—one of Nature's scavengers, assisting the hyæna and the wild dog in a foul but useful task. Neither fitted nor inclined to lead a life of sanguinary warfare, it banquets on carrion and revels in putrescence. Like a foul-feeding glutton, it will gorge itself to such a state as to render itself incapable of resistance or flight, though when uninumbered its flight is grand and soaring. Its powers are adapted to its instincts, its beak is feeble compared with that of the eagle, the tarsi are more slender, and the toes longer, feebler, unarmèd with huge hooked claws, and incapable of grasping a heavy weight during flight. Where the vulture finds its food, there he banquets, never attempting to carry it to his haunts. The eagle lives single, or only in company with his mate; the vulture usually congregates in bands.

Nature, however, proceeds on her march by steps—she seems (so to speak) to dislike abrupt transitions, and we find in studying her diligently, that forms blend into forms, groups into groups, by intermediate and graduated links of union. We have pictured two extremes—the eagle and the vulture; but the naturalist finds the interval between these prominent forms filled up by various forms of an intermediate character; and one of these is exhibited in the bird represented at the beginning of this article—the lämmergeyer of the Alps (gypaetus barbatus, Storr.)

This fine bird, which equals or exceeds the largest eagle in size, is found throughout the whole of the great mountain chain of the Old World, being in fact, though not anywhere numerous, very widely dispersed. It occurs in the Pyrenees, and in the Alps of Germany and Switzerland, where it is notorious for its destruc-

The intermediate situation assigned to the lämmergeyer, and which is aptly expressed in the generic appellation gypaetus (a Greek compound designating a vulture and an eagle,) is clearly indicated in its form and general habits. Of a powerful and robust make, it has neither the bill nor the talons of the eagle, the former being elongated, and hooked only at the top, and the latter comparatively small and feeble; nor has it an exclusive appetite for blood, carrion and small animals being greedily devoured by it. The eagle boots off his prey, but the lämmergeyer clomps along to remove it, but devours it on the spot; indeed, its grasp is too feeble to permit him to manage effectually any but a trifling weight. Attracted by the carcasses of some unfortunate animal which has perished among the ravines of the mountains, a number of these birds gradually congregate to share the booty, and gorge like the vulture to relpletion. The lämmergeyer, however, does not confine himself to putrid flesh, but attacks the young of small birds, and sickly of the flocks with great ferocity; the strong-limbed chamois, not being secure, nor when rendered desperate by hunger, will the ravenous bird forbear an attack on man. Children indeed are said to have often fallen sacrifices to its rapacity. Young or small animals are easily destroyed, for though elongated, the beak is hard and strong, and well adapted for lacerating the victim; but larger animals, instead of being at once grappling with, are, as it is said, insidiously assaulted while upon the edge of some precipice or steep declivity, and then exposed upon them with fury, and battering them into the abyss down which it plunges to glut its appetite. As illustrative of the boldness of the lämmergeyer, Bruce relates that, attracted by the preparations for dinner, which his servants were making on the summit of a lofty mountain, a bearded vulture "slowly made his advances to the party, and at length fairly seated himself within the ring they had formed. The affrighted natives ran for their lances and shields, and the bird, after an ineffectual attempt to abstract a portion of their meal from the beard who projected a large piece in each of his talons from a platter that stood by, and carried them off slowly along the ground as he came." Returning in a few minutes for a second freight he was shot.

There is little in the general aspect of this bird to remind one of the vulture, and yet the character of the head, and the general contour of the body, are strikingly different from those of the eagle; there is a want of dignity and quiet grandeur in its attitude, and the glance of its red eye, though keen and cruel, is deficient in that expression of daring and resolution which we admire in the feathered monarch. The bristly beard which depends from the lower mandible, tends also to give a peculiar character to its physiognomy. Of the nidification of the lämmergeyer little is ascertained, except that it selects the most inaccessible pinnacles as the site of its eyrie; Pallas states that it is known to breed on the high rocks of the great Aletà chain, and beyond the lake Baikal.

In length this extraordinary bird measures about four feet from the bill to the end of the tail, and from nine to ten in the expanse of its wings. Larger admeasurements have been given by various writers, which are probably exaggerated—none of the numerous specimens which we have seen exceed our statement. The tarsi are short and almost hidden by the feathers of the thighs; the iris is bright red; the wings are ample, the second and third quill feathers being the longest; the tail is graduated; the plumage is clothed with feathers, and from the sides of the under mandible proceeds a row of black bristles, which form a
beard or pencil at its angle, and a layer of similar bristles, beginning at the eye, covers the nostrils. The general colour of the upper surface is dark greyish brown, the centre of each feather having a longitudinal dash of white. The neck and the whole of the under surface are white, tinted with reddish brown. The young birds are darker in the general hue of their plumage than the adult, and the white spots are larger and less defined; in this stage it has been mistaken for a distinct species.

The flight of the lâmmergier, as its great bodily powers, its ample wings and tail sufficiently indicate, is sweeping and majestic. It sails around the Alpine summits, whence it marks its quarry from afar, and collecting all its energies for the onset, glides like an arrow upon its prey. If, however, it be lured from its aërial altitude by carrion, it no longer emulates the eagle in its pounce, but coldly descending to some neighbouring crag, it thence sets out, flying with heavy wings, at a small distance from the ground, towards its foe. It has, however, to be joined by others of its species. Two noble specimens in fine plumage are in the gardens of the Zoological Society; they seem to bear confinement well, and are healthy and vigorous.

Absence of Antipathies.—I am of a constitution so general, that it consorts and sympathizes with all things. I have no antipathy in diet, humour, air, or anything. I wonder not at the marvels of the various nations, and I take stools, nor at the Jews for locusts and grasshoppers: but, being among them, make my common viands, and I find they agree with my stomach as well as theirs. I could digest a salal gathered in a churchyard as well as in a garden. I cannot start at the presence of a serpent, scorpion, lizard, or salamander; at the sight of a toad or viper, I find no need to take up a stone to destroy them. I feel not in myself those common antipathies that I can discover in others. Those national repugnances do not touch me, nor do I behold with prejudice the French, Italian, Spaniard, and Dutch: but where I find their actions in balance with my countrymen’s, I honour, love and embrace them in some degree. I was born in the eighth climate, but seemed to be framed and constituted towards its foul goal, but to be joined by others of its species. Two noble specimens in fine plumage are in the gardens of the Zoological Society; they seem to bear confinement well, and are healthy and vigorous.

Advantage to the Moderns.—Though there were many giants of old in physics and philosophy, yet I say with Didacus Stella, “A dwarf standing on the shoulders of a giant may see further than a giant himself.”—Burton.

COSTUME OF NORMANDY.

The existing costumes of Normandy offer a more curious subject than might at first be imagined; for not only are they remarkably distinctive in themselves, but in the prevailing dress of the females we discover evident traces of a mode of attire which has been extinct in this country for several centuries. Our chief authorities in this matter must be the respective tours through Normandy by Mrs. Stothard and Mr. Dawson Turner: and it is to the latter tourist, that we are indebted for the indication of the analogy to which we have just adverted.

Leaving out of view the costume of the upper and middle classes of society, whose attire offers nothing remarkable, being an imitation, generally slow and awkward, of the mode which Paris sets to the nations of Europe, we shall direct our exclusive attention to the costumes which seem more particularly characteristic.

Both Mrs. Stothard and Mr. Turner, in describing Rouen, have mentioned the motley groups of figures that appear in the streets of that ancient city. Among the most curious objects are the carts, which are sometimes drawn by eight or nine horses placed in a string one before another, and usually adorned with sheep skins dried blue: from the collar projects on each side of the neck a painted board, which is sometimes ornamented with pieces of looking-glass, the whole equipage having an exceedingly odd but not unpicturesque appearance.

Other carts are sometimes drawn by yoked oxen. Some of the peasants who bring vegetables from the farms on horseback, without saddle or bridle, make a still more picturesque appearance. “But the best figures on horseback,” says Mr. Turner, “are the young men who take out their masters’ horses to give them exercise, and who are frequently to be seen on the grand cours. They ride without hat, coat, saddle, or saddle-cloth, and with the shirt sleeves rolled up above the elbow. Their negligent equipment, added to their short curling hair, and the ease and elasticity they display in the management of their horses, gives them, on the whole, a great resemblance to the Grecian warriors of the Elgin marbles.” Then appear the women with their large baskets, tempting purchasers by a rich display of fine fruits and beautiful flowers. Bonnets do not form part of the proper female costume of the country: and the men also are frequently to be seen without hats in the streets; and when their heads are covered, the coverings are of every shape and hue, from the black beaver, with or without a rim, through all the gradations of cap to the simple white cotton nightcap. They seldom wear cravats. The common people of both sexes invariably wear wooden shoes, fastened across the foot by a leather strap, with a piece of black or white sheep-skin upon the instep to prevent the foot from being galled by the pressure of the wood. When they walk or run along the pavement,” says Mrs. Stothard, “these shoes make such a clatter, that when I first arrived here, I frequently turned round, thinking a horse was immediately coming upon me.”

Tourists complain sadly of the importunity and insolence of the beggars which swarm in the Norman towns. Strangers are continually beset by them, and are sometimes followed with great perseverance by eight or nine at a time, many of them displaying shocking personal distortions, deformities, and defects. Mrs. Stothard says at one place, “On going into the court-yard of an inn at Magny, in our road to Paris, the door-way was filled by mendicants; one man, a most dreadful deformity of nature, was seated upon an ass, begging of every person that passed by. Frequently has the stump of a hand been actually thrust in my face. A beggar once seized me by the arm, demanding money, and was ascending the stairs to follow me into my chamber; till I got rid of her by yielding a trifle to her importunity, whereas I seemed dissatisfied because it was not a franc.” It is much the same even while travelling on the road. The beggars station themselves upon the side of every hill; and most interesting and agreeable of all the ways in which they announce their object is by throwing a nosegay into the carriage. There is, however, no lack of more urgent applications. If the stranger is not moved by the protective charity of the innkeeper—“A small charity, if you please, ladies and gentlemen,” he is attacked on the side of his devotion, and is inundated by a shower of patrons, creeds, and Ave Marias, which fall upon him with the utmost velocity. Should all this prove ineffectual, wishes for the health and welfare of the assaulted party, and for their safe and prosperous journey, are then essayed. They go through all this, according to Mr. Turner, “with an earnestness and pertinacity almost inconceivable, whatever rebuffs they may receive. Their good temper
too is undisturbed, and their face is generally as piteous as their language and tone; though every now and then a laugh will out, and that probably when they are telling you they are petits misérables, pauvres petits malheureux, qui n'ont ni père ni mère. With all this they are excellent flatterers. An Englishman is sure to be milord,' and a lady to be ma belle duchesse,' or ma belle princesse.' They will try, too, to please you by vivent les Anglais!'"

It would seem that begging is practised occasionally as a favourable opportunity offers even by persons in the lower orders who do not make mendicity a profession. This is particularly the case with the women. Speaking of them, a lady who contributes some lively sketches to Mr. Turner's book, states that even the women who inhabit towns live much in the open air. Besides being employed in many servile offices out of doors, they sit at their doors or windows pursuing their business, or lounge about watching passengers to obtain charity. Thus, proceeds the lady, their faces and necks are always of a copper colour and at an advanced age more dusky still; so that for the anatomy and colour of witches a painter needs look no farther. We hope the lady is a little satirical here, and we apprehend her observation must be limited to the lowest of the low. We can collect that a large proportion of the young and middle-aged females, though bronzed, have very pleasing features; and in the small shops and elsewhere women that are decidedly pretty may frequently be seen. Mr. Turner himself admits, in another place, that the young are generally pretty, although the old are tanned and ugly.

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"The transition from youth to age seems instantaneous,—labour and poverty have destroyed every intermediate gradation; but whether young or old, they have all the same good-humoured look, and appear generally industrious, though incessantly talking."

In noticing the prevalent dress among the mass of the female population, we should do great injustice to the subject if we allowed it to be painted by any other hand than that of a female. We therefore give Mrs. Stothard's account:

"It looks singular at the first view, but, when the eye is accustomed to it, appears by no means unbecoming: it generally consists of a woollen petticoat, striped with a variety of colours, as red, blue, &c; an apron also of red or blue. The jacket of the gown is most commonly made of marone, white, black, or red worsted; the long sleeves of which being sometimes perhaps of marone so far as the elbow, and the lower half of a scarlet colour. A little shawl (white or coloured), with a fringe round it, pinned in plaits upon the back, covers the shoulders. The head-dress, called the Bourgoin, is the most remarkable and conspicuous part of their attire. It is formed of white stiffly-starched muslin, that covers a pasteboard shape, and rises a great height above the head, frequently diminishing in size towards the top, where it finishes in a circular form: two long lappets depend from either side towards the back, and these are often composed of the finest lace. Some of the women have a piece of velvet, which fastens their head dress under the chin, and others a riband that crosses the forehead from the cap. Several women, on Sundays or holidays, appear clothed
entirely in white instead of this costume; but they still retain their Bourgoin, which on such occasions is always composed of fine muslin and lace.

