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Popular Voyages, and Travels.



*Fish-woman of the Village of Scherweling, and a
Servant of a rich Family;*

London, Print^d 1820, by G. & W. B. Whittaker, Ave Maria Lane.

POPULAR
VOYAGES AND TRAVELS,
THROUGHOUT THE
CONTINENT & ISLANDS OF EUROPE:
IN WHICH THE
GEOGRAPHY, CHARACTER, CUSTOMS,
AND
MANNERS OF NATIONS ARE DESCRIBED;
AND
THE PHENOMENA OF NATURE,
MOST WORTHY OF OBSERVATION,
ARE ILLUSTRATED ON SCIENTIFIC PRINCIPLES.

BY MRS. JAMIESON, (LATE MISS THURTLÉ,)
AUTHOR OF ASHFORD RECTORY; A HISTORY OF FRANCE;
A HISTORY OF SPAIN, &c. &c.

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VOYAGES AND TRAVELS.

CHAPTER I.

INTRODUCTION.

EDWARD MONTAGUE was an only son ; he with two daughters engrossed the whole attention of Mrs. Montague, who had been for some years a widow. Her son had never left her roof, and her maternal indulgence, which at times bordered upon weakness, had greatly impeded the benefit he might otherwise have derived from the instructions of a young man of considerable abilities, who had undertaken the arduous task of tutor in Mrs. Montague's family.

Time however passed rapidly away, and Edward approached his seventeenth year with a superficial knowledge of Greek and Latin, but without possessing even the requisites for the ordinary topics of conversation. His cousin, a boy about two years younger than himself, having spent the Midsummer holidays at Montague House ; Mrs. Montague could not help remarking the difference between the two boys. For the first time in her life she saw her son's deficiencies, and with a sigh regretted she had not sent Edward to school with his cousin. Her affection at length submitted to her good sense, and she wrote to Dr. Walker upon the subject, and begged he would point out the path she should pursue, in order before it was too late to repair her errors.

Dr. Walker was a gentleman of considerable literary but very extensive scientific knowledge. He had been the intimate friend of Mr. Montague, and in a very friendly manner answered this letter in person, when after a very long and interesting conversation, he proposed taking charge of Edward himself, provided Mrs. Montague would consent to their going abroad. Heart-breaking as was this proposal,

after a few moments of painful silence she gave a trembling assent; and leaving the Doctor to communicate the plan to her son, she retired to her own chamber for about an hour, and then joined her family.

Preparations were immediately made for the departure of the travellers, and in the course of a fortnight all was ready. "Heaven preserve you, my dear boy," said Mrs Montague, as she kissed Edward's cold cheek, "Heaven preserve you." So far she had commanded her feelings, but fearing to agitate Edward, who appeared really palsied as she spoke, she gave her hand to Dr. Walker and hastily quitted the room.

Edward was roused from his reverie by the more demonstrative sorrow of his sisters at parting with him; and Dr. Walker having intimated to the young ladies, that their mother might perhaps require their attendance, they obeyed the hint, and with tearful eyes withdrew.

Dr. Walker allowed his young friend half an hour's silent meditation, and then ringing the bell, he enquired if all were ready for their departure. Being answered in the affirmative, "Come Edward," said the good man, "we shall be later than I intended."

Edward took up his hat with a sigh, and observing a miniature of his mother which had been brought home that morning, he put it in his pocket, and bidding the servant say he had taken it, he followed the Doctor down stairs, and for the first time in his life quitted the paternal mansion unaccompanied by any of his family.

"We will not be laughed at when we get to Rome, for our ignorance respecting our native land," said Dr. Walker to his pupil, as the carriage drove through Portland-place. "We will make an excursion through the British Isles, and we shall then have the pleasure of judging, whether we may not reap both profit and advantage from our peregrinations at home, as well as from more extensive rambles abroad. You have visited the principal buildings in London, and you will not be less pleased with some other cities of your native isle."

"We shall go through Oxford, shall we not, sir?" enquired Edward, as his eye glanced over a travelling map of England, which the Doctor held in his hand, "and so on to Worcester. But," continued he, "I should like sometimes to deviate from the direct road."

DR. W.—"You shall be gratified in this request, although

our perambulations must not extend far out of the beaten track. I cannot, however, help observing, that in the arduous undertaking we have commenced, you will understand it is not my intention to run from London to Oxford, and from Oxford to Edinburgh, from Edinburgh to Paris, and so on, in so many days; nor simply to calculate as to the probability of our reaching a particular place in so many hours. We travel for mental improvement; to study men and manners; to inspect minutely the wonderful phenomena of nature, the ingenious productions of art, and, above all, to know ourselves. In the various countries we shall traverse there will be many subjects for contemplation, many calls upon our patience and forbearance; many incentives to that charity, which 'beareth all things;' and many demands upon our liberality both of purse and mind. The man who travels need not *forget* his country, but he should forget its *prejudices*; he should, in fact, become a citizen of the world. The man who cannot accommodate himself in some degree to the customs and manners of the different nations through which he travels; who is disgusted in one place at the light-hearted gaiety of this people; at the gravity of another; the superstition of a third, and so on, had much better remain at home. Sterne has given a humourous list of travellers. If I recollect right, he mentions "idle travellers, inquisitive travellers, lying travellers, proud travellers, vain travellers, and splenetic travellers;" to which he subjoins the following—"Travellers of *necessity*," as he calls them. "Delinquent and felonious travellers, unfortunate and innocent travellers, simple travellers, and sentimental travellers;" to which, *with* his permission, we will add, intelligent travellers. Under this last class, dear Edward, we will endeavour to arrange ourselves; our time must not be wasted either in merely seeing sights, as some would call the inspection of the phenomena of nature, or the productions of art. Our mornings must be devoted to study; your classical learning will be kept up, but I shall begin you with a course of mathematical instruction; from that we will proceed to scientific inquiries, which depend on a knowledge of mathematical learning; nor will theology, political economy, and other subjects that comprise the education of a gentleman, be neglected. But I am not now detailing the prospectus of a boarding-school.

"You have then made up your mind to endure with for-

titude all the hair breadth 'scapes we are doomed to encounter, as I dare say, we shall hardly quit the British Isles without putting your courage to the proof." "Indeed," replied Edward, "I flatter myself I shall not be a troublesome, though I fear you will find me an inquisitive traveller."

DR. WALKER.—"I shall be always happy to answer your questions, whenever their solutions lie within my knowledge; and in order to convince you how anxious I am, that you should possess that sort of general information, which will add considerably to the pleasure of our present intended tour, and which will so greatly enlarge your understanding, I shall volunteer a geological description of the earth upon the surface of which we are about to peregrinate; as to its productions they will present themselves to our view on every side, and then we will descant on their nature and properties."

SECTION II.

"INDEPENDENT of the practical utility of geology, to mining and farming," pursued Dr. Walker, "it is a study which opens to the traveller new sources of amusement and delight; for amidst the sublime imagery of a mountainous country, the feelings naturally exalted, are yet more raised and refined by the contemplation of its uses and subserviency to life.

"We learn that certain rocks are more prolific in mineral treasures than others; that some yield nothing useful; that veins of the metals pursue certain courses; that coal is accompanied by favourable and unfavourable indications. The farmer is enabled by geology, to ameliorate his land; for it teaches him whence to procure mineral manures, and where to look for those associations of strata which are called for in agricultural improvements. The architect who knows any thing of geology will not construct a monument intended to last for ages, with a perishable stone, when he can select a material of *lasting* durability. In order to explain the subject of geology according to the several opinions of different men, I shall give you an outline of 'Burnet's Sacred Theory of the Earth,' which begins with the separation of elements from a fluid mass;—the heaviest particles are supposed to have sank and formed a *nucleus*; the water and air took their

respective stations; and upon the water the air afterwards deposited a rich unctuous shell or crust that contained in itself the elements of vegetation, and clothed the whole with a beautiful verdure. Mountains, seas, protuberances, or inequalities were then unknown; the equator was coincident with the plane of the ecliptic, and all the charms of spring were perpetual. Many centuries, however, did not glide away before the sun tore the aforesaid crust, or exterior, into large cracks and fissures, which gradually increased till they extended themselves to the great aqueous abyss. The consequences may be easily anticipated. The waters finding vents thus made, rose higher and higher; the shell was utterly broken up and destroyed, and that universal deluge took place, of which we have an awful description in Gen. vi. and vii. From this flood, the state of the world is divided into *Diluvian* and *Antediluvian*. By this catastrophe, the globe of the earth was not only shook and broke in a thousand places, but the violence of the shock it then underwent, shifted its situation; so that the earth which before was placed directly under the zodiac, became thenceforth oblique to the same; whence arose the difference of seasons, which the antediluvian earth was not exposed to. But at length dry land began to appear, owing to a gradual subsidence of the waters, which retired into caverns and crevices originally existing in the nucleus, or formed by the disruption of the crust. Upon the increasing dry land, vegetation began again to exist; and our present islands and continents were formed, while the sea still occupies in parts its original bed. Such is a brief outline of Burnet's romance, which will still be read with some profit, though certainly with more pleasure, even in these times of advanced physical knowledge. It may not be improper to notice to you, that the theory of *Burnet*, who may be justly said to have adorned the latter half of the 17th century, is nothing more than *Des Cartes* primitive world of concentric strata of divers heterogeneous matter.

“Leibnitz about this time published his ‘*Protogœa*,’ in which he supposes the earth to have been in a state of combustion for many ages, and at length to have gone out for want of fuel. A glassy crust was thus formed, which gave rise to sand and gravel; other kinds of earth resulted from sand and salt; and as the globe cooled, the water which had before been kept in the state of steam, assumed fluidity, and falling to the earth, produced the ocean.

“ Whiston's ‘ New Theory of the Earth,’ leaves us bewildered and perplexed, and is principally deserving notice as accounting for the deluge by the approach of a comet towards the earth. This comet coming below the moon, would raise a prodigious and strong tide in the small seas, which, on his hypothesis, were in the antediluvian globe of the world; and also in the abyss, which was under the upper crust of the earth. This tide would rise during the approach of the comet, and would be greatest when the comet was at its least distance from the earth. By the force of the tide and the attraction of the comet, the abyss put on an elliptic figure; the outward crust of the earth, incumbent on the abyss, accommodating itself to that figure, which it would not do while it held solid and conjoined, at last broke, and hence the words of *Moses, the fountains of the great deep being broke up.*

“ The same comet, in its descent towards the sun, passed so close by the body of the earth, as to involve her in its atmosphere and tail for a considerable time; and, of consequence, left a vast quantity of its vapours both expanded and condensed on her surface; but a great part of these being afterwards rarefied by the solar heat, would be drawn up again into the atmosphere, but afterwards returning in violent rains, make good what *Moses intimates by the windows of heaven being opened, and particularly by the forty days rain;* for, as to the following rain which with this made the whole time of raining 150 days, Whiston attributes it to the unlucky earth coming a second time within the atmosphere of the persecuting comet, on its return *from* the sun.

“ Lastly, to remove the waters, he supposes a mighty wind to have arisen, which dried up some, and forced the rest into the abyss again, through the clefts by which they had come up; only a good quantity remained in the *alveus* of the great ocean, now first made, and in the smaller seas, lakes, &c. Whiston only proposed this theory hypothetically at first; that is to say, he only supposed such a comet, because it would feasibly and philosophically account for the phenomenon of the deluge; but upon reconsideration, he thinks there actually was such a comet near the earth at that time, and that the great comet of 1688 is the same.

“ But no one has proceeded to the forming a theory of the earth, with the pomp and circumstance of *Buffon*. It merits attention, as Mr. Brande says, not on account of its ac-

cordance with present appearances, or as affording plausible solutions of observed phenomena, but from the eloquence with which it is adorned, the extent of information it displays, and the popularity it derived from these sources.

“ Buffon supposes the planets in general to have been struck off from the sun by a comet ; that they consisted of fluid matter, and thence assumed a spherical form : and that by the union of centrifugal and centripetal forces, they are restrained in their present orbits. The earth gradually cooled, and the circumambient vapours condensed upon its surface, while sulphureous, saline, and other matters penetrated its cracks and fissures, and formed veins of metallic and mineral products. The scorified, or pumice-like surface of the earth, acted upon by water, produced clay, mud, and loose soils, and the atmosphere was constituted of subtle effluvia, floating above all the ponderous materials. Then the sun, the winds, the tides, the motion of the earth, and other causes, became effective in producing new changes. The waters being greatly elevated in the equatorial regions, and mud, gravel, and fragments being transported thither from the poles, the highest mountains were formed between the tropics, the lowest towards the poles ; and the tropical seas were studded with an infinity of islands. The surface of the earth, once even and regular, became now rough, and irregular ; excavations were formed in one part, and land was elevated in another ; and during a period of ages, the fragments of the original materials, the shells of various fish, and different other exuviæ, were ground up by the ocean, and produced calcareous strata, and other lowland depositions ; these relics of marine animals which we find at such heights above the present level of the sea, as to render it more than probable, that the ocean once entirely overwhelmed the earth.

“ From these phenomena, Buffon draws a series of curious and minute conclusions, which our limits forbid us even to particularize ; but every one who now contemplates the earth’s surface, traces upon it marks of the direst and most unsparing revolutions, which, from the present order of things, it appears impossible should re-occur, except by the united and continuous agency of the most active powers of destruction. Buffon says this arose from the soft state of the former crust of the earth, and those causes, now imbecile and slow in their operation, were then more effectually exerted, and results were obtained in a few years, for which

ages would now be insufficient. In contemplating the production of rivers, he regards them as having cut their own way to the sea, and in their course gradually wearing down the mountainous lands, filling up vallies, and choking their exits into the ocean by finely divided materials: thus every thing is slowly returning to its former state; all mountains shall be levelled, every valley raised up, excavations filled up, and the ocean will again cover the earth. I shall not enter into the various confutations which these speculative notions have met with, nor dwell upon many modern theories to which they have given rise; for though the authors of these theories have sometimes clothed their fictions in new dresses, we have no sooner removed the mask, than Burnet or Buffon is instantly recognized.

“ The prevailing theories of the present day are the inventions of Professor Werner, of Freyburgh, and Dr. James Hutton, of Edinburgh; each of these has been ably supported and elucidated by the proofs, illustrations, and comparative views of acute and eloquent controversialists, and two sects of geologists have been formed under the appellation of Wernerians and Huttonians.

“ The first principle which the Wernerian theory assumes, is, that our globe was once covered with a sort of chaotic compost, holding, either in solution or suspension, the various rocks and strata which now present themselves to us as its exterior crust. From some unexplained cause, this fluid began first to deposit those bodies which it held in chemical solution, and thus a variety of crystallized rocks were formed. In these we find no vegetable or animal remains, nor even any rounded pebbles; but in the strata, which lie upon the crystalline, or first deposits, shells and fragments occasionally occur: these therefore have been termed *transition strata*; and it is imagined, that the peopling of the world commenced about this period. The waters upon the earth began now more rapidly to subside, and finely divided particles, chiefly resulting from disintegration of the first formations, were its chief contents;—these were deposited upon the transition rocks, chiefly in horizontal layers. They abound in organic remains, and are termed by Werner, *Floetz*, or *secondary rocks*.

“ It is now conceived, that the exposure of the *primitive transition*, and *secondary rocks* to the agencies of the wind and weather, and to the turbulent state of the remaining ocean, produced inequalities of surface, and that the water

retreated into low lands and vallies, where a further deposition took place, constituting clay, gravel, and other *alluvial* formations.

“ There are also certain substances which instead of being found in regularly alternating layers over the earth, are met with in patches; as Rock-salt, coal, basalt, and some other bodies, which *Werner* hath called *subordinate* formations. Lastly, subterraneous fires have sometimes given birth to peculiar and very limited products; and these are called *volcanic* rocks. Such is *Werner's* account of the production of rocks, which he arranges under the terms *primary transition, secondary, alluvial, subordinate, and volcanic formations.*

“ *Hutton*, looking upon the face of nature, gives a very different account of the present order of things, and observes every thing in a state of decay; but as she has obviously provided for the regeneration of animal and vegetable tribes, the philosopher descries in this apparent destruction of the surface of the earth, the real source of its renovation.

“ The stupendous mountains exposed to the action of the varying-temperature of the atmosphere, and the waters of the clouds, are, by slow degrees, suffering constant diminution; their fragments are dislodged, masses are rolled into the valley, or carried by the rushing torrent into rivers; whence they are transported to the sea. The lower and softer rocks are undergoing similar but more rapid destruction. The result of all this must be, the accumulation of new matter in the ocean, which will be deposited in horizontal layers.

“ *Hutton* perceives the transition rocks of *Werner*, though not strictly crystalline, made up apparently of finely divided matter, more or less indurated; sometimes very hard in texture, and of a vitreous fracture; that this hardening is most perceptible when in contact with the primitive or inferior rock, which often pervades the transition rocks in veins; or appears to have broken up or luxated the superincumbent masses.

“ The transition or secondary rocks of *Werner*, were, according to *Hutton*, deposited at the bottom of the ocean, in consequence of operations similar to those which are now active, and the primary rocks were formed beneath them by the operation of subterraneous fires; their crystalline texture, their hardness, their shape and fracture, and the alterations they have produced upon their neighbours, are the

proofs of the correctness of these views. It is by the action of fire then, that rocks have been elevated, that strata have been hardened, and that those changes have resulted, which, an examination of the earth's surface, unfolds. The production of soils and of alluvial lands, is considered as dependant upon causes the same as those referred to in the other theory. To conclude this introduction, you will observe, that Hutton refers to fire as well as water, for the production of our present rocks; the former, consolidating, hardening, and elevating; the latter, collecting and depositing the strata.

“ These, my dear Edward, are the principal systems of geology that have excited the attention and study of the learned of late years. It remains now for us to take a general survey of the earth as to its superficial contents and population.

“ The surface of the earth then contains about 198,956,786 square miles, more than two-thirds of which are covered with water, as may be proved by taking a map of the world, and cutting out all that part of it, which is assigned to the continents and islands, from what is allotted to the oceans, seas, gulfs, bays, and lakes. Then, putting the land in one scale, and the water in another, we shall find the latter one-third heavier than the former.

“ The seas and unknown parts are said to contain 159,966,217 square miles, and the inhabited parts 38,990,569, of which.

Europe contains	-	4,456,065 square miles.
Asia	- - -	10,768,823
Africa	- - -	9,654,807
America	- - -	14,110,874
		<hr/>
		38,990,569

“ Now as respects the human beings who inhabit the earth, the following table has been given as an estimate of their numbers.

Asia contains	- - -	500,000,000 of souls.
Europe	- - -	150,000,000
Africa	- - -	30,000,000
America	- - -	20,000,000
Austral Asia, Polynesia, and Isles in the Pacific ocean	} - - -	500,000
		<hr/>
Total,	- - -	700,500,000

“And now, Edward, can you tell me how many persons there will be to every square mile of ground in each of the quarters of the globe?”

“Admitting your calculations to be accurate, Sir,” replied Edward, “the population to every square mile will be, to Europe 34 nearly, to Asia 46, to Africa 3, and in America there are only 3 inhabitants to every 2 square miles.”

CHAPTER II.

ENGLAND.

SECTION I.

OXFORD—BLENHEIM.

DR. WALKER and his pupil pursued the route to Oxford, without any interruption: it was evening when they entered this city of palaces, and the next day Dr. Walker purposed continuing their journey. “~~For~~ to attempt a description of this beautiful city and its colleges,” continued he, “would be to attempt an Herculean task; a volume, indeed, would scarcely suffice to detail the beauties and wonders it contains. As to the foundations of the different colleges, by whom, and when, any geographical book will give you that. Months might be profitably occupied in inspecting the different libraries, churches, and colleges; and, as I hope, when we return from our tour, we shall spend many pleasant days together within the walls of Christ-church, I do not chuse you should take a superficial glance of what is deserving a very large portion of your time and attention. I myself was brought up at Cambridge, and I confess I feel anxious you should also visit that University; though you must prosecute your studies at Oxford, because I am well acquainted with the partiality your father had for Oxford. We used, in days of yore, to have many amicable disputes together as to the superiority of the two colleges. I am well aware that Cambridge must yield to Oxford, as far as outward splendour goes, but, being a Cantab, I am bound to support the reputation of that University, to which I am so much indebted, against all who shall *dare* to dispute it.

“ Thus you see Edward, how we are beset with prejudices.”

Early on the following morning our travellers quitted Oxford for Woodstock, which is celebrated for having been the residence of many of our English monarchs, and for being the spot where Henry II. concealed Rosamond, daughter of Lord Clifford, his favourite mistress. There is still pointed out a quadrangular receptacle of pure water, flowing from a little spring under the hill, which is called her *well*. There are now no remains of the labyrinth, though so late as the middle of the last century part of that, as well as of the old palace, were then in existence. In the year 1705, the manor was settled on John, Duke of Marlborough, by act of Parliament, and the present superb house, called Blenheim, was erected for his use. This estate is held by the deposit of a small square pale-blue flag in Windsor castle, which must be sent every year, on a particular day, before twelve o'clock. On this slender offering depends the estate. An omission of this flag would forfeit the whole magnificent tenure. Woodstock has a very fine manufacture of gloves, and formerly it had one of steel watch chains, which are now totally out of date. Upon arriving at Bicester, our travellers were not a little disappointed at hearing there were no horses at the inn; but the landlord assured them he expected a pair in every moment. When the poor animals arrived, they looked knocked up, and neither the doctor nor his pupil could bear the idea that they should go out again. They accordingly ordered beds, and proposed strolling about the environs of the town in the evening. It, however, proved wet, and they were obliged to content themselves at home, when the following conversation took place.

DR. WALKER.—“ Come, Edward, ring for the landlord, perhaps he can lend us some old Magazines, which would while away an hour pleasantly, for it is not worth our pains to unpack our poetic *library* to night.”

The landlord said, he would do his best, and soon made his appearance, bringing in a large parcel of old magazines, pamphlets, newspapers, and so forth. *Dr. Walker*.—“ We shall not lack amusement I perceive, and we are much indebted to you, landlord.”

LANDLORD.—“ Not at all, Sir. I am very glad I have been able to accommodate you. I am sorry you could not take your walk, for I should have been proud of pointing out to

you the scite of the ancient town of Alcestre, which formerly stood close to this place. I have got some coins that were dug up there in a field of mine, which are quite fresh ; perhaps you would like to see them."

DR. WALKER.—"Very much indeed."

Upon inspecting them they were found to be Roman coins, bearing the effigies of Titus Vespasian.

DR. WALKER.—"What have you there, Edward, that seems to have so fixed your attention.

EDWARD.—"An account of the coal mines of England, Sir."

DR. WALKER.—"Read it to me, I shall like very much to hear a description of them, as they lay completely out of our beat, and therefore, except from books, we are not likely to know much about them."

SECTION II.

OF COAL MINES.

EDWARD (*reading*).—"Coals are scattered, with a more or less sparing hand, over every continent, and almost over every kingdom of the globe. But in no country are coal mines so rich and frequent as in our native soil. M. Fau-gas de St. Fond, has ascribed the whole opulence of Eng-land to her coals, as being the very soul of her manufac-tures and consequent commerce. The coals of Whitehaven and Wigan are the most pure ; and the *cannel*, or peacock, coal of Lancashire, are so beautiful, that they are suspected by some to have constituted the gagates, or jet, which the an-cients ascribed to Britain. It is occasionally met with in Devonshire, as at Bovey-heath, resembling wood impregna-ted with bituminous matter of turf or peat.

"It is a common opinion among geologists, that pit coal is of a vegetable origin, and that it has been brought to its present state by means of some chemical process, with which we are still unacquainted. There is one circumstance which gives this opinion, though it may at first appear ex-travagant, considerable plausibility, we mean the existence

of vast depositions of matter, half way, as it were, between perfect wood and perfect pit coal; betraying obviously its vegetable nature, and yet so nearly approximating to pit coal in several respects, that it has been generally distinguished by the name of *coal*. One of the most remarkable of these depositions exists in Devonshire, about 13 miles south west of Exeter, and is well known by the name of Bovey coal. It has been very well described by Dr. Mills, in the Philosophical Transactions; and its vegetable nature has been ascertained by Mr. Hatchett, by a process of chemical experiments, by means of which he found both extractive and resin; substances peculiar to the vegetable kingdom."

EDWARD, (*putting down the book.*)—"What was it defined before it was classed among the vegetable substances, Sir?"

DR. WALKER.—"Mineral. But, my dear Edward, you must glance over the subject, and chuse some one particular colliery, and that will give us some idea of all."

Edward having slightly skimmed over the subject, selected the coal mines at Whitehaven, for their evening's amusement, and he began as follows:—

"The coal mines at this place are perhaps the most extraordinary of any in the known world. Sir John Lowther was the first that wrought them for foreign consumption; and it has been computed, that this gentleman and his son, Sir James, in the compass of a century, expended in one of them only, upwards of half a million sterling.

"The principal entrance into these mines, for men and horses, is by an opening at the bottom of a hill, through a long passage hewn in the rock; which by a steep descent leads down to the lowest vein of coal. The greatest part of this descent is through spacious galleries, which are continually intersected by other galleries; all the coal being cut away except large pillars, which, in deep parts of the mine, are three yards high, and about twelve yards square at the base; such great strength being there required to support the ponderous roof.

"The mines are sunk to the depth of one hundred and thirty fathoms, and are extended under the sea to places where there is above them, sufficient depth of water for ships of large burthen."

"Astonishing!" exclaimed Edward.

"These are the *deepest* coal mines that have been hitherto wrought; and, perhaps, no other miners have penetrated

to so great depth below the sea, as those of Whitehaven. The very deep mines in Hungary, Peru, and elsewhere, being situated in mountainous regions, where the surface of the earth is elevated to a great height above the level of the ocean.

“ There are here three strata of coal, which lie at a considerable distance above the other, and there is a communication by pits between one of these parallel strata and another. But the vein of coal is not always regularly continued in the same inclined plane, but instead thereof, the miners meet with hard rock, which interrupts their further progress. At such places there seem to have been breaks in the earth, from the surface downwards; and in some of them it may have sunk ten or twenty fathoms, or even more. These breaks the miners call *Dykes*; and when they meet with one of them, their first care is to discover whether the strata in the part adjoining be higher or lower than in the part where they have been working; or, to use their own terms, whether the coal be cast down or up. If it be cast down, they sink a pit to it; but if it be cast up to any considerable height, they are oftentimes obliged, with great labour and expence, to carry a level and long gallery through the rock, until they again arrive at the strata of coal.

“ Those who have the direction of these deep and extensive works, are obliged, with great art and care, to keep them continually ventilated with perpetual currents of fresh air. In the deserted works which are not ventilated with perpetual currents of fresh air, large quantities of damps and noxious exhalations are frequently collected; and in such works they often remain for a long time, without doing any mischief. But when by some accident they are ignited, that is to say set on fire, they then produce dreadful explosions, and bursting out of the pits with great impetuosity, like the fiery eruption from burning mountains, they force along with them ponderous bodies to a great height in the air.

“ The coal in these mines has several times been ignited by these fulminating damps, and has continued burning for many months, until large streams of water were conducted into the mines, and suffered to fill those parts where the coal was burning. By such fires several collieries have been totally destroyed, of which there are instances near Newcastle, and in other parts of England, as well as at Fife in

Scotland ; in some of which places the fire has continued burning for ages.

“ In order to prevent as much as possible, the collieries from being filled with those pernicious damp, it has been found necessary, carefully to search for those crevices in the coal, from whence they issue out, and at those places to confine them within a narrow space: and from those narrow spaces in which they are confined, to conduct them through long pipes into the open air, where being set on fire, they consume in perpetual flames, as they continually arise out of the earth.

“ The late Mr. Spedding, who was the great engineer of these works, having observed that the fulminating damp could only be kindled by *flame*, and that it was not liable to be set on fire by red hot iron, nor by the sparks produced by the collision of flint and steel, invented a machine, in which a steel wheel is turned round with a very rapid motion, and flints being applied thereto great plenty of fiery sparks are emitted, that afford the miners such a light as enables them to carry on their work in close places, where the flame of a candle or a lamp would occasion a dreadful explosion.”

DR. WALKER.—“ Sir Humphrey Davey has invented a safety lamp upon such an ingenious principle that no danger is now apprehended from accidents of this kind.”

EDWARD, (*resuming his reading.*)—“ But not so many mines have been ruined by fire, as by inundations ; and here that noble invention the steam engine displays its beneficial effects. It appears from pretty exact calculations, that it would require about 550 men, or a power equal to that of 110 horses to work the pumps of one of the largest steam engines now in use, and thrice that number of men to keep an engine of this size constantly at work, and that as much water may be raised by an engine of this size, kept constantly at work, as might be drawn up by 2520 men by rollers and buckets, after the manner now daily practised in mines ; or as much as can be borne up on the shoulders of twice that number of men, as is said to be done in the mines of Peru. So great is the power of the elastic steam of the boiling water in those engines, and of the outward atmosphere, which by their alternate actions give force and motion to the beam of this engine, and by it to the pump rods, which

elevate the water through tubes, and discharge it out of the mine.”

DR. WALKER.—“ You have heard what the Negro said upon seeing one of those steam engines at work. ‘ White man make every thing work, fire, water, earth, and air, and he boil water to make it work harder.’ ”

SECTION III.