To this we should add that pockets of a different dye are usually attached to the outside of the petticoat, and the appendage of a key or corkscrew may often be perceived. Large silver or gilt ornaments (usually crosses) are also suspended round their necks, while long gold earrings drop from either side of their head, and their shoes often glitter with enormous paste-buckles. It must indeed be understood that the dress is by no means restricted to the lower or even middle classes, but is still preferred, or at least a modification of it, by many females in the higher walks of life. Speaking of it, Mr. Turner says, that there is a manifest resemblance between it and the attire of the women of England in the fifteenth and sixteenth centuries. This is particularly apparent in that species of the Bourgoin which forms part of the grand costume of a Norman woman, the very prototype of which may be found in Strutt’s ‘Ancient Dresses.’ “Decorated with silver before and with lace streaming behind, it towers on the head of the stiff-necked complacent wearer, whose looks appear beneath arrayed with statuary precision. Nor is its antiquity solely confined to its form and fashion; for, descending from the great-grandmother to the great-grand-daughter, it remains as an heirloom in the family from generation to generation.”

We cannot well conclude this notice of Norman costume without bestowing a few words on the fishermen of Pollet, a suburb of Dieppe; the following particulars concerning whom are derived from a passage which is given by Mr. Dawson Turner as a translation from a French history of Dieppe.

Three-fourths of the natives of Pollet are fishermen, who are not less distinguished from the mass of the citizens by their name of Poliese (taken from their place of residence), than by the difference in their dress and language, — the simplicity of their manners, and the narrow extent of their acquirements. To the present day, they continue to wear the same dress as in the sixteenth century. This consists of trousers covered with short wide petticoats, which open in the middle to afford room for the legs to move, and woollen waistcoats, laced in the front with ribands, and tucked below into the waistband of their trousers. Over these waistcoats is a loose coat, without buttons or fastenings of any kind, which falls so low as not only to cover their petticoats, but extends a foot or more beyond them. These articles are usually of cloth or serge, of an uniform colour, and either red or blue; for they allow no other variation, except that all the seams of their dress are faced with white silk galloon, about an inch in width. To complete the whole, instead of hats, they wear on their heads caps of velvet or coloured cloth, forming altogether a dress which, while it is evidently ancient, is in a considerable degree pleasing and picturesque. Thus clad, the Poliese have the appearance of a distinct and foreign colony; while, continually occupied in fishing, they have had no share in the changes and extended civilization which circumstances and the lapse of time have diffused over France. They are indeed scarcely acquainted with 400 words of the French language, and these they pronounce with an idiom...
exclusively their own, adding to each an oath by way of epithet,—a habit so inveterate with them, that even at confession, at the moment of seeking absolution for the practice, it is no uncommon thing with them to swear that they will be guilty of it no more. To balance this, the Chinese find satisfaction in the fact that their camphor is obtained from trees which are not injurious to their country, and equally so in behalf of their priests, in defence of whom they once threatened to throw the Archbishop of Rouen into the river, and were well nigh executing their threats.

The wood-cuts in this and the preceding article are from original sketches by Mr. Delamotte.

CHINA.—No. VIII.

THE BAMBOO, CAMPHOR TREE, AND OIL PLANT.

THE BAMBOO.—Although no production of China is of so much importance to us as tea, there are others of equal or perhaps superior value to the Chinese themselves, and the bamboo may be classed among them. In the hands of the Chinese, the bamboo may almost be denominated a universal material; for it performs with it operations the most various and dissimilar that can well be imagined. This reed, in its entire state, is formed into stools, chairs, tables, bedsteads, and many other articles of furniture. It supplies scaffolding for building, masts and yards for shipping, carts and wheelbarrows for husbandry, wheels and tubes for irrigation. Split into laths, or beaten into fibres, it forms screens for ornament, and ropes, cords, and twine for all purposes,—from the rigging of a ship to the wick of a candle. Woven, it becomes a sail-cloth or a sacking; macerated into a pulp, it is made into paper; and mixed up with lime, it serves to caulk their ships. By simply tying together four of these reeds, swimming-jackets are constructed capable of supporting one or more persons, and a machine is thus made for the prevention of drowning, equally efficacious with our more elaborate life-preservers. When young, it affords a nutritious article of diet; when growing, it is a fence for their gardens and fields, a protection for their cottages, and an ornament for their palaces. It is the weapon of justice and the instrument of oppression, supporting equally the authority of the mandarin and the arrogance of the petty official. It almost seems that, without its use, the machinery of government would stand still, and the Chinese would want many of those accessories to comfort which separate the civilized man from the savage.

THE CAMPHOR TREE.—One of the useful and magnificent productions of the vegetable kingdom that enriches China, and more particularly the provinces of Kiang-si and Canton, is the **laurus camphora**, or camphor-tree. This stupendous laurel, which often adorns the banks of the rivers, was in several places found by Lord Amherst's embassy above fifty feet high, with its stem twenty feet in circumference, and with branches not less than nine feet in circumference. The Chinese themselves affirm that it sometimes attains the height of more than 300 feet, and a circumference greater than the extended arms of twenty men could embrace; but the English found no instance that justified their description. Camphor is obtained from the branches by steeping them, while fresh cut, in water for two or three days, and then boiling them till the gum, in the form of a white jelly, adheres to a stick which is used in constantly stirring the branches. The fluid, however, this stick, for their mortars are unground, their fidelity is exemplary, and they are laborious and charitable, and zealous for the honour of their country, and equally so in behalf of their priests, in defence of whom they once threatened to throw the Archbishop of Rouen into the river, and were well nigh executing their threats.

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meeting, form a circle, which is equal to the circumference of the hollow. Several of these are successively introduced, and fill up the interval between the bag and the mortice, and some space beyond. They are then driven back with great force upon the end by the means of bars and wedges of wood, forced in by an immense hammer in the form of a battering-ram. The oil runs from the press through a small opening in its depressed end.

Habit.—We are so wonderfully formed, that, while we are creatures vehemently desirous of novelty, we are as strongly attached to habit and custom. But it is the nature of things which hold us by custom, to affect us very little while we are in possession of them, but strongly when they are absent. I remember to have frequented a certain place every day for a long time together: and I may truly say that, so far from finding pleasure in it, I was affected with a sort of uneasiness and disgust: I came, I went, I returned, without pleasure; yet if by any means I passed by the usual time of my going thither, I was remarkably uneasy, and was not quiet till I had got into my old track. They who use sniff take it almost without being sensible that they take it, and the sense of smell is deadened, so as to feel hardly anything from so sharp a stimulus: yet deprive the sniff-taker of his box, and he is the most uneasy mortal in the world.

—Burke

LAWS OF MERCIA.

Sir Henry Chauncy in his 'Historical Antiquities of Hertfordshire,' published in 1760, mentions that the kings of Mercia often resided and kept their court at Berkhamsted, in that county. He also speaks of a parliament or great council which was held there, under Withred, king of Kent and Mercia, in the year 697, in which Birwold, Archbishop of Canterbury, presided, and at which all the prelates and military men assembled. Gough has corrected Sir Henry as to the place of assembly, which was really at Burstead, near Maidstone. All the rest is right. We have selected a few of the enactments which were agreed to on this occasion, and which seem to contain some curious illustrations of the condition of the people under the Saxon rule. The predominance of ecclesiastical influence is very visible in some of the enactations.

If any shall enfranchise his servant at the altar, he shall be free and capable to inherit, and shall be manumitted without limit.

If any servant, by command of the master, shall do any servile work after the sun shall be set on Saturday, or on Sunday, the master shall pay 6s. for the fact. If a servant shall travel on either of those days, he shall pay 6s. or be whipped. If a freeman shall travel on a day forbidden, he shall stand in the pillory, and the informer shall have half, as well of the mulct as of the wigst.

If a landlord, without the knowledge of his wife, shall offer anything to the devil, he shall forfeit his estate and stand in the pillory; but if both of them shall offend, she also shall lose all her goods, and stand in the pillory. If a servant shall offer anything to the devil, he shall lose 6s. or be whipped.

If any person shall give flesh to his servant to be eaten on a fast day, his servant shall be free. If any servant shall voluntarily eat it, he shall either pay 6s. or be whipped.

If a secular man shall kill a thief, no composition shall be made by the kinsman of him that is slain. If any free man carrying away anything that is stolen, the king shall choose any one of the three punishments; either the thief shall be slain or banished beyond the seas, or rather his wigst. (which was the value of his head or life) and he who apprehended him shall have half his goods; but if he shall kill him, he shall pay 70s. If any servant shall be robbed, and shall suffer the thief to escape, he shall pay 70s., or, which the king pleases: but if any one shall slay him, his master shall have half his goods.

If any stranger shall wander privately through the country, and shall neither cry aloud nor sound his horn, he shall be taken for a thief, and shall either be slain or banished.

* This is only to be understood of after sunset on Saturday.

THE READING ROOM,
BRITISH MUSEUM.

As very few even of the ordinary visitants to the British Museum have been in the Reading Room, or are acquainted with its regulations, it occurs to us that a short statement on the subject may be very acceptable to some of our readers. Increased as the collection has been by the gift which the late king made to the institution of the books and manuscripts collected by his father, the library of the British Museum is now of the most valuable in Europe, both in manuscripts and printed books. The number of the persons who desire to avail themselves of the benefits it offers has more than increased with the increase of the collection; and instead of the dozen or so of students and inquirers who formerly rendered the business of the librarians little other than a sinecure, the Reading Room is now daily crowded with a mixed multitude, who keep in constant and active employment a large body of intelligent persons appointed to attend to their wants.

The Reading Room at the Museum is situated at the end of the library, with which it is connected by large folding-doors. The readers, however, never enter the library unless as ordinary visitants, the entrance being by a small private door on the first floor of the building, which is reached by a steep exterior flight of stone steps. The door at the top conducts to a lodge where the readers leave their umbrellas, and where there is a porter in attendance who keeps an account of the number of persons who enter, which enables the institution to report to Parliament every year the number of visits paid to the Reading Room. Although the readers are admitted by ticket, renewable every six months, the tickets are not shown at each visit to the porter, as he, or the persons attending in the room, can easily, after the first visit or so, distinguish the persons entitled to admittance.

The Reading Room itself is a large and lofty oblong apartment, lighted by a range of large windows along each side, and at the farther end; all in the upper story, if we consider it as divided into two by a railed gallery which extends along the sides. The room is however very unequally lighted, in consequence of one side being overshadowed by the high brick wall of one of the wings of the main building. This is not a disadvantage, as it enables the readers to choose the light which they prefer. A partition divides the room into two unequal apartments, of which the outermost is the largest. The whole below the gallery is lined with grated presses, filled with encyclopedias, lexicons, grammars, biographical dictionaries, county histories, papers printed by order of the House of Commons, and other works, which are so frequently required for reference as to render it inconvenient that the general rule of the establishment should be applied to them. The presses being therefore unlocked every morning, the students are allowed to consult them or fet them away without the usual application to the attendant. A few of the presses are left unoccupied, and in these, in order to save trouble, the readers are at liberty to deposit such of the books they have had as they may require for use on a following day; but this does not preclude them from being taken away, if applied for by another person when not actually in use by him to whom they have been thus partially appropriated.

The extent of the Reading Room is occupied by two rows of long and broad tables covered with green baize, which are separated from each other by a wide passage in the middle, and by narrower passages from the presses which line the walls on each side. There are eight comfortable leather-bottomed chairs to each table, and as there are fourteen such tables, there are regular seats for 112 persons, or we may say 120, as there are
two or three small tables in places where room can be made for them. This is hardly sufficient accommodation at present, and must before long be wholly inadequate. Persons who come later than one o'clock cannot look for a long time until a vacant seat is found, and are obliged to put up with some supernumerary contrivance. The number of seats will give no correct idea of the number of daily visitors to the Reading Room, as a large proportion of the early comers go after two, three, or four hours, and others who come late fill their places. It appears, indeed, that the average number of daily visitors amounts to about 235; for the return made to Parliament in the last session gives 70,266 as the total number for the year preceding, and this being divided by nearly 300 days in which the library is open, gives the above number as the result. The amount for that year was an increase of 11,466 on the year preceding: the rate of increase has been similarly progressive for several years past, and must very soon render extensive additions to the present accommodation necessary.