THE SCILLY ISLANDS, AND TIN MINES OF CORNWALL.

“ So much for the coal mines ;” said Dr. Walker, “ now turn over, perhaps we may find something relating to the tin mines.”

EDWARD.—“ Yes, Sir, here is an account of them, shall I read it ?”

DR. WALKER.—“ Pray begin ; but one word upon the antiquity of these Cornish mines. The Cornish tin mines were well known to those great navigators of antiquity, the Phœnicians, who visited the British Isles for the purpose of procuring this useful, beautiful, and valuable metal. Hence the Greek name *Cassiterides*, or the Islands of Tin, which they bestowed upon Great Britain and Ireland. The Scilly Isles alone have retained the name of the *Cassiterides*, although they no longer exhibit symptoms of the precious metal, from whence the name is derived. Shut your book for the present, and order tea, and while we sip the *fragrant beverage*, we will make an ideal tour to those barren isles, after which we will resume our studies upon mineralogy.

“ The inhabitants of this unkindly spot are all new comers ; these isles contain no habitations worth notice ; no remains of any Phœnician, Grecian, or Roman art, either in town, castle, port, temple, or sepulchre. All are vanished. The few antiquities that remain are Druidical. Upon all the islands, (several of which are now without cattle or inhabitants) are the remains of hedges, walls, foundations of houses, and a great number of sepulchral burrows, which clearly prove that they have been cultivated, and consequently inhabited. That they were inhabited by Britons,

is past all doubt, for they have not only British names for their little islands, tenements, and creeks, but there are many remains of circles of stones, erect rude stone pillars, cairns, &c. all monuments common in Cornwall and Wales, where the ancient Britons fled for refuge during the invasion of the Danes, Romans, and Saxons. How these ancient inhabitants disappeared has been matter of much speculation; to which it has been answered, the manifest encroachments of the sea, and as manifest a subsidence of some parts of the land, are the causes of this depopulation. The sea is the insatiable monster which devours these little islands, satiates itself with the earth, sand, clay, and all the yielding parts, and leaves nothing where it can reach, but the skeleton, the bared rocks. The continual advances the sea has made during the last thirty years is obvious. What is seen to happen every day, may be supposed to have happened in ancient times, and from the banks and sand giving way to the sea, and the breaches becoming still more open and irrecoverable, it appears that repeated tempests have occasioned a gradual dissolution of the solids, for many ages, and as gradual and progressive an ascendancy of the fluids.

“ Again, the flats stretching from one island to another, are plain evidences of a former union subsisting between many now distinct islands. The flats between Trescow, Brehar, and Sanipson, are quite dry at a spring tide, and men easily cross them dry shod at such times; on the shifting of the sands, walls and ruins are frequently discovered, on those spots which at a full sea are covered with water ten or twelve feet deep. History confirms their former union. ‘The isles Cassiterides,’ says Strabo, ‘are *ten* in number, close to one another; one of them is desert and unpeopled, the rest are inhabited.’ But the sea has wonderfully multiplied these ten islands, for there are now one hundred and forty; into so many fragments are they divided, and yet there are but six inhabited.

“ But no circumstance can show the great alterations which have taken place in the number and extent of these islands, more than the following:—the Isle of *Scilly* from which the little cluster derives its name, is nothing more at present than a high rock, of about a furlong over, the summit of whose arid cliffs can hardly be attained but by

birds, and whose surface is so totally barren that it is inhabited by those birds only which feed upon fish.

“ The land, or rather sands, between Sanipson and Trescow, which were formerly covered with dwellings, are now in many parts sunk sixteen feet below water; for we cannot suppose the ocean to have risen to that extraordinary height. This subsidence of the land must have been followed by an immense inundation, and this inundation is likely not only to have destroyed a great part of the inhabitants, but also to have terrified others into a total desertion of their shattered islands. This subsidence might have been caused by an earthquake very possibly, and thus is the extirpation of the Aborigines, or original inhabitants, who carried on so large a traffic with the Phœnicians, Greeks, and Romans, accounted for. There is one load or working of tin on Trescow, but this is so very trifling, and so lately worked, that except for the historical records upon that subject, no one would have supposed that these were the islands so fertile in tin, so much coveted by the Romans, and so long concealed by the Phœnicians.”

DR. WALKER.—“ You know the story of the Phœnician captain, who ran his vessel on shore purposely, and thus lost his ship rather than discover the trade of these islands to the Romans. That these mines are now sunk into the sea, there is but little doubt; for there is a tradition in Cornwall, that formerly there existed a large country between the Land's End and Scilly, now laid many fathoms under water. Now in all national traditions, however improbable they may seem, or however they may be enveloped in fable, there must have been originally some foundation from which they arose; invention and the love of the marvellous, may have adorned or even disfigured them, but to truth, though hard to be discovered, their origin must be attributed. Now although there is no evidence to be depended upon, of any ancient connection of the Land's End and Scilly, or at least of their proximity to each other, yet that the cause of that inundation, which destroyed much of these islands, might reach also to the Cornish shore, is extremely probable; there being several evidences of a like subsidence of the land in Mount's bay, where the principal anchoring place, formerly called a lake, is now a haven or open harbour. The Mount, from its Cornish name *Guavas Lake*, signifying, *the grey rock in a wood*, we must natu-

rally imagine to have stood formerly in a wood ; but now at full tide, it is half a mile in the sea, and not a tree near it."

EDWARD.—“ I wish my memory was as good as your's Sir.”

DR. WALKER.—“ Nature has not been sparing of her gifts to you, and it remains with yourself, whether you chuse to wrap your talent in a napkin, or whether you chuse to make it ten. Sancho would tell you, ‘ Rome was not built in a day,’ and it would be hard indeed, if at your time of life, you should be equal in information to me, who have been cultivating my talent for these last forty years, I may say with unwearied dilligence ; but the same field is before you, and at my age you will, I hope, be a wiser man than your tutor. Having satisfied our curiosity with our imaginary trip to the Scilly Islands, you may now resume your book.”

EDWARD, (*reading.*)—“ The tin works are of different sorts, on account of the different forms in which that metal appears, for in many places it so strongly resembles common stones, that it can be only distinguished from them by its superior weight. It sometimes appears mixed with earth, forming a substance as hard as stone, and this ore is always found in a continued stratum which the miners call *load*, running through the hardest rocks, beginning in small veins near the surface, perhaps not above half an inch or an inch wide, and gradually increasing in size, stretch out in extraordinary ramifications, and bending downwards in a position which generally lies east and west. These loads are sometimes white, very wide, and occasionally so thick that large lumps of the ore are drawn of more than twenty pounds weight. The loads of tin ore are not always continuous, but sometimes break off so abruptly that they appear to terminate. But the sagacious miner knows that by digging at a small distance, on one side he shall meet with a separated part of the load, appearing to tally so exactly with that which is so suddenly interrupted, that it appears as if it had been broken off by some violent shock of the rock. The miners of this country follow the load in all its meandering curves, through the bowels of the rocky earth. Sometimes the waters are drained from these mines by subterraneous passages, formed from the body of the mountain to the level of the country : these are called *adits*, and occasionally prove the labour of many years ; but when effected, save the constant expence of large water works and fire engines.

“ In order to convey the ore above ground, they sink a passage to the mine, from the surface of the earth, which they call a shaft, and over it place a large winch ; but in greater works a wheel and axle, by which means they draw up large quantities of the mineral at a time, in vessels called kibbuls. This ore is thrown into heaps, which great numbers of poor people are employed in breaking to pieces, and fitting the ore for the stamping mills.

“ A third form in which tin appears is that of crystals ; for tin will, under proper circumstances, readily crystallize ; and hence, in many parts of the mineral rocks, are found the most perfectly transparent and beautiful crystals of pure tin.”

DR. WALKER.—“ Does it say nothing of its properties ?”

EDWARD.—“ No, Sir, not a word.”

DR. WALKER.—“ Then I will give you a brief sketch of them. Tin is of a colour approaching to that of silver, but somewhat duller ; next to lead, it is the softest and least elastic of all the metals. In tenacity it is superior to lead, and though not very ductile, it may be reduced to very thin leaves. It is less sonorous than copper, iron, or silver, and it is the lightest of all the metals, except cast-iron.

“ The putty of tin is used for polishing mirrors, lenses, &c. and for rendering glass white and opaque, or converting it into enamel. It is soluble in sulphuric acid, and with muriatic acid it forms muriate of tin, which is of great use in dyeing. Tin combined with sulphur, forms *aurum musicum*, used by the japanners. It alloys with other metals forming solder. With lead and antimony it constitutes pewter ; and with mercury, it is employed for silvering mirrors.

“ Tin formed a part of the composition of the ancient bronze ; for, according to Pliny, new copper was first melted, into which was poured a third of its weight of copper which had been long in use. To every hundred pounds weight of this mixture they added twelve pounds and a half of a mixture, composed of equal parts of lead and tin. Bell metal is also composed of tin and copper. And the best specula of the ancients were composed of these two metals, and made at Brundisium.

“ The purity of tin in Cornwall is ascertained, before it is exposed to sale, by what is called its *coinage* ; the tin, when smelted from the ore, is poured into quadrangular moulds of stone, containing about 320 pounds weight of metal, which, when hardened, is called a block of tin ; each

block of the tin is coined in the following manner. The officers appointed by the Duke of Cornwall assay it, by taking off a piece of ore of the under corners of the block, partly by cutting, and partly by breaking, and if well purified, they stamp the face of the block with the seal of the duchy, which stamp is a permission for the owner to sell, and at the same time an assurance that the tin so marked has been properly examined and found merchantable.

“The Dutch tin founders have all these marks, so that this stamp is no security for foreigners, who purchase what they think assayed English tin in Holland.

“Our evening has not appeared very long,” said the doctor, as he looked at his watch, “yet it is just upon the stroke of ten. But we will not order supper just now, as I have one more subject I wish to discuss; I mean the Eddystone Light-House, to which my imagination has wandered upon quitting the Scilly Isles.”

SECTION IV.

THE EDDYSTONE LIGHT-HOUSE.

“LIGHT-HOUSES are a very ancient invention. Near Alexandria, in the island of Pharos, stood one particularly celebrated; it was ranked as one of the Seven Wonders of the World, and was a building of extraordinary beauty, as well as of incalculable utility. Sostratus, the Cnidian, was the architect, under the patronage of Ptolemy Philadelphus, who expended upon its erection, the sum of 180,000*l.* sterling. Ptolemy anxious to immortalize himself by so useful and magnificent a work, ordered his name to be placed upon it; but the architect, although he apparently obeyed the commands of his master, yet contrived to make his own name the more lasting of the two. Having engraved the following inscription upon it “*Sostratus the Cnidian, son of Teziphanes, to the protecting deities, for the use of seafaring people.*” He then covered this sculpture with lime, upon which he traced the name of Ptolemy. In the course of a few years the lime wore away, and beneath it appeared the artist’s own inscription. Amongst the modern light-houses Eddy-

stone stands conspicuous. The Eddystone rocks are almost in the line, but somewhat within it, which joins the Start and the Lizard points; and as they lie nearly in the direction of vessels coasting up and down Channel, they were formerly very dangerous, and often fatal to ships, until the erection of this light-house.

“ Their situation, with regard to the Bay of Biscay and Atlantic Ocean, is such that they lie open to the swells of the bay and ocean from all the south-western points of the compass; which swells are generally allowed by mariners to be very great and heavy in those seas, particularly in the bay of Biscay. The soundings from the south-westward to these rocks are from eighty to forty fathoms, and until you come very near the rock they are no where less than thirty, so that all the heavy seas from the south-west rush uncontroled upon them with the utmost fury. The force and height of these seas is increased by the circumstance of the rocks stretching across the Channel in a north and south direction, to the length of some hundred fathoms, and also by their lying in a sloping manner to the south-west quarter. The effect of this slope on the rush of waters in stormy weather is terrific; and after a heavy gale, where all appears superficially calm, the *ground swell* in the neighbourhood of these rocks is so prodigious, as to cause so rough a sea that no boat can land upon them. These difficulties appeared almost insuperable, but the daring genius of man has surmounted them all. Another circumstance, which considerably damped all hopes of working upon these rocks, was a sudden drop of their surface, forming a step between four and five feet high: so that the seas, which even in moderate weather beat with a heavy swell against this part, meeting with so sudden a check, the sprays are frequently impelled thirty or forty feet upwards. The Eddystone rocks, therefore, remained for ages an object of the mariner's fears, but at length, in the year 1696, a gentleman of Littlebury, in Essex, whose name was Henry Winstanley, undertook to erect a lighthouse on this fearful spot. In the course of four years the edifice was completed, and the architect felt so assured of its stability, that he wished he might be within it “ during the greatest storm that ever blew under heaven.” His wish was unfortunately gratified: on the 26th of November, 1703, the most tremendous storm that is detailed in the records, not only of this, but of any other country, swept away, in a few short

hours, the perishable and boasted work of man, and left only the bare rock, standing proudly erect. Mr. Winstanley and all his people were buried in the tempestuous deep, and no trace of the unwearied and dangerous labour of four years remained, except a few large irons which fastened the building to the rock!"

EDWARD.—“ Poor creatures! What a fate! I am surprised that any body, after such an accident, would venture to erect a second.”

DR. WALKER.—“ Patience and perseverance conquer most things. In the year 1709, Mr. John Rudyerd, a silk mercer, undertook the dangerous task; and although the light-house was erected only of wood, it yet resisted the fury of the winds and waves during forty-six years, and was at last destroyed by fire.

“ Mr. Smeaton, the celebrated engineer, was then chosen as a person well calculated to repair so important and national a loss. On the 2nd of April, 1757, he laid the foundation of the present structure. The rock which slopes towards the south-west, is cut into horizontal steps, into which are dove-tailed and united by a strong cement Portland stone and granite. The whole to the height of thirty feet, from the foundation is a solid mass of stones, engrafted into each other, and united by every means of additional strength. The building has four rooms, one over the other, and at the top a gallery and lantern. The stone floors are flat above, but concave beneath, and are kept from pressing against the sides of the building by a chain let into the walls. It is nearly eighty feet high, and since its completion has been repeatedly assailed by the fury of the elements without suffering the least injury.”

EDWARD.—“ What a life the poor men must have who attend to the light. In what manner are these light-houses illumined?”

DR. WALKER.—“ By means of lamps and reflectors. Formerly they were lighted by immense coal fires; but the present plan has many and great advantages. The light, in the first place, is much more brilliant, is less expensive, and is not so liable to be affected by the weather, while the man who has the charge of it is neither exposed to wet or cold. And now, Edward, ring the bell: it grows late, and we must rise early in the morning.”

SECTION V.

OF AERIAL PHENOMENA.