It is well for the student who comes to the Museum to have a previous knowledge, not only of the title of the information he requires, but of the author too. Without this preparation his case is a sad one, and would be nearly hopeless were it not for the assistance which Watt's 'Bibliotheca Britannica' may render, and without which we are verily persuaded there would have been a rebellion against the library catalogue long before this. Very audible murmurs have often been. The fault is, that the books are registered, not according to their subjects, but under the names of the authors, without even so much classification as is used in the catalogues of booksellers, or of subscription and circulating libraries. Such catalogues of which usually divide themselves under such heads as History, Travels, Poetry, Fiction, &c., still however retaining the alphabetical arrangement of names in the divisions. This would be a help, though a poor one; but the Museum Catalogue is rigidly an unclassified list of names throughout, except where the work happens to be anonymous, when it is entered under the head of its subject. That the force of this disadvantage may be the more clearly apprehended, we will endeavour to illustrate it by a familiar example.

Suppose A. B. wishes to consult the 'Decline and Fall of the Roman Empire,' but has forgotten, or never knew, the name of the author. How is he to proceed? Before he asks for it, he must not only ascertain that it is in the library, but that a vacant seat is at hand. Suppose A. B. is acquainted with the catalogue, he will probably propose to look for it under the head "History," and the subdivision "Roman History." If A. B. is not acquainted with the catalogue, he will probably propose to look for it under the head "History," and the subdivision "Roman History." Or he will expect to find it in such a form as this:—"Roman Empire, Decline and Fall of, by Gibbon, Edward, History of the Decline and Fall of the Roman Empire;" and, if he supposes that there is no particular classification, but a continuous alphabetical arrangement of information, he may have these reasonable expectations, he must needs be "amazed in the extreme" when the real character of the catalogue becomes known to him. The work he wants is entered thus:—"Gibbon, Edward, History of the Decline and Fall of the Roman Empire;" and, as he has forgotten the name, what is Peter to do? Some charitable person may perhaps refer him to Watt's 'Bibliotheca' for the information he requires; and although he feels that the catalogue of such a library as that of the British Museum ought not to need such assistance, he is glad of the relief which it affords. That others have been glad of it before A. B. is evident to him from the well-worn appearance it presents. As many of our readers must be unacquainted with the kind of assistance which the work in question is calculated to render, we may as well mention it here. Watt's 'Bibliotheca' is a work in four closely-printed quarto volumes, published in 1824, at the price of eleven guineas. The two first volumes contain an alphabetical list of the names of more than 40,000 authors, and under the name of each author is entered a list of his works and the date of the different editions. The two last volumes contain an alphabetical arrangement, according to subjects, of the works inserted in the former volumes under the names of the authors; and it includes also such works as have been anonymously published, and which could not therefore be included in the former volumes at all. When the subject is large, there is an internal classification; as, for instance, under the name of any country, the works which illustrate its history, language, manners, &c., with topographical descriptions of it, and travels in it, are classed separately under proper heads. This great work, on which its learned compiler was employed for nearly twenty years, is of incalculable value to students, notwithstanding the occasional errors, from which it can hardly be expected that a work of so much importance and so great a magnitude will be exempt. The time and trouble which it saves may be easily estimated by one who needs information concerning books which have appeared since the completion of the 'Bibliotheca,' and concerning which it of course can afford no information. It is highly desirable that a continuation, in the form of appendices to this important work, should be published every five or ten years.

But where is A. B.? He found the work he wanted in the fourth volume of the 'Bibliotheca,' in the subdivision of "History," under the head Rome, and was there also referred to the page and part of page in the previous division, where he might find the same work entered under the name of the author. He thus obtained all the information he required, and was enabled to discover the work even in the chaos of the Museum catalogue. This catalogue was printed between the years 1813 and 1819, in eight octavo volumes, and published at the price of four guineas. The copy at the Reading Room has the octavo pages pasted on folio leaves, with an alternate blank leaf, so as to leave room for the insertion of additional works with the pen as they arrive; the volumes are so crowded with such manuscript additions, that a new edition cannot much longer be dispensed with; and in preparing it, we are very sanguine in our hope that another and more rational arrangement will be adopted.

When a reader has found the work he requires, he copies on a slip of paper the form in which it is entered in the catalogue, and signs it with his name. Such tickets are left upon a table, whence they are fetched by persons whose business it is to find in the library the books which have been applied for and to take them to the Reading Room, where they are received by another person, who is always in attendance in the room, and whose duty it is to deliver the books to the students who have applied for them. They are well acquainted with the persons of the readers, and rarely deliver to one the books intended for another. The promptitude with which printed books or manuscripts are obtained varies much with the time of the day; and the delay, though sometimes considerable, is probably rarely greater than results from the extent of the library and the multitude of the demands.

* The number of visitors to the Reading Room was 1950 in the year 1810; 6020 in 1820; and 31,200 in 1830.
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THE OUISTITI, OR MARMOZET MONKEY.

Every large group of which the animal kingdom naturally consists will be found upon examination to resolve itself into divisions of a subordinate character. It is to one of these divisions in the family simiadae—a family comprehending the monkey and ape tribes—that we invite attention. The simiadae are essentially natives of the hotter portions of the globe; they abound in the inter-tropical regions of Asia, Africa, and America, and are expressly arboreal in their habits. Awkward on the ground, they display among the branches the most astonishing address and activity. Not only do the hands, fashioned like those of man, at least to a certain extent, possess the power of grasping, but the hind feet are hands also; they have a true thumb opposable to the fingers, and possess in an equal, nay, superior, degree the same power with which the anterior hands are so well endowed; hence Cuvier has termed these animals quadrumanæ, or four-handed. Like every other natural group, however, the simiadae are made up of a collection of minor groups, each having its distinguishing characteristics. This will at once be evident to any one who compares the orang—a climbing animal, the whole of whose organization adapts it for an arboreal abode and for that only—with the baboon, which, though alert and active among the branches, is at ease even on the ground, where he scampers along on all fours like a dog. The Ouistiti, the subject of our present examination, forms one of the boundary groups of this family. It constitutes one of the forms of the American section of the simiadae, a section characterized by most marked peculiarities. These we may briefly enumerate as consisting in the roundness of the skull, and the flatness or slight degree of projection which the facial portion exhibits,—in the lateral aspect of the nostrils which open on the sides of a broad flattened nose,—in the absence of cheek pouches, and of the naked callous skin which, in the monkeys of the Old World, covers the tuberosity of the ischiatic bone, and in the possession (except in the ouistiti) of two additional molars in each jaw, the number of the teeth being in all thirty-six. It is among the forms of this section that we meet with the prehensile tail, given as an accessory organ of grasping, together with a departure in the structure of the hand from its perfect model. In the genus atelæ, embracing the spider monkeys with prehensile tails, the thumb is wanting, or reduced to a mere rudiment beneath the skin; while in other genera the hands can no longer retain this appellation, being in fact like the
fore-paws of a squirrel: such is the case with the ouistiti.

There is something in the general appearance and manners of the ouistiti which, together with its diminutive size, enables to produce a strong resemblance to the squirrel. It is true that the head is not squirrel-like,—being round, and possessing the character of the American simiades; but the full, soft fur which clothes the body,—the beautiful tufts of hair which ornament, in most species, the sides of the head,—the long, bushy tail,—the little fore-paws, and the crouching or semi-erect posture assumed in eating, cannot fail to suggest the resemblance. How wide a difference is there between the animal and the orang-utan! The odorous and ferocious baboons! The ouistiti inhabits the woods of the hotter portions of the American continent, and especially such as border the Amazon and the other great rivers. Their beauty, their diminutive size, and the ease with which they become reconciled to captivity, render them great favourites even in their native regions, where they are sold, especially in the large towns, to the Spanish colonists at a considerable price. The smaller species of which most specimens are caught by the common-sized breakfast-cap, are especially valued. In their native woods, they feed upon fruits, insects, and small reptiles; indeed their teeth have decidedly an insectivorous character, the crowns of the molares presenting sharp conical elevations instead of rounded tubercles. These elegant creatures have little of that restless curiosity, that petulance and maliciousness, which are so conspicuous in the monkey-tribes in general; neither have they that activity for which these tribes are so remarkable. They do not bound from branch to branch with bold and vigorous leaps, yet are they quick and nimble in their actions, which more resemble those of a squirrel than a monkey. They produce two or three young ones at a birth, which they nurse with great care and attention. Their voice (exerted only in fear or anger) is a sharp whistling cry, resembling the word ouistiti, whence their appellation.

M. Geoffroy St. Hilaire has divided this group into two genera, namely, jacchus and midas. The former genus is characterised by the pointed form of the lower incisors, which equal the canines in length,—by the bushiness of the tail, which is ringed with dark and white,—and by the very large tufts of hair which ornament the ears. The second genus has the incisors with cutting edges, and less than the canines; the fur is generally less full, especially upon the tail, which is not ornamented with rings.

The species which we have figured at the head of this article is the common ouistiti, or marmozet (jacchus vulgaris),—one of the most elegant of the group, and one which is most frequently brought to this country.

A very good description is given of it by Parsons in the 47th volume of the 'Philosophical Transactions,' and subsequently it was figured by Edwards in his 'Gleanings.' Speaking of one which came under his own observation, he informs us that it fed upon various articles of diet, as biscuits, fruits, pulse, insects, and small insects; and that, being one day at liberty, it darted upon a small goldfish which was in a bowl, killed it, and greedily devoured it. After this, small eels were offered to it, which at first frightened it by twisting round its neck; it however soon overcame and ate them.

In the first number of the 'Magazine of Natural History,' (1822) an interesting account is given by Mr. Nell of the habits of one which he purchased at Bahia (the capital of the province of San Salvador in Brazil) and brought to England. At first it displayed great wildness and ferocity; "scratching most vehemently when any one dared to approach it;" and it

* "The simile marmozet" is an apt expression in Shakespeare.
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1833.

MECHANICS INSTITUTES.

Advantages of Instruction in Arts Applicable to Manufactures.

The evidence taken before a select committee of the House of Commons on the state of arts as applied to manufactures among the people of this country, has been printed. The witnesses examined generally admit the inferiority of our artizans in those departments of industry in which taste and originality of design are more particularly called for.

Some twelve or fourteen years ago, when a great impulse was given to improvement by the general establishment of mechanics' institutes, the objections which were then urged against such societies for the extension of education, had they been listened to, would by this time assuredly have placed the country in a most unfavourable position: so true it is that if any of the springs of improvement are weakened a check is given to the whole of society, and interests. We trust that in no very long time we shall see the sources of improvement freely opened, and the other nations outstrip us in the race. This they have done most clearly as respects popular education.

Since the period to which we have alluded the opponents of education have changed their tone. After having deprecated the education of our youth, they now admit that a little reading and writing, and perhaps also some knowledge of arithmetic, will do no great harm. They desire, in fact, strictly to confine the information of the working-classes to matters relating, as they think, only to the narrow circle of their daily labours. In this country, popular education and the machinery for rendering it efficient are not in so high a state as in many parts of the continent; and the consequence is that in the strongest of all motives—necessity—is at this moment spurring us on to extend still farther the field of knowledge to the working-classes, and that with an urgency which demands immediate attention. It has become quite evident that the means must be provided by which our artizans may at least equal those of other countries; and those who did not oppose their being taught reading and writing, which either may or may not be directly serviceable in a man's calling, will not, on their own principle, object to artizans knowing something of chemistry, optics, botany, anatomy, or the rules of design and perspective, as the case may be, when these are branches of knowledge with which their vocations lead them into daily connexion. It is certain that, owing to a defective acquaintance with these subjects, and the general inadequacy of existing means thoroughly to correct the evil, some of our manufactures do not come up to that standard of elegance in point of design which the public taste demands; and that, in order to gratify this refinement, the productions of foreign industry are preferred solely in consequence of the superiority in this respect.

But not only is it desirable to give the English artizan opportunities of acquiring knowledge on matters relating to his particular occupation,—to the working optician an acquaintance with the laws of optics,—to the dyer some insight into chemistry, and so on; but in order to place him on a level with the foreign artizan, our industrious countrymen ought, by a more liberal admission to museums and exhibitions, to be won to a love and taste for the higher efforts of art, and a relish for the beautiful wherever it exists.

On the continent, and particularly in France, there is a more general diffusion of the principles of art than in this country; and yet, here, owing to the great commercial importance of our manufacturing interests, there is the utmost necessity for our taking the lead in every department of excellence, in beauty and elegance of design as well as cheapness, and in the general appearance of the fabric as well as the goodness of its material. We are often excelled by other countries on the first of these points, simply because on the continent there are public schools for teaching the art of design, and men are trained up to give instruction in it in connexion with manufacturers.