OUR travellers began their journey with the sun on the following day; and, after a pleasant ride, they arrived towards evening at Upton, and from thence proceeded to Great Malvern. The picturesque beauty of the surrounding scenery, glowing with an evening sunset, was considerably heightened by the gradual appearance of the resplendent arch of heaven; while the sweet south, upon a bank of violets, refreshed and perfumed by a vernal shower, came wafting to them, and regaled their senses with all the sweets of spring. "How resplendent are those colours!" said Edward, as the rainbow became every instant more distinct and brilliant.

"Yes," replied the Doctor, "and of all the instances of refrangibility of light, or, in other words, the separation of its primary colours, none is more remarkable, than that of the Iris, or rainbow. It is formed, in general, by the reflection of the rays of the sun's light from the drops of falling rain, though frequently it appears among the waves of the sea, whose heads, or tops, are blown by the wind into spray and small drops, and it is sometimes seen on the ground, when the sun shines on a very thick dew.

"The immediate cause of this refractibility is this. When rays of light pass through one medium and enter another of different density, they are diverted from their former course, and are then said to be refracted. Hence a ray of light entering a globule of rain, instead of passing through the centre of the globule, and out at the opposite point by which it entered, it will be driven towards another marginal position, and form an angular line coequal to the obliquity, with which it deviates from a right line on its entering the globule, just as a stake or oar, plunged obliquely into a river, appears to be broken at the point at which it enters the water. Now this ray of light does not, of course, illumine the whole globule, and the unillumined part of the rain drop forming a dark back ground to the ray of light, the globule

has the property of a mirror. The ray which is thus formed is again reflected by the mirror thus produced, and it assumes a triangular figure. This angle of light has the property of a prism, and exhibits what are called prismatic colours. The spread of this angle must depend upon the diameter of the globule which produces it, and its point being obtuded or softened to the eye by the distance through which it is beheld, the angle must be converted into an arch, thus, and hence a beautiful and variegated bow is produced.



The drops of rain falling continually, a new rainbow is produced every moment: and as each spectator has his particular situation from which he observes this phenomenon, it so happens that no two persons, properly speaking, can see the same rainbow.

“ The beautiful colours of the rainbow, to Pliny and Plutarch, appeared an object we might admire, but could never explain; and the priests of antiquity always preferred the wood, on which the rainbow had appeared to rest, for their sacrifices, religiously supposing this wood had a perfume peculiarly agreeable to the gods.

“ Cascades and fountains, whose waters are in their fall divided into drops, exhibit rainbows to a spectator, if properly situated during the time of the sun’s shining; and water blown violently from the mouth of an observer, whose back is turned to the sun, never fails to produce the same phenomenon.

“ This appearance is also seen by moon-light, though seldom vivid enough to render the colours distinguishable; and the artificial rainbow may be produced even by candle-light, on the water which is ejected by a small fountain, or *jet-d’eau*. All these are of the same nature, and dependent on the same causes, viz. the various refrangibility of the rays of light.

“ The colours observable on soap bubbles, and the halos which sometimes surround the moon, are also referable to the same origin.

“ We shall prove this if we darken a room, and permit the sun to shine into it through a small hole in the window-shutter, so that the rays of light be made to fall upon a glass prism: then will these rays, in passing through this prism, suffer different degrees of refraction, and by that means be parted into different rays, which being received upon a sheet

of white paper, will exhibit the following colours, viz. *red*, *orange*, *yellow*, *green*, *blue*, *indigo*, and *violet*; and if the whole spectrum, or image, be divided into 360 equal parts, the red will occupy 45 of these parts, the orange 27, the yellow 48, the green 60, the blue 60, the indigo 40, and the violet 80.

“As a ray of the sun may be separated into these seven primitive colours, so, by their mixture in due proportions, may white be produced. White, therefore, is the mixture of all the colours, as black is the want, or deprivation, of colour: and this may be proved, by fixing pieces of cloth of all the seven different colours, on the rim of a wheel, and whirling it round with great velocity; when it will appear to be white. Though seven different colours are distinguishable in the prismatic spectrum, yet, upon examining the matter with more accuracy, we shall see that there are, in fact, only three original colours, *red*, *blue*, and *yellow*; for the orange being situated between the red and yellow, is only the mixture of these two: the green in like manner, arises from blending the blue and yellow, and the violet results from the blue and red.”

Before our travellers reached the principal inn at Malvern, it was nearly dark, and by the time dinner was over, evening was too far set in to allow them to walk; they therefore drew their chairs to the fire-side, and Dr. Walker renewed the conversation upon some of the various phenomena of the air.

“You have heard, I dare say, of the *Fata Morgana*, Edward,” enquired the Doctor. “But you never, perhaps, thought of enquiring into its causes. In Scotland these grotesque and sometimes beautiful illusions, are called *Glamer*; the English sailors call them *Fog-banks*, and the French *Mirage*. In order to illustrate this delusion as clearly as may be, it is necessary first of all to call your attention to the variable state of the atmosphere; which is commonly of an homogeneous, or equable tenuity, and consequently suffers the sun’s rays to penetrate it without any obstruction or change; but it is occasionally irregular, and composed of parts or bodies of a denser medium than its general texture and constitution, in which case the fluent ray, if it do not enter the denser medium in a direct or perpendicular line, will be either reflected, or refracted, or both; and the object surveyed through it assumes a new, and not unfrequently

grotesque appearance. We have seen that in the descent of rain, the globules, when opposed to the sun or moon, at their rising or setting, in a clear sky, produce this effect as in the rainbow. But a globule of rain is not the only substance in the atmosphere capable, at times, of producing the same effect. Nor since we are told that the mirage usually occurs when the sky is peculiarly serene and tranquil, could it be the cause of this singular phenomenon. It is mostly to be seen in the morning, and principally upon the coasts, or banks of large rivers. It has been observed, not unfrequently, at the back of the Isle of Wight, and on the Scottish coasts, where it never fails to excite superstitious sensations; its appearance being always looked upon by the Highlanders as a most portentous omen: while at Messina it no sooner begins to unfold its magical beauties, than shouts of joy from the delighted populace announce its appearance, exclaiming with exultation *Fata Morgana! Fata Morgana!*

“When the weather is perfectly calm, and consequently the sea almost without motion, the atmosphere, more especially in a dry and hot season, imbibes a considerable portion of the water upon which its lower stratum presses, and hence in the night-time becomes condensed and hazy. As the morning rises, however, and the sun-beams resume their vigour, the atmosphere once more rarefies and re-acquires its transparency. If it rarefy equally and homogeneously, every object beheld through it, must necessarily be exhibited in its real proportion and figure; but it happens occasionally, that in some parts of its texture it seems to be more closely interwoven than in others; and hence in its general expansion, veins, or striæ, like those often discovered in glass, make their appearance of different densities and diameters. In this case every striæ, like every globule of rain, in consequence of the variation of its density, from the common density of the atmosphere, becomes a refracting, or a reflecting body; in other words, a prism, or mirror, or perhaps both. If then a single globule of rain, properly disposed, be able to produce so marvellous a phenomenon as the rainbow, what phenomena may we not expect, what variation, contortion, and grotesque and monstrous representation of images, beheld through a column of the atmosphere, intersected by so many aerial prisms of different densities, and mirrors of different surfaces, in which the catheti may be innumerable, and for ever varying.

P. Minasi describes three different spectacles of this kind, as appearing at the Toro of Messina, to which he gives the following names: *Marine Morgana*, which is seen on the surface of the sea; *Aërial Morgana*, which appears in the air; and the third he denominates, *the Morgana fringed with prismatic colours*.

“When the rising sun shines from that point whence its incident ray forms an angle of about forty-five degrees on the sea of Reggio, and the bright surface of the water in the bay is not disturbed either by the wind or current, when the tide is at its height, and the waters pressed up by currents to a great elevation in the middle of the channel; the spectator being placed on an eminence with his back to the sun, and his face to the sea, the mountains of Messina rising like a wall behind it, and forming the back ground of the picture; on a sudden there appears in the water, as in a catoptric theatre, various multiplied objects; that is to say, numberless series of pilastres, arches, castles well delineated, regular columns, lofty towers, superb palaces, with balconies and windows, extended allies of trees, delightful plains, with herds and flocks, armies of men on foot, on horseback, and many other strange images, in their natural colours, and proper actions, passing rapidly in succession along the surface of the sea, during the whole of the short period of time while the above-mentioned causes remain. All these objects, which are exhibited in the *Fata Morgana*, are proved by the accurate observations of the coast and town of Reggio, by P. Minasi, to be derived from objects on shore.”

EDWARD.—“It must be a beautiful as well as extraordinary scene. From what is the name derived?”

DR. WALKER.—“The name is probably derived from an opinion, that the whole spectacle is produced by a fairy or a magician.

“If, in addition to the circumstances I before described, the atmosphere be highly impregnated with vapour, and dense exhalations, not previously dispersed by the action of the wind and waves, or rarefied by the sun, it then happens, that in this vapour, as in a curtain extended along the channel to the height of above forty palms, and nearly down to the sea, the observer will behold the scene of the same objects not only reflected from the surface of the sea, but likewise in the air, though not so distinctly or well defined as the former objects from the sea.

“ Lastly, if the air be slightly hazy and opaque, and at the same time dewy and adapted to form the Iris, then the above-mentioned objects will appear only at the surface of the sea, as in the first case, but all vividly coloured or fringed with red, green, blue, and other prismatic colours*.

“ As the day advances, the fairy scene gradually disappears. But the most singular instance of atmospherical refraction I ever heard of, was that described in the Philosophical Transactions, as having taken place at Hastings. The coast of Picardy, which is between forty and fifty miles distant from that of Sussex, appeared suddenly close to the English shore. The sailors and fishermen crowded down to the beach, scarcely believing their own eyes; but at length they began to recognize several of the French cliffs, and pointed out places they had been accustomed to visit. From the summit of the eastern cliff or hill, a most beautiful scene presented itself, for at one glance the spectators could see Dungeness, Dover cliffs, and the French coast, all along from Calais to St. Valleroy; and, as some affirmed, as far to the westward, even as Dieppe. By the telescope, the French fishing boats were plainly seen at anchor; and the different colours of the land on the heights, with the buildings, were perfectly discernible.”

EDWARD.—“ How was this very extraordinary phenomenon accounted for, Sir?”

DR. WALKER.—“ Why the refractive power of the atmosphere was probably produced by a diminution of the density of its lower stratum, in consequence of the increase of heat communicated to it by the rays of the sun, powerfully reflected from the surface of the earth. The delusion in the desert, between Alexandria and Cairo, mentioned by M. Monge, which represented villages surrounded by water; when they were, in fact, in the midst of burning sands, is attributed to this same cause.”

SECTION VI.

THE MANUFACTURE OF PORCELAIN.

WHEN Edward rose the next morning, Malvern hills being covered with a white frost, and illumined by the rising sun,

* P. Milasi.

presented a magnificent appearance; he quickly dressed himself, in order to inhale the pure breezes of the mountain; and when he met the Doctor at breakfast, his countenance glowed with the effects of his morning walk.

“These hills,” said the Doctor, “should be denominated mountains; for the strata is placed in a perpendicular direction, which is the distinguishing characteristic of mountains. The Worcestershire Beacon is the highest point of the hills; it is 1300 feet perpendicular from the plains. The component parts of these hills are stone of various kinds, but so rugged and brittle as to be unfit in general for any ornamental work; yet chimney pieces are sometimes made from it, and, when highly polished, they are by no means contemptible.

“Malvern, some twenty or five and twenty years ago, was a thinly inhabited village, perfectly isolated. But since that time, fashion, as well as the salubrity of its air and waters, has rendered it, during one time of the year (the autumn), a place of great resort; and those who visited it formerly as a comfortable and retired place, must now seek elsewhere an asylum from the gay world. We are not likely to be molested, Edward, for the gay season, which commences after that of Cheltenham is concluded, will not begin for these two or three months. Come, let us see the church.

“This church was bought, I understand, by the inhabitants, of John Knotsforde for the sum of two hundred pounds. He was the second possessor, for Henry VIII. gave the priory to William Pinnocke, who alienated it to John Knotsford. Before the conquest, this place was a wilderness, and some of the monks from Worcester Priory retired within its woody recesses, in order to lead an hermetical life. They agreed to follow the order of St. Benet; and from this small beginning, the Priory arose, and became, in the course of time, wealthy; for at the Reformation, its revenues were worth about 375*l.* a year: a considerable sum in those days. Malvern Priory, from the benefits conferred upon it by Giselbert, abbot of Westminster, was very much subservient to that abbey, and was in fact looked upon as a cell belonging to it. We must not quit this neighbourhood without visiting Little Malvern; and as it is but three miles and a half off, we will walk there.” Upon arriving at Little Malvern, our travellers were charmed with the romantic scenery which presented itself. The irregular form of this part of the hill,

adds greatly to its picturesque effect. "Here too there was a monastery," said the Doctor, "a cell to Great Malvern. What a strange association of ideas does this small wood excite. In this spot wandered the holy monks, perfectly secluded from the world, in the midst of rocks, and woods, and mountains. On the top of that hill above us, where there are now the remains of a camp, the Britons are supposed to have made their last stand against the Romans. Strange contrasting figures these: the cowl-clad monks, the naked Britons, and the Romans cased in steel. These were a very different group to that gay assembly now entering the little wicket: let us proceed, there is a warren beyond this; and I think we can reach the summit of the hill by this path." They were, however, obliged to retrace their steps; and after ascending a road to Ledbury, which is cut in the side of the rock, they at length gained the summit, where they were gratified with the most lovely view of the surrounding country. The apple trees were in full blossom, and the whole country, on each side of the hill, had the appearance of a richly cultivated flower garden. Having visited the Holy Well, which is about half way between the two Malverns, they retired to rest, not a little fatigued with their day's excursion, which had been performed on foot. About eleven o'clock on the following day, they arrived at Worcester; and having viewed the cathedral, in which are several fine monuments, they proceeded to inspect the Porcelain Manufactory. Before, however, they prosecuted this intention, Dr. Walker gave the following paper to his pupil to read.

"Porcelain may be regarded the finest kind of pottery; the art of which consists in working and moulding plastic earths into various kinds, and forms, and uses.

"The essential material of pottery is clay, which alone possesses the two requisites for this manufacture, viz. in its natural state it is of so plastic a nature, as to become uniformly soft and pliable, and therefore it can be moulded into any form; and when thoroughly dried, and after having undergone red heat for some time, of losing this plasticity, becoming firm and hard, and capable of retaining liquids within its hollow. Clay, however, is in all instances a very compound material; it owes its plasticity to alumine, one of the nine primitive earths. It may hence be supposed, that many of the natural clays are sufficiently mixed with

other earths, for the potters use without any addition; but the white and finer clays mostly require dilution with silex (flint-sand) in some form or other, which may be done to a considerable extent, without doing away the plasticity requisite for working.