The art of design as applied to manufactures is checked in this country in consequence of there being no provision for a little period in which manufacturers may produce a pattern of acknowledged superiority. Cotton prints are protected for three months, but in various other branches of manufacture,—the silk trade, the stovegrate and fender trade, and the silver-plated trade,—all of which depend to a great extent upon the art of design, there is comparatively little or no encouragement for persons to pay a high price to artists for patterns which are disloyously appropriated by other manufacturers and made public. The talent of our artists is not therefore directed to the improvement of manufactures, although it might be, with the utmost advantage to the country and to individual interests. We trust that in no very long time we shall see the sources of improvement freely opened, and the skill and talent in connexion with manufactures making rapid advances, after some temporary impediments to their course have once been removed.

But in the mean time it may be useful to have the means of comparing the opportunities of developing a love of art in other countries, with those enjoyed in England, and to be apprised of the grounds on which improvement is needed. For this purpose, we gather the following materials from the Parliamentary Report.

At Bruges, there are six or seven hundred young men belonging to the poorer classes, who are educated gratuitously every evening during the week in drawing, and in the arts generally; and once a year prizes are given to the most deserving pupils in each department of art, an honour which is rendered more flattering by a public procession through the town on the prize-day. Bruges is a manufacturing city, and the taste which is first formed in the drawing school is afterwards visible in the manufactured productions. And in the other large towns of Belgium similar institutions are productive of the like advantages. At Antwerp the Sunday-schools are attended by about seven thousand children, who are not only instructed in reading and writing, but also in drawing; and if any of these children evince a natural taste for the latter pursuit, their talents are immediately cultivated, and are afterwards profitably directed in sustaining the reputation of the domestic manufactures; and the encouragement does not stop here, for if more than ordinary genius is evinced by any pupil, the opportunity is afforded at the public expense of pursuing a course of study calculated to develop and mature it. Thus fostered, talent has
emerged into eminence from the poorest ranks of the people.

At present such advantages as the above are not enjoyed in this country, and hence the inferiority of our artisans. If art can once be brought fairly into alliance with manufactures of every kind, a vast field will be opened for the display of taste and talent, which is now entirely latent, or but imperfectly called into life.

The silk manufacture offers perhaps the most ample opportunities for the display of taste and ingenuity. It is susceptible of such a variety of colour in the blending of shades, and exhibits to so much advantage the designs of the artist, that the superior advantages enjoyed in France are manifestly more strongly perhaps in this branch of manufacture than in any other. 

Mr. Smith, of the well-known firm of Harding, Smith and Co. of Pall-Mall, stated to the committee, that in silks they sold, of plain goods, two-thirds of English to one-third of French; whereas in fancy silks the superiority of the patterns in French goods occasioned the sales to be in the proportion of one-half or more of French; and while our portion consisted of articles of a cheaper and more commonplace character, which we imported from France was distinguished not only by richness of design, but was altogether fabricated of more costly materials; and fairly enjoyed the highest reputation and brought the greatest profit. This is also true of fancy ribbons, three-fourths of those sold being of French manufacture, and obtaining public favour solely on account of superiority of design. It is not surprising that this should be the case, when we are acquainted with the methods adopted in France to stimulate artists and artizans, and the abundant opportunities which they enjoy for perfecting their taste, and are told, on the authority of the Mayor of Coventry, that at Foleshill, where there are about seven thousand persons engaged in the ribbon manufacture, that gentleman found on investigation that there was not one individual amongst the number who was capable of making an original design, and not more than six who were capable of copying a pattern. It may be mentioned to the credit of the inhabitants of Foleshill, that the result of this inquiry caused them to make a catalogue of the establishments of a school of design, in order to remove one of the sources of their inferiority.

The preference for silks and ribbons of French manufacture is not a prejudice; and Mr. Smith says,—“In placing fancy articles before persons, which I do promiscuously, that is chosen which is most liked, without the question being asked whether it is French or English.”

We are also surpassed by the French in the finer kinds of shawls; and Mr. Skene, the Secretary to the Board of Trustees for the Encouragement of Manufactures in Scotland, thus accounts for the fact:—“There is at this moment (he says) a school in Paris, where about seventy pupils are instructed expressly in the art of designing shawl patterns, which is taught by a person who has written a pamphlet on the subject.” The French therefore excel us because their attention is directed in a more efficient manner to raising the value of the article by superiority of design. Much more than reading and writing is requisite to enable our artizans to compete with them; and the Report contains abundant proof of the importance of a knowledge of particular sciences in perfecting manufacturing processes.

The following extract from Mr. Skene’s evidence shows the manner in which an acquaintance with optics, and with the theory of colours, would enable us to advance nearer to perfection. He says,—“It appears to me that one thing in which the British manufacturer is most deficient is that of a knowledge of colours. At present, as far as my acquaintance with manufacturers goes, I believe they copy entirely their patterns from France; in doing so, if they introduce any alteration into them, they often spoil them, and we know quite well that any deviation from the regular established and fixed rules of harmony of colours produces the same effect to the eye as any deviation in music from the harmony of notes. It produces an equally bad effect; and in placing our manufactures or fancy goods along with French fancy goods, it has often struck me as a remarkable circumstance to see how very little those rules, which are exceedingly simple, are attended to in the English copies.” A few lectures at a Mechanics’ Institute would at least do something towards correcting this defect in the designs for our manufactures.

THE BEDOUIN ARABS.

The word, which is variously written Bedouin, Bedooen, Bedowin, or Bedwin, is a corruption of an Arabic word, which signifies “a native of the desert,” and which is appropriated to the Arabian tribes that wander in the deserts of Arabia and North Africa, living always in tents in those places where they can find water and pasture for their cattle. Each tribe is in general considered to have an exclusive property in any district, the extent and value of which is proportioned to the strength and importance of the tribe, and which, in that proportion, are commonly large, affording sufficient room for the migrations which are indispensible among a people whose subsistence is principally derived, through their cattle, from the spontaneous produce of the sterile regions they inhabit.

We thus find the same tribe generally seated in the same territory, unless in those instances where any particular tribe has been displaced by another more powerful than itself, or unless the distinctive character of a tribe has been lost in consequence of any deep dislike to its sheikh, or the hope of an advantageous change having induced its members to join some neighbouring tribe, which is always glad to receive such additions to its strength. It will be understood that our present remarks apply exclusively to these desert Arabs, whose character and habits are considerably different not only from those of the Arabs who inhabit towns but also from those of the tribes who, living on the borders of settled districts having much intercourse...
with the inhabitants of towns, and being in some degree controlled by the vicinity of an organized government, give their attention, during at least one part of the year, to agriculture, and exhibit the peculiar characteristics of their race in a form vitiated in some respects and softened in others. This class of people have in general acquired little more than the vices of the condition of life to which they approximate, without having lost any of those which belonged to their original condition.

As might be expected from the extent of country which they inhabit, the personal appearance of the Bedouins varies considerably in different and distant tribes. Speaking generally, however, they may be described as a middle-sized and rather thin race of men, with brown complexions and strong black hair. It is rather rare to see a tall man among them, and still more rare to see one corpulent. Indeed we do not remember ever to have seen what we should call a fat man, although men of considerable muscular stoutness may occasionally be seen. The muscles of the limbs, particularly the legs, are in general strongly developed, sometimes giving them an appearance dis-proportioned to the rest of the body. Their strength is very considerable, and their activity and alertness still greater, but their powers of abstinence and endurance of fatigue are more remarkable still, and are hardly exceeded by those of their own camels. They can often travel four or five days without tasting water, under circumstances in which two days' abstinence would be death to a European. Their deep black eyes glare with an intensity such as is perhaps never witnessed in our northern regions, and so as to make a sensible impression on a stranger, who remembers with full credence the most marvellous stories he may have heard of their extraordinary powers of discriminating vision, and the acuteness of their other senses.

They in general shave the head, leaving only the customary lock on the top, for the sake of affording a convenient hold to Mahomet when he shall raise them to Paradise. Their beards are very short and thin, which is no small calamity to them, considering the value they set upon that appendage, and the care with which they cultivate it. We have often been amused in witnessing the mingled shame, indignation, and envy with which they have regarded the long bushy beards which have in their opinion been so unworthily and partially bestowed upon the countenances of their Persian neighbours, while their own are so scantily furnished. They make the most of what they have however. They anoint and cherish it with care, and each particular hair in it is to them "dear as the ruddy drops" of their heart's blood. To spit upon their beards, even by accident, is an offence scarcely within the limit of things that may be forgiven; and the threat of depriving a Bedouin of that appendage is sufficient, on the one hand, either to render him "a fugitive and a vagabond," or, on the other, to ensure his submission to any extortion and injustice.

The dress of the Bedouins is striking and characteristic. It consists generally of a shirt, a cloak, and a head-dress. The shirt is of coarse cotton, wide, and with large and loose sleeves. These shirts are rarely, we may say never, changed or washed, and the necessary consequence ensues, that, as a people, they are much infested with a certain "familiar beast to man," the hunting of which forms one amusement of their superabundant leisure in which they are much interested. The wealthier sort of people sometimes wear the common Turkish gown of cotton or of mingled cotton and silk; but the bulk of the nation are content with a sort of mantle over the shirt. This mantle is a very curious article of dress. It is generally called an
confined to its place by a long and thick rope of camels' ground have alighted to discuss the inferences which around the head.

hair or brown worsted, which is wound several times may be deduced from certain foot-marks which they keeping with their character and countenance. It is It represents a caravan on themove. to conceal their features, if they wish to be unknown. main body. "This slependent kerchief with its knotted cords gives to Our present wood-cut, which is copied from M. Léon boots, which they hold in considerable esteem, but do saddles made in the shape of cradles, with curtains to

on the forepart of the shoulders, so that they can be did not see one on foot, except a few shepherds, who on the way to Tadmor, and then next ifolder triangularly, and so placed on the head that one corner hangs down the back, and the two others fall on the forepart of the shoulders, so that they can be used to shelter the face from the sun, wind, or rain, or to conceal their features, if they wish to be unknown. This dependent kerchief with its knotted cords gives to the Bedouin a wild and maney appearance, singularly in keeping with their character and countenance. It is curved to drape by a long and thick rope of camels' hair or brown worsted, which is wound several times around the head.

This is the summer dress, and often that of winter also, except that the _abba_ is then frequently brought close around the person by means of the girdle which usually confines the shirt. But in many parts it is also usual, as mentioned by Burckhardt, "to wear over the shirt a pelisse made of several sheep skins stitched together; many wear these sheep skins even in summer, because experience has taught them that the more warmly a person is clothed, the less he suffers from the sun."

The Bedouins generally encamp near some rivulet or well, where they remain until their cattle have consumed the herbage. But when, as sometimes happens, good pasturage occurs where no water is to be had, they abstain from water for several weeks together. They drink only milk; and their cattle are also able, with the exception of horses, to dispense with water so long as they can get green and juicy herbage. The encampments vary, in the number of tents and the form in which they are arranged, according to circumstances and the season of the year. When the tents are few in number, they are usually pitched in a circle; but more commonly in straight lines when numerous, particularly if the encampment is formed near a rivulet. In winter, when the abundance of water renders the existence of an Arab. Among these various articles there is none that more strongly attracts the notice of a stranger than the various vessels of skin. There are sometimes large

"abba," and is manufactured principally at Bagdad. It reaches from the shoulders to the middle of the leg, and is nearly as wide as long, or even wider, resembling nothing so much as a square sack open in front, and with slits on each side for the arms to be put through; but they seldom are so. It is wide enough to envelop two or three bodies instead of one; and is generally worn loose and open in front. These mantles, which are of various qualities and patterns, are woven with hard-twisted woolen thread, or with camels' hair. One sort, thin, light, and white, is occasionally worn under the other, and is also used sometimes by Turks and Persians as a convenient article of summer dress. Some are quite black, the finer sorts being interwoven with gold, and embroidered with the same or with coloured silk. Those in most common use are brown, or in alternate broad vertical stripes of white and brown, white and blue, white and black, &c. We do not feel able to say distinctly that the tribes are distinguished by the pattern of their cloaks, like the Highland clans by that of their plaid, but it certainly did appear to us that in each neighbouring tribe a cloth of a different colour prevailed; the shirt underneath this cloak being confined around the waist with a cord, or with a broad leather or woolen girdle. Drawers or drawers are regularly adopted by the Bedouins; but the Arabs are always barefoot, although they may occasionally be seen with the common Turkish red shoes or yellow boots, which they hold in considerable esteem, but do not at all number among the necessaries of dress. Their head dress consists of a stout square kerchief of silk or silk and cotton mixed. It is made for the purpose, and the pattern is usually in broad alternate stripes of dull red and bright yellow, or yellow and green. It is trimmed with long knotted cords, and when in use is folded triangularly, and so placed on the head that one corner hangs down the back, and the two others fall on the forepart of the shoulders, so that they can be used to shelter the face from the sun, wind, or rain, or to conceal their features, if they wish to be unknown. This dependent kerchief with its knotted cords gives to the Bedouin a wild and maney appearance, singularly in keeping with their character and countenance. It is curved to drape by a long and thick rope of camels' hair or brown worsted, which is wound several times around the head.