“ The most important circumstances in clay for the purpose of making pottery, are these: plasticity, contractility, solidity, and compactness, for drying colours and fusibility. The colour of the earth is also of essential importance in the finer pottery; but this part of the manufactory is always, and properly, a secret. The whitest looking clays do not always burn white: there is in Staffordshire, at the foot of a range of hills, overlooking the potteries, a stratum of clay, equal apparently in whiteness and texture to the Devonshire clays, but it cannot be used in the finest departments of the manufactory, because it acquires a cream colour in burning, which no art can correct.

“ We have defined porcelain to be a species of pottery ware, composed of an earthy mixture, which resists complete fusion in a very considerable heat, but has been brought by a less heat than its melting point, to a state of incipient fusion, and is thereby rendered extremely hard, sonorous, and semi-transparent, and possessing a semi-conchoidal splenety fracture, approaching to the vitreous, which is completely conchoidal. This last is quite a distinctive character between porcelain and pottery, for the fracture of pottery is extremely granular; and hence porcelain may be considered as a substance of a middle nature between pottery and glass.

“ From this circumstance, it appears probable, that no chemical action takes place in pottery, till it arrives at the state of porcelain. The most perfect and beautiful porcelains of Japan in China, are composed of two distinct earths; one in which silex predominates, and which melts in a strong heat; and another which is infusible *PER SE*, or by itself: and by the union of these two earths, a porcelain is produced which scarcely vitrifies at the utmost furnace heat, which art can excite. Of the beautiful European porcelains, which have been made in imitation of the original, it does not appear, that any of them unite all its excellencies. The infusibility of the Nankin and Japan china, which is not affected by the intense heat of a wind furnace, is not to be met with in the finer porcelains of Europe.”

EDWARD. "I think that is of very little consequence; and while we can produce the beautiful Worcester, Colebrookdale, and Swansea porcelain, the Chinese may keep their dragon and uncouthly ornamented China."

DR. WALKER.—"You would then rather have a beautiful set of painted Worcester porcelain, than a real set of Nankin."

EDWARD.—"I would indeed, Sir. I have yet one question to ask you. You said alumine was one of the original earths. What are the others?"

DR. WALKER.—"Notwithstanding the varied appearance of the earth under our feet, and of the mountainous parts whose diversified strata present to our view substances of every texture and every shade, the whole is composed of only nine primitive earths; and as three of these occur but seldom, the variety which is produced by the other six become more remarkable. To give a still greater variety to the works of nature, these earths are endowed with an affinity for acids and metallic oxydes, whence arise the spars, gems, and precious stones of every colour and every species. These nine earths are silica, alumina, lime; barytes, magnesia, strontian, yttria, glucino, and zirconia. Five of these are particularly useful. Lime is the basis of all mortars and cements; silica, or silex, is a necessary ingredient in earthenware and glass; barytes is employed in chemical laboratories as a re-agent; and for the formation of salts; magnesia being the basis of several salts, is of great use in medicine; and alumina, by a due mixture with silex, is capable of forming vessels for chemists, that will resist the action of the most concentrated acids, and it is the material of which bricks are formed."

Our travellers experienced much amusement from the inspection of the porcelain work; but the various processes in the formation of this beautiful article, would be but little understood by description, and we shall therefore not attempt so difficult and discouraging a task.

Having strolled over the field on which the celebrated battle of Worcester was fought, so fatal to the interests of Charles II., they returned to their inn where they were to pass the night. After dinner having seated themselves comfortably by the fire-side, "Now tell me, Edward," said the Doctor, "what is the cause of the steam round that bottle of wine which is just placed on the table."

EDWARD.—“ I cannot tell you the cause, Sir, although I have often observed, that when a decanter containing any thing cold is brought into a warm room, it is always covered with dew.”

DR. WALKER.—“ Well then, I will explain it to you : but this explanation will lead me first of all to define the word *Caloric*, which would be scientifically applied in the description of this phenomenon. The word *caloric* is synonymous with fire, or that substance which produces the sensation we call heat, but reverts the sensation itself, or the effect produced by fire. Animal heat is preserved chiefly by the inspiration of atmospheric air. If the hand be put upon a hot body, part of the caloric leaves the hot body and enters the hand ; this produces the sensation of heat. On the contrary, if the hand be put upon a cold body, part of the caloric contained in the hand, leaves the hand to unite with the cold body ; this produces the sensation of cold. Caloric comes to us from the sun, at the rate of 200,000 miles in a second of a minute. It may also be procured by combustion, percussion, friction, the mixture of different substances, and by means of electricity and galvanism. The absorption of the atmosphere by caloric, cannot be better seen than in the example before us. The bottle being colder than the surrounding air, absorbs *caloric* from it, and the moisture which that air held in solution, becomes visible, and forms the dew which is deposited on the bottle.”

From Worcester our travellers proceeded to Kidderminster, where they stopped one day in order to view the carpet manufactory in that place.

“ The first carpet made in England,” said Doctor Walker, “ was manufactured under the direction of Anthony Dufoisy, who was brought from France by Lord Pembroke, the present earl’s grandfather. The manufacturers of Wilton, about twenty years ago, obtained a patent, which among other particulars, specified, *that the carpets should be made with bobbin and anchor*. Some persons, however, at Kidderminster, having obtained an insight into the process of the manufactory, procured some looms on the same principle, with this trifling difference, that they were worked with *bobbins* and *balls*, instead of anchors, and thus they eluded the infringement of the patent. The carpets at Axminster are woven in one entire piece; and although the genuine Turkey and Persian carpets are most valued, yet the imita-

tions of them by English manufacturers, are brought to great perfection, they are so far improved as to be little inferior to the far-famed Parisian manufacture ; English carpets are indeed, superior to those of foreign countries in beauty of colours, and neatness and taste in the patterns."

From Kiddermister they proceeded to Stourbridge, celebrated in particular for its glass manufactory. On their way thither, the conversation turned upon the formation and origin of this beautiful article.

SECTION VII.

THE MAKING OF GLASS.

"GLASS," said Dr. Walker, "is, strictly speaking, a chemical substance : you know the discovery of glass is attributed to chance."

EDWARD.—"Yes : some Phœnecean merchants, as Pliny relates, having been driven by a storm at sea to the mouth of the river Belus, kindled a fire on the shore, in order to dress their food. They were greatly surprised after their meal was finished, at observing a transparent substance round the spot where their fire had been lighted."

DR. WALKER.—"True : but you have not said what composed the shining transparent substance. It was a mixture of the herb *pali*, and the silicious particles, or sand on the shore, the glittering nature of which was peculiarly adapted for composing this useful and beautiful material. Certainly the first glass-houses mentioned in history were those at Tyre. The word glass is formed of the Latin *glastum*, a plant ; called by the Greeks *istatis* ; by the Romans *vitrum* ; by the Ancient Britons, *guadorn* ; and by the English, *woord*. The ancient writers make frequent mention of this plant, as one from which the Britons dyed their bodies blue, and hence the fictitious matter of which we are speaking, obtained the name of glass, as having always somewhat of this blueishness in it. There was a plate of glass found amidst the ruins of Herculaneum, and this place you know was destroyed so long ago as the year 80. As to the use to which this plate was applied, that is not ascertained, al-

though the most probable speculation refers to its application as a mirror. Before the Romans invaded Britain, glass-houses had been erected in this country, as well as in Gaul, Spain, and Italy. In many parts of the country glass amulets have been found, called by the Britons *glieneu reigreedh*, or glass adders; these were probably used by the Druids as amulets, or charms. In the time of Tiberius, we hear of glass being made among the Romans; and by the time of Nero, the art had arrived at a considerable degree of perfection; for the glass bowls rivalled those of porcelain in value, and equalled the cups of crystal in their transparency. The venerable Bede mentions, that glass-makers came into England in the year 674, under the protection of the Abbot Benedict, who were employed in glazing the church and monastery of Weremouth. Other authors say, they were brought over by Wilfrid, bishop of Worcester, much about the same time. In the year 1180, glass windows became very general, but previous to this period glass was considered as an extraordinary mark of magnificence. Venice for many years excelled all Europe in the fineness of its glasses; and in the thirteenth century the Venetians were the only people that had the secret of making crystal looking-glasses.

“The glass manufacture was first set up in England in the year 1557, at Crutched Friars, and at the Savoy the fine flint glass was first manufactured. Glass plates for looking-glasses were not made in this country until the year 1673, at Lambeth, by the encouragement of the then Duke of Buckingham, who brought over some Venetian artists for that purpose. The French soon learnt the art, and cast plates of an immense size.

“Thus much, Edward, for its origin, and the time in which it was discovered. Now for its properties.

“Glass is one of the most elastic bodies in nature. If the force with which glass bells strike each other be reckoned *sixteen*, that wherewith they recede by virtue of their elasticity, will be nearly *fifteen*.

“When glass is *suddenly* cooled, it becomes exceeding brittle; and this brittleness is sometimes attended with very surprising phenomena. Hollow bells made of annealed (suddenly cooled) glass, with a small hole in them, will fly to pieces by the heat of the hand only, if the hole by which the internal and external air communicate, be stopped with a finger. Lately however, some vessels made of such an-

nealed glass have been discovered, which have the remarkable property of resisting very hard strokes given from without, though they shiver to pieces by the shocks received from the fall of very light and minute bodies dropped into their cavities. These glasses may be made of any shape; all that is necessary in their formation is, that the bottom should be thicker than the sides. The thicker the bottom is, the easier do the glasses break. A glass having the bottom three inches in thickness, flies with as much ease as the thinner glass would do. Some of these vessels have been struck by a mallet with force sufficient to drive a nail into wood tolerably hard, and have not been broken: they have also resisted the shock of heavy bodies let fall into their cavities, from the height of two or three feet, such as musketballs, pieces of iron, and other metals, jasper wood, bone, and so forth. But this is not surprising, because other glasses will do the same, but the wonder is, that taking a shiver of flint of the size of a small pea, and letting it fall into the glass, only from the height of three inches, in about two minutes the glass flies, and sometimes at the moment of the shock; a bit of flint no larger than a grain of sand dropped into several glasses successively, though it did not immediately break them, yet when set by, they all flew in less than three quarters of an hour.

“Sapphire, diamonds, porcelain, hard-tempered steel, pearls, and marbles, such as boys play with, produce the same extraordinary effect. It is also remarkable, that the glasses broke upon having the bottoms rubbed with the finger, though some of them did not break till half an hour afterwards. If the glasses are every where thin alike, they do not break under these circumstances.”

EDWARD.—“How very extraordinary. Can you account for this curious phenomenon, Sir?”

DR. WALKER.—“Not very satisfactorily. Some have pretended to account for these circumstances, by attributing them to the concussion produced, by dropping the articles into the cavities of the glasses, which being stronger than the cohesive powers of the glass, a rupture must necessarily ensue; but this reason is by no means conclusive, unless they could tell us what principle it is which makes the small piece of flint, weighing about two grains, more powerfully concussive than iron, copper, gold, and so forth, which are a thousand times heavier than the

flint. Perhaps the most plausible cause may be that of electricity; for if the effect were produced by the mere force of percussion, the fracture would take place instantly, but that is not always the case. It is evident, therefore, that this effect is occasioned by the putting in motion some subtile fluid with which the substance of the glass is filled, and that the motions of this fluid, when once excited in a particular part of the glass, soon propagate themselves through the whole, or greatest part of it, by which means the cohesive powers become too weak to resist them. There can be little doubt but that this fluid is *electricity*. Glass is known to contain a large quantity of this powerful fluid, which possesses the power of breaking glasses, even when annealed with the greatest care; if put into too violent motion. Probably the cooling of glass hastily, may make it more electric than is consistent with its cohesive power, so that it is broken by the least increase of motion in the electric fluid, by friction or otherwise. This is evidently the case, when it is broken by the touch of the finger; but why it should also break by the mere contact of the flint, and the other bodies I have mentioned, has not yet been satisfactorily accounted for.

“ I can tell you of another phenomenon equally remarkable, and which has never yet been explained, neither does it appear probable that it should. When glass tubes are laid before a fire, in an horizontal position, having their extremities properly supported, they acquire a rotatory motion round their axis, and also a progressive motion towards the fire, even when their supports are declining from the fire, so that the tubes will move a little way up hill towards the fire: When the tubes are placed in nearly an upright posture, leaning to the right hand, the motion will be from east to west, but if they lean to the left hand, their motion will be from west to east; and the nearer they are placed to the upright posture, the less will the motion be either way. If the tube be placed horizontally on a glass plane, the fragment for instance of a coach-window glass; instead of moving towards the fire, it will move from it, and about its axis in a contrary direction to what it had done before, nay it will even *recede* from the fire, and move a little up hill when the plane inclines towards the fire. Now, these are most extraordinary and most unaccountable experiments which are all recorded in the Philosophical Transactions. The philosophers who made these experiments, succeeded.

best with tubes, about twenty or two and twenty inches long, which had in each end a pretty strong pin, fixed in a cork for an axis."

EDWARD.—"How exceedingly curious!"

DR. WALKER. "Having thus discussed its wonders, we will proceed to a more minute description of its formation. The materials employed in the manufactory of glass, are by chemists reduced to three classes, viz. alkalies, earths, and metallic oxydes. Alkalies possess the following properties: they have the power of converting a vegetable blue to a green colour; manifest a hot and caustic taste; and are soluble in water. They are divided into classes fixed and volatile, and are again subdivided into vegetable and mineral; the former being the production of vegetables burnt in the open air, and the latter has sometimes been found in a natural state in the earth. Marine plants however, furnish the largest quantity of this valuable article. There are but three alkalies known at present—Potash, Soda, and Ammonia. Potash and soda are termed fixed alkalies, but ammonia is a volatile alkali; when dissolved in caloric in the form of gas, it has a pungent and suffocating smell. Ammonia is procured by burning animal substances. Formerly it was imported in large quantities from Egypt, as contained in *sal ammoniac*. This was prepared from camel's dung, but it is now obtained from a distillation of bones, and is called *hartshorn*. These digressions will arise from the description of all chemical processes. As you wish thoroughly to comprehend the subject under discussion, I shall therefore have no scruples in making them—they are by far too curious to weary your attention."

EDWARD.—"Indeed they are, Sir."!

DR. WALKER.—"The fixed alkalies may be employed indifferently, but soda is preferred in this country. The soda of commerce is usually mixed with common salt and carbonic acid, from both of which it must be purified, before it can be used in making glass. The earths are *silicia*, the basis of flints, lime, and a little alumina, the basis of clay. Rock crystal is sometimes used when the glass is to be particularly fine.

"The metallic oxydes employed, are the red oxyde of lead, called minium, or litharge, and the white oxyde of arsenic. The oxyde of lead, when added in sufficient quantities, enters into fusion with lead, and forms a glass without the addition of

any other ingredient. This oxyde renders glass less brittle and more fusible, but if added in too large quantities, it injures its transparency. The oxyde of arsenic is not much used on account of its poisonous qualities."

EDWARD.—"How do they produce the beautiful coloured glasses."

DR. WALKER.—"Blue glass is formed by means of oxyde of cobalt; cobalt is a fossil, of the morcasite species, containing a large quantity of arsenic.

"Green glass, by the oxyde of iron, or copper.

"Violet glass, by oxyde of manganese. Manganese is a brilliant metal, of a dark grey colour; of considerable hardness, and difficult fusibility. It is very brittle, and when in powder it has the peculiar property of being attracted by the magnet. The oxydes of manganese are also used in blacking, and in purifying glass, as well as colouring it; it is likewise employed in glazing black earthenware. The black oxyde is also much used by chemists, for producing oxygen gas, which by the application of a red heat, it yields in great abundance.

"Red glass, by a mixture of the oxydes of copper and iron.

"Purple glass, by the purple oxyde of gold.

"White glass, by the oxyde of arsenic and zinc: and

"Yellow glass, by the oxyde of silver, and by combustible bodies.

"These, my dear Edward, are the principal properties and articles used in the composition of glass; as to the manner of its formation into plates, &c. that you will see at Stourbridge.

"You will do well to make a memorandum of what I have told you."

Our travellers having taken some refreshment, were impatient to view the glass-houses, where they were greatly amused with the dexterity with which the men blew the glass into such various shapes and forms. Those destined for watch glasses are blown into a globular form; one globe making many glasses, which are cut by an iron ring.

All glass, except plate glass, is formed by dipping the end of a very long iron pipe, when red hot, into the boiling glass, and blowing through it, till the bladder of glass is of the size necessary for the purpose to which it is destined, it is then cut up the middle with a pair of shears, if for window glass, or separated by means of cold water, if destined to be of a circular, or any such form.

Plate-glass is cast ; that is to say, the liquid is conveyed from the mouth of the furnace to a large table, on which it is poured, and the excrescencies, or bubbles, are immediately removed by a roller, that is swiftly passed over it ; it is then cooled, or annealed in the usual way, by being removed by degrees to the coolest part of the annealing chamber.

SECTION VIII.

DERBYSHIRE.

OUR travellers pursued their journey rapidly till they came to Derby, where they made a short stay, previous to their visit to the Peak.

Derby is situated on the west bank of the Derwent, over which it has a fine stone bridge, well built, upon which there was formerly a chapel, now converted into a dwelling-house. The celebrated silk mill, erected by Sir Thomas Lambe about the middle of the last century, afforded much entertainment to our travellers. Sir Thomas brought the model from Italy, where he ran great risks in procuring it ; but having accomplished his end, he embarked for his native country, bringing with him so great a treasure. There are nearly 100,000 movements turned by a single wheel, any one of which may be stopped independent of the rest. Every time this wheel goes round, which is three times in every minute, it works 73,728 yards of silk.

The money given by strangers who inspect this mill, is put into a box, which is opened the day after Michaelmas day, and a feast is made for the men, women, and children, who are employed in the works. This is a holiday fondly anticipated by this part of the community. Drest in their best attire, they gaily assemble to partake of a whole roasted ox, and other good fare, which is provided for them. Singing and dancing conclude the evening's amusement, and the town is illuminated. Derby contains also a china manufactory, and the Derbyshire spars are worked into every kind of

shape art can devise, for ornamental purposes. There are many fine seats in this neighbourhood, but our travellers had no time for their inspection. They stopped indeed at Ilam to view its romantic gardens, in which two rivers rise, from the bottom of the mountain called *Thorpe Cloud*. The one called the *Manifold*, which runs under ground seven miles. Chaff thrown in at Wetton rises here; it boils up like a vast spring, and soon afterwards falls into the Dove. From Ilam they proceeded to Dove Dale, a narrow winding glen, among a variety of rocks, through which the river Dove takes its irriuous course for about two miles. It is bounded in a very romantic manner by hills, rocks, and hanging woods, forming altogether a most lovely picture. This river, which in summer represents a crystal mirror, reflecting the wild beauties of its romantic banks, assumes, in winter, that of a rapid stream, whose course, interrupted by fragments of the fallen rocks, is beautifully diversified by cascades, which though not stupendous enough to lay any claims to the sublime, are yet extremely beautiful.

Passing through Ashborne, Ulcester, and Kiddleton, they left the Derwent on the right, which from the accession of the waters from the Peak Hills, assumed a most formidable appearance, and its roar was heard at a considerable distance. They at length arrived at Quarn, or Quarendon, where is a famous chalybeate spring, and from thence advancing due north, they began to view the dismal mountains of the Peak, although still at some distance.

At Wirksworth they slept, and the next day arrived at Matlock, seated upon the edge of the Derwent. The environs of this beautiful spot form a winding vale of about three miles through which the river runs. The Derwent is extremely varied, both as to breadth and force; in some places it is broad, clear, and smooth, in others it breaks upon the rocks, and forms innumerable cascades, whose light foam falls like showers of mist upon the admiring spectator. Our travellers crossed the river at the turnpike, and took the winding path up the rock, which led to a luxurient range of fields at the top, when turning to the left they reached the point called *Hag Rock*. From this spot they had a perpendicular view down a vast precipice to the river, which here forms a fine sheet of water fringed with wood on the opposite side; it falls twice over the rocks, and the beauty of the scenery receives additional effect from the

roar of the falling waters. To describe minutely the lovely and wildly beautiful country which surrounds Matlock, would encroach too much upon the limits of this work, it is sufficient to say, that few places excel it, but we cannot omit the mention of three caverns which lie to the west and north-west of this romantic place, that most particularly interesting is called *Cumberland Cavern*, the entrance to which is partly artificial, to afford a greater facility to the curious traveller, who has to descend fifty-four steps, when the cavern opens in solitary grandeur. Huge masses of stone are piled on each other, with tremendous carelessness, evidently produced by some violent concussion, though at an unknown period. "With what regularity is the ceiling formed," said the Doctor, as they passed through a long and wide passage, the roof of which is bespangled by spars of various description. From above, from beneath, and from the sides, the rays of the light are reflected in every direction. The next apartment is composed of rocks heaped on rocks, in terrible array, while the adjoining chamber presents the appearance of a rocky country, in which the snow has been drifted. Near the extremities of the cavern are to be seen fishes petrified, and fixed in the several strata which form the surrounding recess. Several of these have their backs jutting out of the side of the earth, as if they had been petrified in the act of swimming.

Upon arriving at Buxton, "These baths," said Dr. Walker, "were eminent in the time of the Romans, and are mentioned by Lucan. This is confirmed by the high road called the *Roman Bath-gate*, close by St. Ann's Well, where I am told we may still see the ruins of the old bath, its dimensions and length. The plaister is red and hard as brick; and appears as if it were burnt, exactly resembling tiles. The water of Buxton is sulphureous and saline, yet not fœtid but very palatable, because the sulphur is not united with any vitriolic particles, or but very few saline; it does not tinge silver.

"The great curiosity attached to St. Anne's Well, is that, within five feet of it a cold spring rushes out. Mary, Queen of Scots, wrote a distich of Julius Cæsar, with a little alteration, on a square of glass at this place, which is still shewn."

Buxton, whose fame thy Baths shall ever tell,
Whom I perhaps shall see no more, farewell!

The environs of Buxton abound in romantic sights, among the most striking of which is the dale called *Lover's Leap*, on account of a vast precipice which forms one side of a narrow chasm, and from the summit of which a love-lorn female is said to have precipitated herself. Each side of this beautiful dale is bounded by elevated rocks, the proximity of which is such, that for a considerable space there is scarcely passage for the bubbling current of the Wye. Several of these rocks are bare, while others are partially ornamented by rich spots of vegetation. At the southern extremity the scene assumes a milder character. A rude bridge, a mountainous path, and a busy mill, with other rural objects, form a striking contrast to that presented by a lofty rock, called *Swallow Tor*, which soaring over a mass of wood, has the river at its base, foaming and roaring over broken masses of lime-stone.

Poole's Hole, lying about a mile to the westward of Buxton, was the next place our travellers visited. This vast cavern receives its name, according to tradition, from an outlaw, of the name of Poole, who found an asylum within its wonderful recess. The entrance is low and contracted, and the passage narrow; by degrees, however, it becomes wider, and at length opens into a lofty cavern, from the roof of which are suspended *stalactites*, or transparent crystals, formed by the constant dropping of water laden with calcareous matter. These petrefactions rise also from the floor, and are then called *stalagmites*; these are also produced by the droppings from the roof. The most remarkable of these masses of stalactites, is that called *Mary, Queen of Scot's pillar*, from a tradition that while that unfortunate Queen was dwelling at Chatsworth, she paid a visit to these subterraneous regions, but penetrated no farther than to this very spot, although the cave extends nearly three hundred feet beyond it.

“We must see the Devil's Hole, and the lately discovered crystallized cavern,” said the Doctor, as they quitted Poole's Hole, “and then we really must make the best of our way into Cheshire, for we have made so long a stay in this neighbourhood, we shall not be in time to cross the Irish channel at a seasonable time of the year.”

The Devil's Hole, lies in the vicinity of Castleton, and is approached by a path on the side of a clear rivulet, which issues from it, leading to the fissure or separation of the

rock, at the extremity of which the cavern is situated. It would be difficult to imagine a scene more magnificent than that which presents itself to a visitor at the entrance of the cavern. On each side the huge grey rocks, rise almost perpendicularly to the height of nearly three hundred feet. A vast canopy of rock forms the mouth of this tremendous excavation, assuming the form of a depressed arch, which extends one hundred and twenty feet in breadth, forty-two in height, and about ninety in receding depth.

At their first entrance into this extraordinary cavern, our travellers uttered an exclamation of surprize, at perceiving a number of twine makers, who have taken up their residence and established a manufactory within its gloomy recess. After proceeding about ninety feet, the roof becomes lower, and a gentle descent conducted them by a detached rock to the interior entrance, where they bade adieu to the cheerful light of day, and pursued their researches by torch light. After continuing along a narrow passage, so low that they were frequently obliged to stoop, they arrived at a spacious opening called the Bell House, where a small lake presents itself, on which appeared

An empty boat, that slowly to the shore
Advanc'd, without the aid of sail, *but not of oar.*

And here it needed some little encouragement to induce the strangers to enter "this bark supine," for the overhanging rock reaches within twenty inches of the water. The light of the torches which was considerably dimmed by the vapours of the stream, gave a ghastly hue to their countenances, and as Edward stood by the lake gazing on its clear though dusky waters, he exclaimed, "this is indeed an awful place, see Sir, how like a group of spectres we look, as reflected in these dark waters!" "Gloomy as is this scene," replied the Doctor, "your observation has conjured up one of the sweetest scenes in Paradise Lost; guess it Edward." "Oh, there needs no *ghost* to tell us what scene you allude to, Sir," said the youth, "it is that where Eve sees herself for the first time reflected in the lake."

DR. WALKER.—"Just so; but our guides appear impatient. Let us cross this Stygian lake, and further explore the wonders of the cavern."

Having safely landed on the opposite shore, they entered a spacious vacuity of immense depth, length, and breadth;

it is indeed so extensive, that neither its roof or sides can be seen by persons standing in the middle of it. At the further extremity, the stream which flows through the whole of this cavern, opens into a second lake, which terminates near that point called *Roger Rain's House*, from the constant dropping of water, and beyond this is the chancel. Here the rocks, broken into wild and irregular forms, and covered with stalactal or petrified incrustations, present a scene of rude magnificence. Scarcely had our travellers expressed their surprize at the grandeur with which they were surrounded, when a choir of voices burst upon them, and the Doctor involuntarily exclaimed, "Where should this music be! i' th' air, or the earth."

"'Tis like enchantment," said Edward, as the voices echoed through the cavern, now soft, now loud, till at length their pleasing song, though rude, gradually ceased, and silence for a time added its awful effect to the already imposing scene.

The guide having pointed out, as the vocal performers, eight or ten women and children, ranged purposely in a hollow of the rock, about fifty feet above the floor, they followed him to the *Devil's Cellar*, and the *Half Way House*, neither of which present any object of importance, till they came to that part of the cavern called *Great Tom of Lincoln*, from its resemblance to a bell. From hence the cavern gradually becomes so narrow as only to admit a passage for the stream. The guide having put a small quantity of gunpowder into a fissure of the rock, the effect produced by the explosion when it was ignited, was that of loud and repeated peals of thunder, rolling majestically along the sides and roof of the cavern. As our travellers retraced their steps, and approached the entrance of this subterraneous place of wonders, their admiration was wonderfully excited by observing the dawn of day-light : as it gradually illumined the deep recesses of the cavern ; the extraordinary beauty of this scene may be imagined, but cannot be described. The entire length of this cavern is 2250 feet, and its depth, from the surface of the Peak mountain, 600 feet.

"The scene we have just witnessed, certainly partakes of the sublime," said Dr. Walker, "that we are about to visit, is, I understand, classed as more belonging to the beautiful."

The crystallized cavern is near Bradwell, and has been

but lately discovered. The entrance to this fairy scene is rather terrific, the descent for about thirty paces being very abrupt, and the passage for nearly a quarter of a mile so low, that in many parts it is impossible to proceed in an erect posture.

“ Il faut passer par les peines pour arriver aux plaines,” said the Doctor, as the splendour of that cavern denominated the *Music Chamber*, burst upon their astonished sight. The regularity of the stalactites assume at one end of the cavern the appearance of organ pipes, while at the other they are of so delicate and regular a form, that they resemble the finest specimens of Gothic architecture, presenting innumerable light and elegant colonnades. Proceeding further onwards, our travellers arrived at the *Grotto of Paradise*. This cavern is about twenty feet long, and twelve feet high, terminating at the top in a pointed Gothic arch, from which are suspended innumerable stalactites; candles judiciously placed give it the appearance of being lighted with magnificent chandeliers. The sides are brilliantly incrustated with spar, and this enchanting spot, in which is realized the splendour of fairy land, is paved with black and white spar.

As they continued to explore the beauties of this enchanting place, no sound met their ear, save that produced by the soft droppings of the water, which, suspended at the end of each stalactite sometimes fell softly on the crystal floor, and formed the foundation of staglamites. The *Grotto of Calypso*, next claimed their attention, and Calypso herself, could not have required a more brilliant abode, than that which this cavern, 2000 feet from the entrance presented. The guide having desired them to mount a recess, about six feet from the floor, they had a fine view of the different stalactites, which were here extremely long, and varied in colour. Gentle echoes, too, reverberated from side to side, and Dr. Walker and his pupil, indulging those calm and sweet sensations which the nature of the scene they had quitted was calculated to inspire, returned in silence to the bright and glowing regions of the day.