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water-bags made of tanned camel-skin; but the skins in most general and diversified use are those of the goat and kid. The bucket is of leather with which they draw water from deep wells; and not only their water, but their milk, butter, cheese, dates, and other articles of provision are carried and retained in skins. Such vessels are not only more portable and less liable to damage in travelling than any other kind of vessel they could obtain, but in their opinion (which we believe to be correct) they preserve their different articles in a state of greater freshness. Their larger water-bag is most usually the skin of a he-goat; while one from a town that are planted so thickly round the lake.

In our time there were only two comfortable pretty little cottages on the island, and they were inhabited by a few peasants who attended to some orange and citron groves. A part of the Isolino seemed to be uncultivated. Under the direction of a good master, and with very little expense, the place might be made a little paradise.

From either of these islands a short row or sail in a boat conducts us to one of the many pleasant towns that are planted so thickly round the lake. Besides Baveno, with which we began our brief sketches of the Lago Maggiore, Sutra, Palanza, Feriolo, Stresa, Belgriano, and Lesa, are close at hand on the eastern shore; and a few miles farther on is the remarkable little city of Arona, the birth-place of that truly good and great man St. Charles of Borromeo, whose colossal statue in bronze stands on a neighbouring hill. Within this limited district there is a great deal, besides magnificent or beautiful scenery, to interest the beholder. In several places that system of parapet and terrace cultivation, by which steep hills are made productive from their bases to their very summits, is carried to curious perfection. This is particularly the case at Stresa, which is said, would, if it were watered, be a steeper and at the same time better cultivated mount. The plains originally taken must have been immense. The hill is girdled or looped in by a succession of walls of regular masonry, or made of blocks of stones put together in the Cyclopean fashion without cement; these walls twine round like a corkscrew, rising above and retreating backward from each other according to the form of the mount, and so as to leave flat terraces of earth between the upper edge of one row and the lower of another row. Without these walls the hills would be washed bare of earth.

In some instances the industry of those who made these ascending terraces, that rising step above step look like a gigantic flight of stairs, is truly admirable, seeing that they carried up the soil from the plain below to lay upon the upper garden plots. When people talk about the influence of the Italians and their love of the dove, they are often moved by similar conceptions. The Jesuits and other Catholic missionaries, who settled in China described this terrace arrangement, or system by which the steep sides of mountains are covered with cultivation, in terms of the most enthusiastic admiration, and as being peculiar to the celestial empire; although, in fact, without looking at other countries, but confining ourselves to Italy alone, this is far from being the case. The precipitous sides of many of the mountains that hem in the lake of Como are rendered productive in the same manner; the same system obtains among the industrious Genoese in many parts of their steep coasts, and we have traced it, here and there, nearly all through the Apennine chain.

The geological structure of all this district is very curious. In the rear of Baveno there are some immense quarries of granite, which have been worked for many ages, and which still supply an inexhaustible store of materials. Some of the inhabitants of Baveno, Feriolo, and Montorfano, are stone-cutters; and nearly every family in Trefiume, another small town, is exclusively occupied in the granite-quarries. They frequently find beautiful rock crystals, white and flesh-coloured feldspars, and zeolites. It is said that the blocks of granite are positively charged with electricity on their eastern side, that they are negative on the west side, and that they preserve these qualities long after they are cut and removed. Many of these blocks, when first detached, are of enormous size; but, notwithstanding the hardness of the granite, the cutters of Baveno and Trefiume divide and carve them up with
great facility. The lake and the river that runs from it afford an extensive and convenient water-carriage; and the navigable tributary streams, slabs, esquisses, columns, &c., form an important branch of trade to Baveno and the neighbourhood. This trade was created and the quarries first dug by the great San Carlo Borromeo, who, though canonized after his death by the Roman Church, did not neglect while living those things that tend to the temporal well-being of men, or consider commerce and the arts as incompatible with the pursuit of an eternal welfare. It were better for mankind if the same could be said of all those who are accustomed to have lived and died in the odour of sanctity. This holy and enterprise nobleman was a sound statesman and a thorough man of business. He had an insight into some of the great truths of political economy even in the sixteenth century (the period in which he lived), and fortunately he was so rich, that he could always employ capital.

There are two fine specimens of the Baveno granite in the Duomo, or cathedral of Milan. These are two columns, each being twelve feet in circumference and forty feet high, and each cut out of a single block. These columns have taken a polish almost like marble, so compact and hard is the material.

A short trip inland, either from Baveno or Palanzo, will take the traveller to the village of Candoglia, near to which are the quarries that supplied the white marble of which the Duomo of Milan (a mountain of marble itself) was built; but here, and in the contiguous mountains, remains marble enough to build churches and palaces for the world! The heavy material is still excavated, and is used extensively in Lombardy. The transport to Milan is effected in a most convenient manner, and wholly by water. The river Tosa, which is navigable for large rafts and barges, runs near the chief quarry, and then falls into the Lago Maggiore. At its southern extremity, the lake disembogues by the to Varese and Milan, but there was one trifle that

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In the 'Penny Magazine,' No. 141, an account was given of the principle and practice of the Bedouin Arabs in their depredations upon travellers and caravans. This was only one branch of the extensive subject of Arab depredation. Our former statement tended to show how true it was that the Bedouin's hand was against every man, and every man's hand against him. But it is no less true that the Bedouin's own right hand is against his left hand, and his left hand against his right. Among them

"...The natural bond
Of brotherhood is sever'd as the flax
That falls asunder at the touch of fire."

Their depredations against each other are conducted on a more organized system, actively in force, than is witnessed in their attacks on caravans and travellers. It is a mistake to consider the Arabian tribes as leagued together in war against all that is beyond the pale of their own barbarism. They war, but are not leagued in war. There is no union among them. The country is to be viewed as a vast desert portioned amongst distinct tribes continually at strife with each other, and continually exposed to each other's depredations. And this state of things has continued so long, that the whole matter of mutual depredation has become a subject of definite regulations, which, by heightening the adventure of the business, and diversifying the possible results and contingencies, make it a sort of game in which no one suffers disgrace but the loser.

As we are less able to speak from personal observation on this than the former branch of the subject, we shall claim the assistance of Burckhardt's 'Notes on the Bedouins,' in so much of the present article as refers to their depredations on one another. It may be well, however, to remind the reader that there is no form of robbery or theft which a Bedouin considers disgraceful. The attempt to plunder one another is considered a fair and honourable undertaking even by
him whose property is the object, and who exerts himself to defeat it, and to turn it to the best account for himself that he can. In fact, no discreet attaches to robbery under any circumstances, or upon any person, except when it is committed by an Arab upon one who is actually in his tribe. Robbers by some means or other, in their own camps, and upon their own tribe, are of continual occurrence, nor does such an act leave any stain upon the character of a Bedouin; but neither do they add much to his glory, which must be chiefly won by robbing his own enemies or the enemies of his tribe; and these are almost identical terms, for an individual difference very commonly ends in a mis-understanding between tribes.

If an Arab intends to go on a predatory excursion he enjoins the headmen or friends who all clothe themselves in rags, in order that, if they should be captured, they may have a chance of being unknown, and their ransom proportioned to their apparent condition in life. This trick has grown so stale, however, that it seldom avails, unless under peculiar circumstances. Each man takes a little flour, some salt, and a small skin of water, and thus slendrily provided they often make journeys of eight days from their own camp. When they arrive, have but traversing at the camp against which their enterprise is directed, three of the most daring of the robbers are dispatched towards the tents, at which they take care to arrive about midnight, a time when most Arabs are asleep. The others are to await their return within a short distance of the camp. Each of the three principal actors has an allotted department of duty to perform. One of them, called the Mostambeh, gets behind the tent that is to be robbed, and endeavours to attract the attention of the nearest watch-dogs. When he has succeeded, they immediately assail him, on which he takes to his heels, and the dogs pursue him to a great distance. The premises being thus left unprotected, another of the three, who is emphatically styled the harami or "robber," advances towards the camels, and cutting the cords which confine their legs, makes them rise from their knees. An unloaded camel always rises and walks about without making the least noise. The harami then leads one of the strongest camels by the tail, which the others follow in unison, they distant; and the others always follow of their own accord. Meanwhile the third of the adventurers (called kayde) stands at the door of the tent with a club ready to knock down any one that comes out. As soon as the harami has performed his duty, the other joins him in driving off the prey. When they have got to a little distance, each of them seizes one of the strongest camels by the tail, which they pull with all their might. This causes the beasts to set off at a gallop, dragging the men along with them, and followed by the other camels at the same pace, till they arrive at the place where the other men are waiting; then, leaving the camels with them, they hasten to relieve the mostambeh from the dogs. As many as fifty camels are often stolen in this manner without making any alarm being given. The robbers reach home by forced march, having travelled night and day, and in the ultimate division of the spoil, the chief of the party and the three principal performers get an extra portion.

In an adventure of this daring character it sometimes happens that one or more of the robbers are surrounded and seized; and the treatment to which they are then subjected furnishes illustrations of some of those very peculiar usages which, like their conventional hospitality, seem to have been derived to avert that utter desolation and the entire disruption of every national bond which must have resulted from the unmitigated operation of the system on which they live. Immemorial custom has established the usage in the desert, that if any person who is in actual danger from another can touch a third person, or any inanimate thing which he has in his hands, or with which he is in contact, or that if he can but touch him so indirectly as by spitting upon him, or throwing a stone at him, at the same time exclaiming Ana dakeelitak! "I am thy protector!" that person is bound by every principle of honour to grant him the right of protection. A robber who has been captured is naturally always on the watch for an opportunity of taking the benefit of this regulation; and the captor is equally anxious to deprive him of the advantage. The result is curious. The prisoner is compelled by blows, if words fail, to renounce his right to claim this protection. But this renunciation is only valid during the day in which it is made, and he is therefore obliged during every day of his detention, to repeat the renunciation to everyone who enters the tent in which he is confined. The object of his detention is to extract the highest possible ransom from him. For this purpose, as well as for his safe custody, and to prevent his opportunities of claiming protection, a grave two feet deep is dug in the tent in which he is laid with his feet chained to the ground, his hands tied, and his hair fastened to stakes on each side of his head. This grave is crossed with poles, upon which are heaped all sorts of heavy goods, leaving only a small opening over the robber's face. The food he receives is barely sufficient for himself that he can. He is also liberate on easy terms, or even without any ransom, if his life seems endangered by imprisonment; for if the man dies in a few days, his blood is considered to rest on the head of the captor. The man sometimes contrives to disengage himself from his grave, and escape to a neighbouring tent, from the owner of which he claims protection. Occasionally he obtains this advantage by contriving from his hole to spit on some person whose protection he has not renounced; or if a child happens to give him a morsel of bread, he is entitled to claim the privilege of having eaten with his hands in bread. The weapon he chooses is a knife, and is obliged to give up all his cattle and movables as a ransom. His friends do not fail to exert themselves to the utmost in effecting the liberation of the captured robber, either by force, or by the numerous ingenious contrivances which form almost the only channel through which the Bedouins have opportunity to manifest the talent and ingenuity with which they are as amply endowed as any nation under heaven.

A very common method of relieving the captured robber from his grave is that one of his relations, commonly his mother or sister, goes to the camp in which he is confined, and is received into one of the tents in the privileged character of a guest. Having ascertained in what tent her relation is confined, she takes an opportunity to introduce herself at night with a ball of thread in her hand, and approaching the pit manages to put one end of the thread into his mouth, or fastens it to his foot, and thenretires, winding off the thread as she goes. She proceeds to some neighbouring tent, and awakening the owner applies the thread to his bosom, and says, "Look on me, by the love thou bearest to God and thy own self, this is under thy protection." The Arab then arises, and taking the thread in his hand follows the clue until it guides him to the tent in which the harami is confined. He awakes the owner, and, showing him the thread, declares that he has become a protector of the captive. The captor readily acquiesces. The female of the robbers, if it is taken off, the thumbs which tied her hair are cut with a knife, he is drawn forth from his grave, and, after having been entertained as a newly-arrived guest by the man
whose prisoner he just before was, he is allowed to de-
part in safety.