SECTION IX.

SALT MINES.

HAVING viewed the principal of the subterraneous wonders of the Peak, they quitted this dreary part of the country, and entering the rich and luxuriant plains of Cheshire, they at length arrived at Northwich, where they resolved to stay some few days in order to view the salt mines of that place.

Having seated themselves in a basket, they were let down a considerable distance, and upon arriving at the bottom, a crystal cathedral appeared illumined by many lights, and glittering on all sides with the splendour of a fairy palace. Some of the salt pits are worked in regular aisles or streets, supported by pillars six and eight yards square. The strata passed through in going down to the upper bed of rock, are nearly horizontal in position, and very uniform in their structure, consisting, in every instance, of beds of clay and marle; and these, with the exception of a few of the most superficial, appearing in similar progression in each mine, and there are eleven or twelve. The clays or argillaceous stone of which these beds are composed, are indurated or hardened in different degrees, tinged with various shades of red, blue, brown, &c. and usually contain a sulphate of lime; they are known to the miners by the names of metals. Although the generality of these clays are sufficiently indurated to repel water, yet there are instances where it is not so, and it is then called *shaggy metal*, and the fresh water which makes its way through the pores, has the expressive appellation of *roaring Meg*. In one mine in which the shaggy metal was found at twenty-six yards depth, it discharged three hundred and sixty gallons in one minute. This mine was discovered by some coal-miners, searching for coal, in the year 1670. The first stratum of salt appeared at different spots, from twenty-eight to forty-eight feet beneath the surface of the earth, and is from fifteen to twenty-one yards in thickness. That of the lower bed has never been ascertained in any one of the mines in this district. The workings in the lower stratum are usually begun at the depth of from twenty to twenty-five yards, and are

carried down for five or six yards. In one of the mines a shaft has been sunk to a level of fourteen yards still lower, without passing through the body of rock salt. This bed, therefore, has been ascertained to be forty yards in thickness, and as yet there is no end to it. In the mines of Poland and Hungary, the salt seldom exceeds one or two inches in thickness, being then divided by layers of clay, a few inches thick. Thus we see how superior the veins of salt are in Northwich to those in the celebrated mines of Cracow; "and its superiority in other respects," said Dr. Walker, "cannot be better proved, than by the absolute fact, that many thousand tons of Cheshire salt are annually exported to the Baltic, for the consumption of Russia and Prussia, which are so much nearer Cracow. The salt mines of Northwich have indeed been proved by Dr. Watson, in his Chemical Essays, to be superior to those in Poland."

This salt is not very unlike brown sugar candy, and it is so hard, that gunpowder is employed to blast it. The pick axes used to divide the larger portions which are thus separated, are made of steel.

On the horizontal surface of Northwich rock salt, a curious arrangement of the mineral may be observed in various parts. On this surface may be traced a great variety of figures, more or less distinctly marked, and differing considerably in the forms which they assume, some appearing nearly circular, others perfectly pentagonal, and others again having an irregular polyhedral figure. The lines which form the boundary of these figures are composed of extremely pure white salt, forming a division between the coarse red rock which is exterior to the figure, and equally coarse rock which is within it. These figures differ much in size, some being less than a yard in diameter, others as much as three or four yards; and they are frequently observed one within the other.

When they quitted the salt mine, they directed their steps towards the salt springs in the neighbourhood, where they were gratified with viewing the whole process of extracting the salt from the water. These briny springs lie at about 20 or 30 yards from the surface of the earth, and are raised by a steam engine, and conveyed through very long troughs to the brine pits. The process of extracting the salt is accomplished by heating the liquid in iron pans, of about twenty

or thirty feet square, and about fourteen inches deep. When it boils, a light scum rises to the top, which is taken off, and the liquor reduced to a lower degree of heat: the steam arising is made to evaporate as quickly as possible, and the salt collecting into crystals, forms a crust on the surface, and afterwards sinks to the bottom of the pans, from whence it is removed once or twice in every four and twenty hours.

That salt which is procured from the sea by evaporation, is called bay salt, and is of a brown colour; when refined by boiling in large flat cauldrons, which not only takes away its acrimony, but is found to increase its quantity: it is of a pure white. The word *salt* was originally confined to *common salt*, a substance which has been known and in use from time immemorial; but the term is now applied to all the compounds which the acids form with alkalies, earths, and metallic oxydes. The number of salts is now probably somewhere about two thousand. Chemists have agreed to denominate the salts from the acids they contain.

SECTION X.

FROM Northwich Dr. Walker and his pupil proceeded by Middlewich to Chester, where they visited the great church, said to have been founded by king Edgar, who conquered all this part of Britain, and was rowed up the Dee, by seven or eight kings, himself steering the helm.

“He was as bad as Sesostris, Sir,” said Edward, as the man who attended them concluded his narration.

“Yes,” replied the Doctor, “and that which he fancied would hand his name down to posterity covered with glory, has, on the contrary, excited only feelings of contempt and pity for the weakness it betrayed.”

“The church,” resumed their guide, “was finished by Hugh Lopus, the famous earl of Chester, nephew to William the Conqueror. His body was discovered, in the year 1525, in the old chapter house, belonging to Flint castle. The bones were all firm and in their proper place; and what is more remarkable, the string which tied the ankles was whole and entire.”

“ Chester was, if I recollect right, Sir, a colony of the Romans ?” said Edward, in the tone of enquiry.

“ Yes,” replied his tutor, “ the twentieth legion, called *Victrix*, was here quartered, as is evident from the inscription of several coins and medals that have been found in the neighbourhood of this city.” The long galleries, or *rows*, as they are called, which form a line of piazza along the street, did not, in the opinion of our travellers, increase the beauty of the city, although they were pointed out by the inhabitants as very ornamental, and forming an agreeable shelter for foot passengers in rainy weather. The streets are, however, broad and good, and cross each other in the middle of the city, as they do at Chichester. At Bangor, Dr. Walker endeavoured in vain to obtain some information respecting a monastery that once stood in this neighbourhood, in which 2400 monks performed divine service, night and day. But no trace was to be found of this once celebrated establishment.

From Bangor they turned a little out of their way to see an old British post, at Gresford, which is situated on a lofty eminence, commanding an extensive view over a beautiful little valley, which terminates in the fine plains of Cheshire. Continuing their journey to Holywell, they paid their respects to St. Winifred’s well. This spring boils with vast impetuosity out of a rock, and is formed into a polygonal well, covered by a rich arch, supported by pillars. The roof is most exquisitely carved in stone ; immediately over the fountain is the legend of the saint, on a pendant projection, with the arms of England at the bottom. In the 7th century, a virgin of extraordinary beauty, of the name of Winifred, being placed under the care of her uncle, Bruno, a monk, who had erected a church near the spot, a neighbouring prince became enamoured of her charms. The lady, however, rejecting his offer of love with scorn, he drew out his sword, and — cut off her head, in a fit of rage and disappointment. But he instantly received the reward due to his enormous crime, for he dropped down dead, and the earth opened and swallowed him up, while the revered head of the beautiful Winifred took its way down the hill, nor did it stop till it reached the church. The valley, in which this church stood was, from its dryness, called *Sych-noul*, but it now lost the name, for a spring of uncommon size burst out where the head rested ; the moss on its sides diffused a fra-

grant smell ; her blood spotted the stones, which, like the flowers of Adonis, annually commemorate this fact, by assuming a colour unknown to them before. But the most wonderful part of the story is yet to come. St. Bruno contemplated with dismay the approach of his niece's head, and when it stopped, after gazing at it for some time, he stooped and deliberately picking it up, he carried it to the spot, where the body still lay, and very nicely replaced it: strange to relate, the severed member reunited itself to the body, and St. Winifred arose blooming as before,—after which she lived fifteen years, and was buried, when she died, at Gwytherin, where her bones rested, till king Stephen surrendered them to the abbey of St. Peter and St. Paul, at Shrewsbury. “There now, Edward,” said Dr. Walker, “is a legend you may repeat in Italy, when the wonderful story of our *Lady of Loretto* is related to you.”

The road from St. Winifred's well to St. Asaph, is remarkably picturesque, along a little valley bounded on one side by hanging woods, beneath which the stream hurries towards the sea.

The northern part of the county of Flint, is washed by the river Dee, and the land rises suddenly from its banks in fine inequalities, clayey and fruitful in corn and grass, for near four miles, to a mountainous tract, that runs parallel to it for a considerable way. The lower part is diversified by picturesque dingles, enriched with oaks, which run from the mountains, and open to the sea. The inferior part abounds with coal and freestone ; the upper with minerals of lead and calamine, and immense strata of lime-stone and chert. The principal trade of the county is mining, and smelting. A lofty range of mountains rises upon the west, and forms a bold frontier. Upon quitting St. Asaph, our travellers entered the beautiful vale of Clwyd, adorned with villages and small towns, luxuriant corn fields, extensive meadows, watered by a fine and gentle stream, extending about twenty miles in one direction, and from five to seven miles in the other. The prospect of this luxuriant vale, from the castle of Denbigh, is beyond description beautiful.

“We must see Conway castle,” said the Doctor, “but it is not in the direct road to Bangor.”

“Oh never mind that, Sir,” replied Edward, “I should like to see it very much.”

“ And Penmoenmawr too;” resumed his tutor. “ Well then give orders for our departure, and let’s be gone.”

As they advanced into Denbighshire, the country assumed a more mountainous and Alpine aspect.—“ I could almost fancy myself in Switzerland,” said Dr. Walker, as they wound through the different defiles of the mountains leading to Penmoenmawr. “ See, Edward, how yon tall rock towers proudly above the neighbouring mountains. Penmoenmawr is next to Snowdon in height.”

Edward gazed with delight on the huge precipices and rocky fragments, which projecting above and below the road they were passing, presented alternate masses of deep embrowned shade, and huge projections glowing with the rich tint of an autumnal sunset. As they ascended the side of the mountain next the sea, the features of the scene were changed, for here all was calm and tranquil. Not a breeze ruffled the ocean, which, like a mirror, reflected back distinctly the small fishing vessels, whose sails flapped idly for lack of wind, while the sturdy fishermen put forth all their strength and rowed for land. The sun at length set gloomily magnificent, and the sky gradually assuming a deeper hue, the driver quickened his pace, and pointing to the sea-fowl, which skimmed lightly over the gloomy deep,—“ ’Twill be a tempest to night,” said he, “ for this dead calm and those birds foretel it.”

Our travellers were, however, so fortunate as to reach Conway just as the first heavy drops began to fall, and from their inn they anxiously watched its progress. About 11 o’clock the clouds began to disperse, and the moon was seen peeping occasionally through the midnight gloom, till at length she burst upon them in silvery splendour. Yet the rain still fell violently, when, to the surprise of Edward, on turning suddenly round, he beheld a magnificent luminous arch. He uttered an exclamation of surprise. “ ’Tis a lunar rainbow,” said the Doctor, “ observe it well ; you see it has no prismatic colours except at one end, and those are so faint we can hardly distinguish them. And do you not perceive that the sky within it is considerably paler than any other part of the atmosphere ? It is really an immense arch ! We are very fortunate, Edward, to see this curious phenomenon, for though this is not the first that has been seen, yet many clever and observing men never saw *Iris lunaris* in their lives ; and

Aristotle himself only observed two in the course of fifty years *."

SECTION XI.

WALES.

ON the following morning our travellers visited the celebrated castle of Conway, built by Edward I. Conway castle is built on a high rock, overhanging the sea, and for strength and grandeur stands unrivalled, at least in Wales. It is strengthened by ten round towers, and four turrets that are considerably higher than the towers. The walls are battlemented, and are from twelve to fifteen feet in breadth. One of the towers has fallen into the sea, the rock on which it stood having given way. In the interior, the hall is the principal object of attraction; it is beautifully arched, and its extensive roof is supported by nine stone pillars. It is one hundred feet long, thirty feet high, and as many broad.

From Conway our travellers bent their steps towards the South, and arrived at Llanwrst, after a most romantic drive through a beautiful valley bordered on each side by lofty mountains. Here is an elegant bridge built by Inigo Jones, to adorn and benefit his native place. Having breakfasted at Llanwrst, Dr Walker procured a guide to lead them across the country to Snowdon, the boast and wonder of Wales. Upon arriving at the foot of the mountain, they left their horses at a small hut, and their guide presented them with spiked sticks, to assist them in ascending: with some little difficulty they passed the two first miles, the ground being rather boggy, but as every step now gave them a more extensive prospect, they cheerfully continued their route, and at length arrived on the summit of Snowdon, where a prospect of such extent and grandeur opened to their view, as to render Edward for a time speechless. The top of Snowdon is

* The lunar Iris described above, was seen at Brompton, by the Author, on Monday the 5th of July, 1819, between 11 and 12 o'clock. The moon was at the full on the following Wednesday, at 3 in the afternoon.

called *Y Widdfa*, or *the Conspicuous*; it nearly terminates in a point, for the highest plain is about six yards in circumference only. From this elevated spot may be seen, hills and dales, rocks and mountains, lakes, rivers, and seas. The distant mountains of Yorkshire, Scotland, Ireland, and the Isle of Man, are all visible, while the surrounding country, which from the plains appears covered with stupendous rocks, loses its appearance of grandeur, assuming that of the beautiful only. It is called in Welch, Eryri, which signifies the *hill of Eagles*.

“Snowdon was held as sacred by the ancient Britons, as Parnassus was by the Greeks, and Ida by the Cretans,” said the Doctor: “and even now, Edward, if you will but sleep one night upon its summit, (and the air is mild and serene,) you will awake to-morrow inspired, full as much as if you had taken a nap on the hill of Apollo.”

EDWARD.—“I dare say I should, Sir, but I have no wish to court inspiration at so great a risk. Pray, Sir, what is the nature of this huge mountain?”

DR. WALKER.—“Granite most probably. See in that fissure is a large coarse crystal—and there are *cubic pyritæ*, the usual attendants on Alpine tracts. I observed too, as we ascended, near the top several large columnar stones, and some pieces of lava. You know the pagan Britons worshipped rivers and mountains.”

On their descent, their paths were again crossed by flocks of sheep; and, peeping over an inaccessible precipice, they often observed goats, which, upon being discovered, would bound from rock to rock, till they were completely out of sight.

“What is the name of the village at the bottom of the mountain,” said Edward, addressing the guide.

“That,” replied the mountaineer, “is Beth Gelert.”

“Indeed!” ejaculated the Doctor, “poor Gelert!”

“Who was Gelert, Sir, that appears to excite your sympathy so much?” asked Edward.

DR. WALKER.—“A greyhound. Come sit down on this rock, for I am rather weary, and while we rest ourselves, I will relate to you his sad story, which I dare say is familiar to our guide.