As this article has turned much on the habits and
feelings of the Arabs in an aggressive attitude, we may
subjoin here a few other particulars bearing on the
same subject, and derived more exclusively from our
own sources of information.

The late Lieutenant-Colonel Robert Taylor, the
British resident at Bagdad, allowed the writer of this
article to transcribe from his journals an account of an
adventure with a party of Arabs on the Tigris, which
seemed to us to be an interesting illustration of their
habits and feelings, while at the same time it shows the
impression made upon them when, for the first time in their lives, they felt themselves in the presence
of a disciplined force. The circumstance occurred
in April, 1829, when Colonel (then Major) Taylor was
proceeding from Bussorah up the Tigris to Bagdad, in
the territory occupied by the Beni Lam Arabs, the
after the difference had been composed:—"A gentle
ness of a disciplined force. The circumstance occurred
articletotranscribefromhisjournalsan accountofan
power to afford was tendered to us; but we pleaded

shot from the Arabs themselves came across the yacht, their lances. They are of two sorts, one of wood, and the other a spear fell short of it. On ... The latter are those vessels they retired and dispersed; and the women began to ferret, as being the lightest. This weapon has usually a

partiesimmediately concerned belonging to the Cheab
man of our party advanced to meet the proffered hand
themeantime beganto pursue their way; and the long, and is variously formed in different parts. This Arabs appearing to interpret this as an indication of

been severely wounded. The men of the accused class
were then made to pass in review before the wounded
Arab, but he failed to identify the offenders. One of
our men, however, having been caught in the act of
theft during the confusion of the quarrel, was sum-
marily punished in the presence of our late assailants,
and a suitable present was given to the man who had
been wounded.

"This attempt to do justice was attended with the
most pleasing effects; harmony and good feeling were
immediately restored. The women and property came
back, the reed-huts re-appeared, presents were offered
us in every direction, and every hospitality in their
power to afford was tendered to us; but we pleaded
press of time, and pursued our course. The next
morning, however, a few of the poor but grateful people
followed to the yacht, many miles from their huts, in
a frail boat, with a present of milk and sour curds, and
wished us a pleasant journey."

Trifles affect these people strongly. Colonel Taylor
illustrates this by a little incident which occurred on
the same occasion, when the party were about to leave,
after the difference had been composed:—"A gentle-
man of our party advanced to meet the proffered hand
of an Arab, which in consequence of his right hand
being occupied by a gun, he attempted to do with his
left. The Arab hesitated in disappointment. The
gentleman, feeling that something was wrong, shifted
the gun and offered the proper palm. The Arab's eye
brightened in an instant, and he ratified the exchange
with gratification and respect."

A short notice of the arms of the Bedouins will very
suitably conclude this article.

Fire-arms are now rather common among them, and
are generally worn slung to the back. They are of very
course workmanship in general; but wealthy persons
have them of considerable elegance, inlaid with ivory and
otherwise ornamented. Good pieces are distinguished
by particular names, and descend as an entailed property
from father to son. The Bedouin is usually expert
in the use of it, and takes a suer aim than would be
readily thought possible with so clumsy a weapon. The
most common and characteristic arms of the Arabs are
their lances. They are of two sorts, one of wood, and
the other a strong reed with many joints. The latter are
preferred, as being the lightest. This weapon has usually
a point of iron or steel at each end, that at the bottom
being chiefly used to stick the lance in the ground when
not in use. The proper blade is never less than a foot
long, and is variously formed in different parts. This
blade is often quite a foot long, but sometimes the
handle is decorated with small nails and rings, and
there are often one or two balls or tufts of ostrich feathers fixed at the head below the blade. It is usually
rather more than ten feet long; but there is another
used as a halberd by men on foot, and which differs
little from this except in being shorter. Almost every
Bedouin wears a sabre on all occasions, even when he
goes to sip coffee in a neighbour's tent. The blades
of these formidable weapons are occasionally of iron; but more usually of wood loaded with iron at the end, and sometimes wholly of heavy wood, or only studded with iron spikes at the head.
Shepherds in attending flocks at a distance from
the camps usually prefer the shorter lance, and also
use a sling, which they employ with much dexterity in
throwing stones as large as a man's fist. As instru-
ments of defence they have shields, generally round,
and from a foot to eighteen inches in diameter. They

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332
are commonly either of metal, hard wood, or from the hide of the buffalo, wild ox, or hippopotamus. They have generally a point in the centre, and are frequently carved and embossed. Those of wood or metal are generally covered with leather. Coats of mail are still partially used. One sort covers the whole body like a gown, from the elbows over the shoulders down to the knees; the other covers the body only to the waist, the arms, from the elbows downwards, being covered with two pieces of steel, fitting into each other, with iron fingers. This equipment is completed by an iron cap, which is rarely if ever decorated with feathers. This defensive armour is only used in regular warfare, and then to no great extent.

Our miscellaneous wood-cut represents the spear; the common dagger, in and also out of its sheath; the head of a lance; the case for cartridges, which is worn suspended across the breast, and to which is attached a small horn for priming; a larger powder-horn; a common tobacco-pipe; and the wooden box in which coffee is carried.

**MECHANICS' INSTITUTES.**

Advantages of Instruction in Arts applicable to Manufactures.

(Concluded from No. 258.)

Some of our artisans are engaged in occupations in which a knowledge of botany and perspective is desirable. Mr. Crabb, of Shoe-lane, Fleet-street, a manufacturer of fancy papers for rooms, confesses the great superiority of the French papers, which afford proof of the designer having carefully studied and become familiar with the rules of perspective. In accuracy of outline, and for spirit and truth in the figures, the productions of the French artist are much beyond what would be accomplished for the same purpose in this country. But the talent of the artist would be nearly thrown away if he were not seconded by the taste and intelligence of the workman. Mr. Crabb says,—“In the designs for a French landscape paper, the aerial perspective is usually beautifully attended to in the printing; and unless the journeyman had the subject familiar in his mind, he could not execute the work with the freedom with which it is evidently done. For instance, I expect that this colour, which here represents a cloud of dust, is put on in a body with a brush, and then softened and made to assume in present form with a sponge. This is the journeyman's own act, and he must have been instructed how to convey the idea, or he could not do it, especially in the distant foliage, where the same plan is pursued with beautiful effect.” The English room-papers frequently exhibit an ignorance of botany: according to Mr. Crabb, the leaves are often not those of the flower, which is an inaccuracy he never meets with in the French papers. The colours are arranged upon some fixed principle by the French artisan, while in this country, not being sufficiently instructed, the workman labours more at random until he obtains the effect he wishes, and this may be as often wrong as right.

French artisans are also generally better acquainted with anatomical proportions than the same class in England. The former frequently make their own designs and models, and if not sufficiently instructed to do that, they are at all events enabled to finish works executed from the models of others with superior accuracy, while in England they would be spoiled by an injudicious finishing of the muscles, draperies, &c. The French workman is enabled to do these things, because the public institutions open to him better sources of instruction than the English workman has access to.

We find in the ‘Evidence’ some striking proofs of the advantages which an artisan may obtain by cultivating an acquaintance with the superior branches of knowledge or art connected with his occupation. Mr. Harrison, an eminent silk-manufacturer, said to the Committee on Arts and Manufactures:—“We would willingly, at the present time, engage a man at a handsome salary, conversant with the principles of weaving, as a designer, and also to put the pattern upon paper.” Mr. Smith, of Sheffield, a partner in a house which expends about 1500l. a-year in models for stove-grates and fenders, would not hesitate to spend 200l. or 300l. in a model for a grate if the pattern were protected. An individual who is a partner in the same firm, owes his introduction entirely to his ability as a designer. Messrs. Rundell and Bridge employed a gentleman to design for them to whom they paid a salary of 500l. a-year, and supplied him with a house to live in; and he was allowed besides to dedicate a portion of his time to his art for his own interest. In France it is invariably the case that when a boy has acquired a certain ability in the arts of design, and has shown a promise of genius, he is eagerly sought for by the leading houses; and when he is of good moral conduct, he is commonly fortunate enough to be taken as a partner in the house. In the French silk-trade, the manufacturer who produces the most elegant patterns for the season attracts the largest number of wholesale purchasers; and hence talent is sought after with the utmost avidity, and, when discovered, warmly encouraged and rewarded. But even a slighter acquaintance with the higher principles of the designer’s art may be disregarded. Mr. C. H. Smith, a sculptor of architectural ornaments, stated to the Committee, that he always found those workmen who could draw, if ever so little, were more useful than those who were totally unable to use a pencil; and he related the following particu-
The reputation of his art and greatly promote a adequate training, as far as public institutions can
enough to acquire proficiency in the higher depart-ational; of skilled labourers, artisans, and handicrafts of their respective professions. In default of men, to whom the arts of design and the elements of
the London Mechanics' Institute, and one of the of modelsof construction, of specimensofskilfulwork
evidence of Charles Toplis, Esq., a vice-president of for the arts of design, and of museums for the collection
directorsof the Museum of National Manufactures, manship, and of examplesoftasteful design and grace
spirit of determined improvement, to the Mechanics' draws which suppliesthewants, conducestothe
many of the elements of use; knowledge, and become seem to be an object of no meanestimation to an enacquainted with those principles of science which may lightened legislature to provide for the careful and
Institutions.

At this moment the 'Conservatoire des Arts et Méllers' (the Mechanics' Institute of Paris) is being re-organized; and the necessity of our doing something to provide the means of instruction for our artisans in optics, chemistry, botany, drawing, &c., is fully demonstrated. It is quite evident also that great advantages and inducements are held out, even under present circumstances, to individuals who are wise enough to acquire proficiency in the higher departments of their respective professions. In default of public institutions on a sufficiently extensive scale to develop the present necessities for instruction in the arts and sciences, we must earnestly advise everyone to whom it is likely to be of advantage to resort, in a spirit of determined improvement, to the Mechanics' Institutions. There the young artisan can acquire many of the elements of useful knowledge, and become acquainted with those principles of science which may advance the reputation of his art and greatly promote his own prosperity.

We shall conclude this notice by giving, from the evidence of Charles Toplis, Esq., a vice-president of the London Mechanics' Institute, and one of the directors of the Museum of National Manufactures,
1. Remarks on the general question of instructing artisans and manufacturers in the arts of design; and,
2. Some practical directions for applying this knowledge to the useful arts and manufactures.

Q. by the Committee.—"How far do you consider a knowledge of the arts of design to be important to artisans and manufacturers?"—"Whilst a knowledge of the principles of mechanical science is indispensably necessary to the successful execution of all works of construction, and consequently to the engine er, the builder, the carpenter and the mechanist, it is an essential part of his education to acquire it; chemical science is not less important, but is requisite to be acquired by equally extensive classes of operative men in innumerable departments of manufacturing industry; but to a very large proportion of the individuals engaged in both branches, some practical skill in the arts of design is either absolutely needful, or would be eminently useful. All works of construction require to be preceded by a design on paper, or a proportional delineation, which is often to be done by the workman himself. Workmen in every department of manufacture require the accurate use of drawing instruments, and their operations are frequently much assisted when they can express their designs by sketches made by the unguided hand. Those workmen whose province it is to shape and give form to materials, are greatly aided in their operations when they can delineate the contours of the forms they wish to impart, or can model them in a yielding matter; and their taste is necessarily improved
in studying the selected forms set before them for imitation during the course of their instruction in drawing or modelling, from which their works must derive additional grace and effect. Many important branches of manufacture call for careful cultivation of the eye, for the purpose of arranging, assorting, and contrasting colours, which, as an affair of taste, calls for some portion of a painter's education. Other branches subservient to the luxuries, and what may indeed be regarded as the imperative wants, of a highly civilized society, demand superior skill in the delineation of landscape, and even in the drawing and modelling of the human form, and of other complex figures. Any of these operations are executed with a skill and tact to satisfy the chastened eye of the professed artist, they give value and importance to the work which has received their impress, and enhance the gratification of the cultivated possessor of the commodity. Whatever partakes of the nature of ornament will only be appreciated in a refined age, as it is characterized by grace and elegance of design and by delicacy and precision of execution. But the accomplishment of this implies long and careful training in the artist, to whom, during his unprofitable noviciate, it is essential that all facilities should be afforded at their minimum of expense. When we consider the immense number of workmen and superintendents in this country to whose successful operations the principles of science are essential, of skilled labourers, artisans, and handicraftsmen, to whom the arts of design and the elements of taste in the cultivated age of an opulent society are of eminent, to many of vital, importance; when we reflect that from the knowledge and skill, and ingenuity, and taste, and labour of all these men combined, the country draws all which supplies the wants, conduces to the comforts, or ministers to the luxuries of society, it would seem to be an object of no mean estimation to an enlightened legislature to provide for the careful and adequate training, as far as public institutions can contribute, of every class of skilled labourers. The formation of schools of elementary science, of academies for the arts of design, and of museums for the collection of models of construction, of specimens of skilful workmanship, and of examples of tasteful design and graceful form, cannot fail to advance, in a conscious degree, both the fine and useful arts of the country. Our national greatness rests on the skilled industry of our people; it must be a part of the policy to foster, by every means within our reach, the talent which gives currency and importance to our indigenous products, and draws within the vortex of British manufacture the raw material of other climes, to be spread again over the world, enhanced in value by the labour, skill, and taste of British artisans."

Q.—"Suppose that you have a master to teach design, do you not think that it would be also necessary to have some person who should stand in an intermediate position between the design and the fabric to which the design is to be applied, and show how the one is to be adapted to the other?"—"Yes, certainly; I conceive that the elementary schools of design would be of the same value for all; after they had made a certain progress in the schools, it would then be necessary to draught them out into the particular department of manufacture which their inclination or their talent might lead them to; but then with regard to the artists required for those particular branches; for instance, in the porcelain manufacture it is requisite that a painter there should be able to paint landscape and other natural objects, perhaps to compose pictures, but at all events he should be able to copy a landscape or other representation accurately; but then the management of the colours and other materials used in the porcelain painting requires express teaching, and that knowledge he must
derive from some master appointed for the purpose; he would in fact have to undergo an apprenticeship in that particular art; but his previous preparation in the school of design would qualify him to attain the particular technical application of his art in a comparatively short time, so as to make his labours become profitable both to himself and his employers in that particular department.

"You laid down the principle, that having instructed the artisan to a certain extent in the general principles of design, you would then allow him to confine his attention to the particular branch of manufacture to which the design is applicable?"—"Yes." "Have you ever turned your attention to the best mode of carrying the principle into effect?"—"Were I to set about it, I should take a man perfectly conversant with that branch of the business, and give him the pupil, and say, 'Now you take those pupils, and instruct them in all that is necessary for this particular department;' in the instance of porcelain he would say to him, 'You have been accustomed to use such and such colours, which are at once obvious to your eye; you know the colours you are going to apply to your picture; you can place them on the palette, and you know they will have the same effect to the eye which they have upon the palette: here you are going to encounter a totally different principle; you are taking a colour which is totally different in appearance from what it will be when it has been subjected to the process of burning.' This is perfectly new to the student; he then has to be instructed in and shown what are these changes that take place in the colours in the operation of burning. This is a preliminary training which he must necessarily go through. Then there is the effect of different fluxes upon the colours, the effect of the different combinations of colours, the quantity of flux that is necessary for one colour and is necessary for another that are to be exposed to the same degree of heat; the colours that require different degrees of heat; and all these technical peculiarities must be taught to the general student of design. He is only qualified before he comes there by training of the eye and the hand; his eye can measure forms and trace their contours, his hand can make the copy upon a plane surface of those forms. The instance you have given in the case of porcelain is an exemplification of the principle which would generally apply to the adoption of design in manufactures, is it?"—"Yes; for in the iron foundry, for instance, the student who had been taught to draw ornaments upon a flat surface, appropriate to that kind of material, would have to be taught, when he comes to apply himself to this particular branch, that all kinds of forms would not be admissible; they would not deliver from the sand; he must have a peculiar knowledge of what will and what will not be manageable in the hands of the moulder, and then he comes to a peculiar technical training. That is another instance, and I fancy it will be found generally to prevail all through."

MUNICIPAL CORPORATIONS.

The object of the present paper is to give some account of the Origin and Progress of Municipal Corporations, which, in consequence of the recent changes in their constitution, are fitted to become again, as they have been in former times, amongst the most useful institutions of our country.

The provincial cities, under the Roman Empire, enjoyed a municipal magistracy, and the right of internal regulation*. It is not certain whether these privileges were swept away amid the ruin and desolation which attended the fall of the overgrown fabric of Roman power. Sismondi asserts that the Franks respected the municipal privileges which they found in the towns of the Roman provinces; but Mr. Hallam doubts the fact of their preservation; although it would have been repugnant perhaps to the spirit of the Frank and Gothic conquerors to have left them in possession of these privileges. At all events there can be little doubt that these ancient institutions were wholly swept away in the total dislocation which immediately followed the dismemberment of the empire founded by the genius of Charlemagne in the eighth century. The inhabitants of the towns had, for some time afterwards, little to record but their sufferings. Victims of every invasion—pillaged in every war, whether domestic or foreign,—they were reduced to the most deplorable condition. When the Saracens, the Hungarians, or the Normans, had burned any great town, a few unhappy beings assembled afresh among the ruins; but they existed in poverty and misery, without any local administration. In this age of social dissolution, the curies, or senates of the cities, and the assemblies of the burgesses had totally disappeared. The inhabitants were neither in a condition to claim, or exercise their civil liberties. Education of some kind, property, leisure, and the courage which is sustained by the love of independence, were scarcely known; and it is not to be wondered at that men who were oppressed by want and tyranny, and never safe from the hostile grasp of foreign and domestic robbers, should cease to care about the privileges which are estimable only in a happier state of society. There was not at this period a neutral authority sufficiently strong to protect the weak; and until this blessing was obtained, there was little hope of restoring the prosperity of the community by any local regulations enforced by subordinate authorities.

We turn from the spectacle which these times present to the commencement of a happier period. The reconstruction of society began. The dukes, counts, and prelates who divided the vast empire of Charlemagne among them, had built themselves strongholds, in which, along with the exercise of despotic sway over the followers, courts of law were established. Education of some kind, property, leisure, and the courage which is sustained by the love of independence, were scarcely known; and it is not to be wondered at that men who were oppressed by want and tyranny, and never safe from the hostile grasp of foreign and domestic robbers, should cease to care about the privileges which are estimable only in a happier state of society. There was not at this period a neutral authority sufficiently strong to protect the weak; and until this blessing was obtained, there was little hope of restoring the prosperity of the community by any local regulations enforced by subordinate authorities.

Here it is desirable to glance at the constitution of society at this time, and the movements which were the consequences of its peculiar organization. The social power was wielded by a set of men whose authority was absolute over their dependents, but was
ill defined as regarded each other. As each had the right of calling his followers into the field in support of his pretensions, a perpetual series of contests was maintained. This was before the settlement of an independent central power; but its establishment was a necessary consequence of the principles on which this private warfare was carried on. The contest could only end in the recognition of the claims of the strongest party. At first the sovereign power was weak; it had few pretensions, because it was still in the presence of powerful exterior enemies. This was a period favourable to the development of personal liberty.

Robertson imputes the establishment of chartered towns in France to the necessity which the sovereign felt himself under of counterbalancing the power of the great vassals who overawed the country; and that, as a consequence, privileges were conferred upon the towns situated within the royal domain. This is the view which Adam Smith adopts. "The lords (he says) despised the burghers. The burghers naturally hated and feared the lords. The king hated and feared them too; but though he might despise, he had no reason either to hate or fear the burghers. Mutual interest, therefore, disposed them to support the king, and the king to support them against the lords. They were the enemies of his enemies, and it was his interest to render them as secure and independent of those enemies as he could. By granting them magistrates of their own, the privileges of making bye-laws for their own government, that of building walls for their own defence, and that of reducing all their inhabitants under a sort of military discipline, he gave them all the means of security and independency of the barons which it was in his power to bestow." In support of this view it is remarked that those princes who were usually on the worst terms with their barons were most liberal in their concessions to the towns; as in the case of King John of England, and the Princes of the House of Snabia in Germany.

Mr. Hallam deems it more natural to impute the enfranchisement and incorporation of towns, both as respects the king and the barons to their pecuniary necessities: "We could hardly doubt (he says) that those concessions were sold at the highest price, even if the existing charters did not exhibit the fullest proof of it." It is probable that the causes which led to the enfranchisement of the towns were modified according to circumstances; whether the vassals of the crown weak, it would be very natural to change the terms of enfranchisement into a pecuniary demand instead of military service.

The abbott of St. Nogent relates that, owing to there being no adequate police at Laon, acts of robbery and rape were continually occurring. The clergy and principal inhabitants resolved in consequence to enfranchise the populace, and bind them in regulations calculated to promote the general security. The barons, when the king claimed in their choice. Their charters enabled them to forms special rules, or bye-laws, for the management of their own affairs. It is worth while to reflect for a moment how greatly the progress of civilization has been indebted to commerce and the useful arts. They were the great influences which contributed, perhaps more than any other cause, to the overthrow of feudal power. When commerce and manufactures existed in the rudest state, and exercised little influence on life, the feudal lords distributed the produce of his lands to a crowd of retainers: he had no other mode of dispensing it. But when the contest was for supremacy among the lords, some few privileges granted to the towns had their share in stimulating the ingenuity and industry of their inhabitants. The feudal baron, instead of expending his produce on so many idlers and military retainers, imbued a taste for the comforts which commerce and art were gradually introducing. At the same time the individuality of the feudal system was breaking up, and the growing influence of the sovereign occasionally attacked and broke through the brightly splendid sphere of a court. The contest for supremacy was at length given up, and the lords began to vie with each other in their own personal magnificence and that of their retinue, and in their style of living. But their incomes, when thus diverted from their original mode of distribution, were directed into channels far better calculated to lead to the rapid development of civilization. The division of employ-
ments was greatly increased; and instead of useless retainers being sustained by the produce of the soil through the course of a monotonous and unimproving existence, the same produce was indifferently divided among useful artisans, who were less under the power of the lords, and who gradually formed a new and independent body in the community, contributing both to its prosperity and the progress of its liberties.

We have described some of the various modes in which the commons acquired their privileges, and the causes which contributed to hasten this event. When constituted, the assembly of the burghers was formed of the whole of the inhabitants, and they were called to the general meeting by the sound of a bell. The suffrage was extended to all the inhabitants, most probably because, as they all belonged to the same class, their existence as a body was too recent an event to permit of the operation of an exclusive spirit.

In France, in the thirteenth century, an important change was effected in the constitution of municipal institutions. The royal power had become more firmly consolidated; and towns which had obtained their privileges by charter from a feudal lord, and were distrustful of his fidelity, called in the sovereign to guarantee their rights*. Philip Augustus granted letters of safeguard to communities dependent upon the barons. Louis VIII. laid claim to the immediate sovereignty over all chartered towns, to the exclusion of their original lords, if we may believe some writers. Philip the Long established an officer in all large towns to preserve peace by an armed police. These sovereigns did not interfere with the charters; and the officer who represented the royal interests was elected by the burgesses. The inhabitants were bound by oath to stand by each other; and all persons who came to reside within their walls were admitted to the privileges of citizenship, even though they were actually the property of a neighbouring lord from whom they had fled. Others, having become citizens, went again to dwell in the country; but upon any difference occurring between them and their lord, they called upon their community to defend them. Philip the Fair, erecting certain municipalities in Languedoc, gave to any one who would declare that he was aggrieved by the lord or his officers the right of being admitted a burgess of the next town, upon payment of a certain sum, and the purchase of a tenement within the walls of a certain value. Instead of living peaceably under their new freedom, many of the towns began to attack their former lords in retaliation of the long oppression which they had endured.

In Italy the sovereign power was so feebly exercised, that the cities and towns grew more rapidly into freedom and importance. The government was so loosely wielded, that the citizens were almost compelled to take upon themselves the duties of self-government. "Those same men," says Sismondi, "whom emperors, prelates, and nobles considered only as freed serfs, perceived that they constituted almost the only public force in Italy. Their self-confidence grew with their power; courage grew with liberty;" and when it was attempted too late to coerce them into obedience, they successfully struggled against their oppressors, and burst forth into the energy and activity of republics. The towns of France, although invested with many privileges, never attained independence, being checked in the first place by the complete manner in which the feudal system prevailed, and then by the weight and supremacy of the royal power.

* Hallam.

* * History of the Italian Republics.*
MUNICIPAL CORPORATIONS.

The principles which in France led to the affranchissement des communes, and in Italy to the establishment of free republics, were the same, only modified by different circumstances, which gave birth to the municipal corporations of England. Mr. Hallam says:—

"It is probable, at least, that the English towns had made full as great advances towards emancipation as those of France." Under the Saxon kings there were, he says, voluntary associations, in some cases for mutual defence against injury, in others for mutual relief in poverty. These were called guilds, from the Saxon word gildan, to pay or contribute. At the Conquest these voluntary incorporations possessed landed property, which they managed in accordance with rules established by themselves. As trade extended, these corporations increased; and each class of traders formed itself into a guild for the purpose of maintaining a monopoly. It does not appear that any towns possessed municipal magistrates before the Conquest. With the exception of a few places, the right of choosing magistrates was first given by King John.*

The Report of the Commissioners on Municipal Corporations says:—"It would be difficult to describe accurately the early constitution of the Municipal Corporations in England and Wales. It is certain that many of their institutions were established in practice long before they were settled by law. In some places, * Hallam.

[Carter's Hall Passage, with the Old Town-Hall, Oxford.]
as at Newcastle-upon-Tyne, Carlisle, and Scarborough, the forms of the municipal government were defined by
an express composition between the magistracy and the people. It is probable that the powers of the govern-
ment, in all ordinary cases, were exercised by the su-
perior magistracy, but that, in extraordinary emer-
gencies, the whole body of burgesses was called upon
to sanction the measures which interested the com-
munity. The difficulty of conducting business in such
an assembly seems to have suggested the expedient of
appointing a species of committee cut of the larger
body, which acted in conjunction with the burgesses, and
which was dissolved when the business was concluded.
These committees afterwards became permanent."

After the Conquest the burgesses of towns lived
under the superiority of the king, or of one of the
barons. They paid annual rents, which were not heavy,
but they were besides liable to tallages (imposts) at
the discretion of their lords, though two centuries after-
wards the permission of the king was necessary before
the towns could be laid under contribution. During
the whole of this period they had been increasing in
wealth and importance.

The next step towards placing the towns on a foot-
caling calculated to enlarge their means of prosperity was
that of converting the individual tributes of the burg-
gesses into a perpetual rent from the whole borough.
From being the legal proprietor, the king or the feudal
lord by this change directed himself of the right of tax-
ing the towns at his pleasure. That power was still
sometimes exercised, but the right to contest its appli-
cation formed an important element in the gradual
establishment of the liberties of the people. In pro-
portion as it became doubtful whether or not the towns
would submit to be taxed, privileges and immunities
were conceded to them. "From the time of William
Rufus there was no reign in which charters were not
granted to different towns of exemption from tolls on rivers and at markets, those lighter manacles of feudal
tyranny; or of commercial franchises; or of immunity
from the ordinary jurisdiction; or, lastly, of internal
self-regulation."

From having been taxed at the discretion of the
crown, and also of the barons who possessed the rights
of proprietorship within their boundaries, the consent
of the towns became necessary to the imposition of a
tax; and hence the origin of their sending repre-
sentatives to Parliament. Mr. Hallam confesses that it is a question of great obscurity who were the persons
whose concurrence was usually required in the elec-
tion of a burgess to send to Parliament. "It ap-
pears" he says, "to have been the common practice
for a very few of the principal members of the corpo-
rations to make the election in the county court, and
their names as actual electors are generally returned
upon the writ by the sheriff. But we cannot surely be
warranted by this to infer that they acted in any other
capacity than as members of the general body, and in-
deed it is frequently expressed that they chose such
and such persons by the assent of the community; by
which word, in an ancient corporate borough, it seems
natural to understand the freemen participating in its
general franchises, rather than the ruling body, which in
many instances at present, and always perhaps in the
earliest age of corporations, derived its authority
by delegation from the rest. The consent, however,
of the inferior freemen we may easily believe to have
been merely nominal; and from being such persons
would in many places come by degrees not to be re-
tained at all—the Corporation, specially so denomi-
nated, or municipal government, acquiring by length of
usage an exclusive privilege in election of members
of Parliament, as they did in local administration."

Previous to this, the municipal magistracy had been
invested with the powers of justices of the peace, and
their civil and criminal jurisdiction had been enlarged.
Between the reigns of Richard II. and Henry VI.
members were admitted into the municipal body in
many places upon a mere personal right, without any
qualification either of residence or of property. The
charters between the reign of Henry VIII. and the
Boroughs Act were framed for the purpose of taking away
power from the community, and rendering the disting-
ishing class independent of the main body of the burg-
gesses. The councils were made self-elective. The
honorary office of high steward was created in many
boroughs, which brought them within the influence
either of the crown or the aristocracy. Some charters
contained clauses limiting the right of electing mem-
ers of Parliament to the select bodies which they cre-
ated. During the reigns of Charles II. and James II.
many corporate towns were induced to surrender their
charters, and to accept new ones, which enabled the
crown to remove or nominate their principal officials.
The charters granted after the Revolution were no
better than those given in the worst period of the his-
tory of municipal boroughs."

It is unnecessary for us to carry this brief and im-
perfect sketch of the history of Municipal Corporations
beyond this period. They are about to undergo a great
change, and it may therefore be desirable to show what
was the general condition of these bodies immediately
previous to the Act for their reform passed in the last
session of Parliament.

In July, 1833, Commissioners were appointed to in-
quire into the existing state of Municipal Institutions;
and early in the session of 1835 they made a Report to
the Legislature. We can only very briefly advert to
the interesting matter which this document contains.
It was found that there were 216 Municipal Cor-
porations in England and Wales, and 237 of them,
having a population of 2,028,513, formed the subject
of an inquiry. In twenty-five places the number of corporators was not ascertained, in the others they
amounted to 88,509. The governing body was found
to be self-elected in 186 boroughs. In 131 boroughs
this body elected the mayor, in 136 the recorder, and
in 135 the town-clerk. In 112 boroughs the Corpora-
tion possessed exclusive jurisdiction, and in forty-two
boroughs its jurisdiction was not exclusive. The
number of persons exercising magisterial functions was
1056 in 188 boroughs. Seventy-nine boroughs possessed
no income whatever, and in eight the amount could
not be ascertained. The total income of the 212
remaining was found to be 366,945l. 17s.; their ex-
penditure 377,027l. 15s. The debts of 103 boroughs
amounted to 1,855,371l. 3s. 7d. Besides annuities to
the amount of 4,463l. 1s. 3d. The accounts were made
public in only twenty-eight boroughs. The Com-
missioners report that it had become customary not to
prove the charters of corporations for exercising
the powers of good municipal government, and that
trusts having been appointed for this purpose. The
corporations had therefore only the nominal govern-
ment of the town in their hands in many cases. The
privileges constitutionally belonging to a large and
indefinite body were retained in the hands of a small
and select one, and the freemen had often ceased to
consider themselves as forming any part of the Corpora-
tion, which term was popularly applied only to the ruling body.
Several privileges had been conferred on municipal
freemen, to the exclusion of those to whom they rightfully
belonged. The poverty of the freemen, in general, ren-
dered them peculiarly subservient to party purposes.

The Commissioners concluded their Report by re-
presenting the Municipal Corporations in England and Wales as even when most rightfully administered, "inadequate to the wants of the present state of society."

"The measure which has been applied to correct the abuses pointed out by the Commissioners on Corporations re-invests the inhabitants with the privileges which had gradually been taken from them, making those who are the effective heads of the community members of the municipal magistracy and the municipal councils, and throwing open the rights of a borough to every male inhabitant of proper age, resident within the seven miles, who occupies in its bounds a tenement which has been rated for three years to the relief of the poor. The burgesses elect the councillors, who compose the municipal government. Exclusive rights of trading are abolished, and the freedom of a borough can no longer be obtained by gift or purchase. (An abstract of the Act will be found in the Companion to the Almanac for 1836.)"

"The history of the Chichester Guildhall, a wood-cut of which is given in the frontispiece, furnishes an illustration of the great changes which have taken place in England since the Conquest. Hugh de Montgomerie, whom the Conqueror created Earl of Chester and Arundel, built the castle to protect himself and his possessions. In 1233, although the dominion of the church had been shaken in the contest between Becket and Henry II., it still possessed its devoted adherents, and the fourth Earl of Arundel in this year gave the castle with its appurtenances to them. Gray Friars; in whose possession it remained as a convent until the age was prepared for another great change—the dissolution of monastic establishments, and a general alteration of ecclesiastical institutions. In the thirty-second year of his reign (1541) Henry VIII. granted the castle to the mayor and citizens, by whom it was let on lease, except the Grey Friars' chapel, which they made use of for their Guildhall. It is the only part now remaining."

"A slight notice of the municipal institutions of Chichester will not perhaps be out of place in this account. The charter upon which the Corporation has acted up to the present time, was granted by James II. in the first year of his reign. It gave the king in privy council power to remove the mayor, justices, aldermen, common councilmen, and all other officers. There were only fifty-seven freemen belonging to the Corporation at the period of the recent inquiry into these institutions; and the Commissioners reported that "the considerations which have influenced the admission into the Chichester Corporation have been founded less on political opinions than on the wish to maintain the interest of a particular family in the borough." Only nine of the freemen were resident, and they had no voice in the meetings of the corporate body; the remainder were persons of rank and eminence unconnected with the town. The Municipal Reform Bill will extend municipal rights to several hundred householders."

"The Liverpool Town Hall stands in pointed contrast to the old halls of Chichester and Oxford. It is a creation of the commercial wealth of modern times. So recently as the year 1700 the population of Liverpool was only 5714; and, to use the language of an eloquent speaker,—"this quondam village, which is now fit to be a proud capital for any empire in the world, has started up like an enchanted palace, even in the memory of living men." It was fitting that the municipal body of the town should, in a well-elected corporation, possess an edifice for its various purposes corresponding in some degree to the extent of the municipal resources. Owing however, in part to the nature of its constitution, a large portion of the income of the corporation (the town-dues) was obtained in a manner which operated with great hardships on a portion of the community. They amounted to nearly 50,000l. a-year. One mercantile firm in Liverpool was called upon to pay above 1000l. in a single year, 421l. of which was on exported goods. The freemen were exempt from these charges; so that under such grievous disadvantages, it was often impossible for non-freemen to enter into competition with their enfranchised townsmen. In 1831, in consequence of the gross corruption of the freemen, the House of Commons suspended the writ for the election of a member for Liverpool. The Reform Bill gave the inhabitants at large (170,000) a voice in the election of a parliamentary representative, and the Bill for Municipal Reform has placed in their hands the means of exercising some control in the management of their own affairs, and has abolished the former odious and unjust immunities."

"The Town Hall was originally built in 1749, but the interior having been destroyed by fire in 1793, it was restored and improved at an expense of about 110,000l. The north part of the building was taken down; and this building done with the preceding committee-rooms, rooms for the magistrates and juries, "sessions-room, offices for the town-clerk and other officers; and the principal story contains a suite of rooms communicating with each other, viz., a saloon, 30 feet by 26; west drawing-room, 33 feet by 26; east drawing-room, 32 feet by 26; a ball-room, 90 feet by 42; a second ball-room, 66 feet by 29; and a refreshment-room, 50 feet by 30. An interesting view of the town and the course of the river, with the Irish Channel in the distance, may be seen from the exterior circular gallery."

"The municipal business at Oxford is transacted in a spacious building erected in 1754. Our cut, however, represents the old Town Hall, which was burnt down at Christmas, 1834."

"The municipal institutions of the city of Oxford are described by the Commissioners, who visited it during the inquiry instituted in 1833. The form of election to the office of mayor was quite peculiar to Oxford. At a special meeting of the Council Chamber, two persons were nominated to the office, and the members of the council gave their votes at the time. The result was then declared to the freemen assembled, after which the council left their chamber, and with the freemen elected one of the two individuals who had been previously so nominated and announced. The votes of the council were computed in both cases, which consequently gave them a double vote. This was technically termed "an election by scrutiny in the house, and by the commons." But as the right of nomination belonged exclusively to the members of the Council Chamber, it was clear that if two candidates were presented equally objectionable to the freemen, they had not the power of rejecting either; one of them was necessarily forced upon them by the self-elected ruling body. These elections were besides conducted in a manner calculated to produce a general depravation in the morals and habits of the lower class of freemen."

"In thus taking at hazard three places possessing corporate honour, the period of the existence of each of them was extremely vicious and defective. Many corporations from the nature of their constitution were, doubtless, less open to evil influences; but the examples we have given are not solitary ones. It is not our intention to indulge in speculations on the ultimate good effects to be expected from the recent measure, which has placed the Municipal Corporations of England in..."
harmony with the increased intelligence of the communities in which they are established. Of one thing we feel assured, that a great stimulus will be given to the progress of improvement. On this point we quote the testimony of history, under something like similar circumstances. Professor Heeren, speaking of the most brilliant period of Grecian civilization, says:— "A participation in state affairs caused men to feel the want of intellectual discipline; they wished to learn how to think and speak;" and he adds—"What a crowd of political ideas must have been promulgated among a people whose settlements, more than a hundred in number, had each its own peculiar form of government!" Sismondi relates that when the Italian cities emerged into independence,—"everyone endeavoured to develop the powers which he felt within him, because each was conscious that the more his mind opened the greater was his enjoyment. Every one directed his powers to a useful and practical purpose, because each felt himself placed in a state of society in which he might attain some influence, either for his own benefit or that of his fellow-creatures."