“Llewellyn having received the present of a beautiful greyhound from his father-in-law, king John, this animal became his constant and favourite companion. One day, how-

ever, when Llewellyn blew his horn, and the hounds came bounding from every quarter at the well-known sound, Gelert, (that was the greyhound's name,) was not to be found; after waiting some little time for 'the flower of all his race,'—'the chace rode on,'—but the chief, who missed his favourite received but little pleasure from the sport—'for Gelert was not there.'

“ Upon returning to his castle, his favourite dog was at the door, and as soon as he saw his lord, he sprang forward to meet him. Llewellyn gazed with astonishment at the animal, which was almost covered with blood. Passing quickly on, he entered the chamber, where his son lay, (Princes were not then attended as they are now,) and there he saw on all sides blood—but not his child. Turning over a heap of blood-stained vestments, he called frantically on his son, and receiving no answer, he plunged his sword up to the hilt in Gelert's side, supposing he had killed him. The dying yell of the greyhound waked the child, which, hidden under some part of the clothes, the chief had in his haste passed by, now explained the secret of Gelert's absence. What words can paint this chieftain's grief, when under the same heap he spied a grim and enormous wolf dead, which he was now convinced his faithful dog had killed in order to preserve his son. He erected a tomb on the spot to his memory, which is to this day called Beth Gelert, or the grave of Gelert.”

EDWARD.—“ Oh poor Gelert! I could almost be very silly upon the occasion.”

DR. WALKER. “ Why I confess I think a tear would be no disgrace upon such an occasion. But come, let us resume our descent, and learn one thing from this traditional fact—to curb our passions. Had Llewellyn been less precipitate, think what feelings of boundless pleasure would have attended the discovery of his child, instead of those of deep remorse. Of this be sure, excess of passion needs but its own effects as punishment.”

From Snowdon our travellers proceeded to Caernarvon, across a mountainous country, which, as they drew near the town, became more fertile and populous, and there they resolved to remain a day or two. Caernarvon is a walled town, opposite the Isle of Anglesea, about 8 miles from Bangor, and stands pleasantly situated on the banks of the Menai. Its castle was built by Edward I.; and the queen's bed chamber, in which the unfortunate Edward the Second

was born, is still shewn to travellers. It is built in the Roman style of architecture, and has one tower eminent above the rest, called the eagle's tower, from the circumstance of an eagle being carved upon it. The town is surrounded by a wall, and appears to have been formerly well fortified : in its neighbourhood large flocks of sheep are fed. From the sea-shore they saw Harlech castle, and Kader-Idris, by some persons reckoned higher than Snowdon. Dr. Walker having, when wandering on the beach, met with one of the natives who appeared extremely intelligent, he asked him respecting that strange phenomenon a *livid* fire, which appeared to rise from the sea, and which, as he had heard, committed such terrible devastation in the neighbourhood.

"It is but too true," replied the stranger, "houses, barns, stacks of hay and corn, fall a prey to this devouring and novel element ; while the grass in the neighbourhood was poisoned by the effects of the conflagration *."

DR. WALKER.—"How very extraordinary, and how very terrific !"

SECTION XII.

BEAUMARIS.

FROM Caernarvon, our travellers proceeded to Bangor, from whence they embarked for Beaumaris. From a fine lawn in the front of this town the mountains of Caernarvon present a beautiful outline, and after strolling in its environs for some time, the Doctor suddenly recollected that there was a church about three miles north-west of Beaumaris, dedicated to *St. Justin Geraint*, and that his tomb was still to be seen at Llaniestin ; thither, therefore, they bent their steps, in order to inspect this curious relic of antiquity. St. Justin was the son of a Devonshire Prince, and retired with his three brothers into the congregation of Germanus, or German, at St. Germain's, in Devonshire ; but St. Justin

* This remarkable phenomenon is recorded in the *Philosophical Transactions*.

withdrew to North Wales, about the end of the sixth century. The effigy of the saint is habited in a cope, fastened at the breast with a rich fibula, or broach; beneath this garment he has a short mantle, or scapular, over his tunic. This mode of dress was of the highest antiquity, and remained in vogue, for royal personages, until the time of Henry V.

SECTION XIII.

DRUIDICAL REMAINS.

OUR travellers did not fail to visit those remains of Druidical antiquity which are still enveloped in the gloom of thick oaks.

Upon inspecting one of those large stones of memorial, which are found in various parts of the British Isles, placed on three others of considerable magnitude, Edward expressed much surprize, how the large one could be raised by a people so little acquainted with the laws of mechanics as the ancient Britons.

DR. WALKER. "I would not advise you to fancy the Druidical part of the community, at least, as so very ignorant. They were, on the contrary, well informed upon many subjects. Their initiation into the sacred priesthood, demanded abilities of no common order, and their noviciate was long and attended with trials both of judgment and virtue. That they were in the possession of many useful arts and sciences there is little doubt. Some one of the Roman writers, I forget at this moment whom, mentions that they had the power of drawing the sun and moon close to them, and by means of a *crystal lens* they always set fire to their sacrifices. As they kept all knowledge confined entirely to their own order, their extraordinary influence over the vulgar, is no object of wonder,—for, independently of their sacred character as priests, who in all ages and in all countries have acquired a powerful ascendancy over the human mind,—their knowledge enveloped in mystery, in outward signs and wonders, was calculated deeply to impress their votaries with high ideas of their superiority and supernatural power. ✓

“As a proof of this I shall only mention one instance, of their cruel application. Llogans*, or rocking stones, are found in different parts, the most noted of which is that near Drew Steington, in Devonshire. It is seated in the channel of a river, is of granite, and is ten feet high. These stones the Druids persuaded their votaries were inhabited by the spirit of the indwelling deity, and to this awful test they brought the supposed criminal, over whose head the sword of justice was suspended, and the descent of which was alone delayed, till the *animated* mass as he approached to touch it, declared by its tremulous motion that he was *guilty*.”

EDWARD.—“How very shocking, that they should thus abuse their power, and pervert the use of knowledge.”

DR. WALKER. “So it is: but the mysteries of the inquisition are a proof that we need not go back to the times of Druidism, in order to prove, that the mind of man is scarcely equal to bear with moderation and ‘meekness’—superiority either of power or abilities.

“In the first early ages of Druidism, one called Cwydd, or Gwydd, held the supreme office of Druid, instructor, and lawgiver;—in the course of time this office was divided into two, viz. the one called Derwydd (druid) or superior instructor; the other O-vydd (Ovate) or subordinate instructor, both going by the name of bards. Again, another division was made, into Druids, Bards-braint, or privileged bards, and Ovates. No one could become Druid unless he had been Bard-braint. The dress of the Druids was white, and that of the Druid in his habit of ceremonial judgment was very grand. On his head he wore a golden tiara †, and his neck was encircled by a breast-plate of judgment, which according to Irish tradition, had the power of squeezing his neck if the Druid gave false judgment: beneath this hung the glain-neidr, or serpent’s egg, and the girdle which confined his dress is supposed to have been fastened by the magic lens ‡. The glain-neidr were fabricated by the

* Llogan seems to have a connection with Llôg, the stone of the covenant and the stone of the ark. Valancey thinks *rocking* is a corruption of Ruachan, i. e. divining, or augury.

† One of these tiaras was dug up at Limerick, in Ireland; it was of gold, and neatly chased.

‡ A Lens of this description was found in Ireland. It is six inches long by four and a half broad; it is surrounded by stones of various colours, and set in brass mixed with silver.

Druids in council, and hence arose the proverb in Wales, when several people appear plotting together—"What! they are blowing the glain!" These eggs were of different colours, according to the class of the Druids for which they were destined. Those for the Druids being white; those for the Bards blue; the colour of their dress being emblematical of truth and peace; and those for the Ovates green, the symbol of learning.

"Of their sacrifices and Druidical rites, I cannot venture a description; but I am sure I have told you enough to excite your curiosity, and this is a subject that cannot be lightly scanned. If you wish for any further information upon the subject, you must do as I have done before you, *read**."

Having returned to Beaumaris for the night, they on the next morning directed their steps northward, in order to inspect the Parys mountain, which contains the most considerable quantity of copper ore ever known. The outward appearance of the mountain is extremely rude, and the country around it wild and desolate in a great degree. On every side enormous rocks of coarse white quartz arise; and over the small lake which is contiguous to it, no bird is ever known to pass, for it is equally fatal with the waters of the Avernus to the feathered tribe. The pestilential fumes from the burning heaps of copper, extend for many miles round: and this part of the island presents a scene of desolation scarcely to be equalled in the British Isles. From this dreary spot our travellers gladly proceeded to Holyhead, where they embarked for Dublin.

* For this very slight sketch relating to the Druids, the author is indebted to a Work written by Dr. Meyrick on the costumes of the ancient Britons.

CHAPTER III.

I R E L A N D.

SECTION I.

THE GOLD MINES OF WICKLOW.

DUBLIN is the second city in the British dominions, and presents a noble object when approached from the sea. The parliament-house is a magnificent structure, and the linen-hall is a noble building. Dublin contains about 200,000 inhabitants, and its views from Merion-square are extremely beautiful. As however our travellers were anxious to make the tour of Ireland speedily, they devoted but two or three days to its capital, and accordingly on the fourth day after their arrival they recommenced their journey.

“Pray, Sir, as we pass through Wicklow, shall we not see the copper mine at Cronbane.” “Why no, for we shall be pressed for time in our Irish tour, and must, therefore, confine ourselves to visiting the most prominent features of Ireland, and you must in many instances content yourself with brief sketches of those of minor importance. The county of Wicklow produces gold as well as copper. Some considerable masses of this precious metal, were found in a brook running from west to east to the river of Avonmore, about seven English miles west of Arklow, and on the declivity of the mountain called Croughan Kinshelly. This mine is now worked for government, and it is said that a very massy vein has lately been discovered.”

Upon arriving at Wicklow, our travellers did but stay to refresh themselves with some of its celebrated ale, which indeed forms a principal part of its trade, and then continued!

their journey through this mountainous and romantic country, which, though it is in many parts intercepted by bogs, is nevertheless extremely beautiful. The valleys are richly cultivated and particularly fertile, and the hills produce a variety of minerals and metals. From Wicklow they proceeded to Arklow; and upon quitting that town, they soon perceived a considerable difference in the face of the country, for the soil of the county of Wexford, though it produces corn and grass in many parts; is principally composed of a coarse cold land, and stiff clay. The capital is however populous and large, and was anciently reckoned the principal city of Ireland.

From Wexford they made an excursion into Kilkenny, in order to visit the celebrated cavern of Dunmore Park, and they were amply repaid for this deviation from the direct road to Waterford. This cavern is situated in a fine plain, rising indeed here and there into small hills. The country all around abounds with lime-stones, and quarries of beautiful black marble, variegated with white shells. Unlike those of Derbyshire and Mendip, this cave descends perpendicularly thirty yards from the top of a small hill, through an opening forty yards in diameter. The sides of this pit are composed of limestone rock, adorned with various kinds of shrubs and trees; and during the travellers descent into this cave, which is an arduous undertaking, he is amused with flights of pigeons and jackdaws, which, disturbed in their peaceful retreats, fly for safety to the purer regions of day.

When he reaches the bottom, he sees one side of this pit supported by a natural arch of rock above twenty-five yards wide. On passing under this arch, two subterraneous passages present themselves. That leading to the right is covered with rocks and stones, coated with spar in the most whimsical shapes, and formed from the droppings of the roof. These stones are transparent, and take a fine polish, and being extremely ornamented with different colours, they are quite as beautiful as *moco*. In many places the petrifications from above having met those on the ground, a variety of gothic arches of all sizes and shapes are formed, which present a very picturesque and pleasing appearance. The passage on the left is not so high as that on the right; it is watered by a purling rill, which adds considerably to its beauty; its soft murmurs agree with the awful solemnity of the place, which though faintly glittering with spangles, is nevertheless

sombre to a great degree. The heaviness of the atmosphere preventing the lights from giving a brilliant lustre to the crystallized roof,

“A few years ago,” said their guide, “some travellers found in the bed of this stream, the bones of a hundred human beings at least. Some of them were very large, and upon being taken out of the water instantly crumbled away.”

“I suppose,” said Dr. Walker, “there was some inscription in the cavern which led to an opinion as to how they came there.”

GUIDE.—“No, in none at all, nor is there any tradition in the neighbourhood about them; but they might, I think, be the bones of persons who fled in the civil wars to these caverns for shelter, and perhaps could not find their way out, for you see, Sir, they are very intricate, and if I go beyond a certain distance, I always make some kind of mark as a guide for my return.”

Many of the rocks, on the roof and sides of this cavern, are black marble full of white spots, of a shell like figure; which takes a beautiful polish, and is much used for slabs, chimney-pieces, &c. In some deep and wet parts of the surrounding quarries, this elegant fossil is seen in the first stages of its formation; the shells are real, but so softened by time and their moist situation, as to be capable of receiving the stony particles into their pores, by whose cohesive quality, they in time become those hard white curls that give value to the marble; and it is very remarkable, and a proof that these white spots have been real shells, and thus formed, that the longer a chimney piece or slab is used, the more of these spots ripen into view.

When our travellers parted from their guide, Edward observed, “that the cavern of Dunmore Park was very beautiful, but after seeing those in Derbyshire, Sir, it does not appear to us with very great advantage.”

Edward was much delighted with the woollen manufactory, and our travellers had the curiosity to visit the Barony of Forth, the inhabitants of which are the descendants of a British colony, and retain their native language, manners and many singular customs to this day.

SECTION II.

WATERFORD AND CORK.

UPON arriving at Waterford they were charmed with its beautiful harbour, in which ships of great burden ride, even at the quay, which is about half a mile in length, and of a considerable breadth. The Suir on which the town stands is broad, deep, and rapid, and few towns in Ireland present a more busy scene than Waterford. Packet-boats sail regularly between this port and Milford Haven, and it carries on a large trade with Newfoundland. Here our travellers staid one day, in order to visit the white glass manufactory, and to witness the departure of a number of vessels bound for America, laden with hogs, butter, beef, &c.

The country leading to the city of Cork, drew forth expressions of admiration from Edward; from many of the adjacent hills the views are extremely diversified and beautiful, and extend to a considerable distance. The city itself is reckoned the next in size and importance to Dublin, and carries on a very lucrative trade with various parts of the world.

“We shall no longer continue our journey along the coast,” said Dr. W. “for we should by so doing lose a great deal of time.” “Ireland is not, I perceive,” said Edward, “a country made up of bogs and heaths, as I have heard many people represent it; I am quite sure that some of the scenes we have viewed, would really make very beautiful sketches; and nothing can exceed the hospitality of its inhabitants.” “Very true,” replied his tutor, “but we have not as yet, *traversed* Ireland; you will remember, and I dare say before we quit it, you will have reason to point out to your mother, many parts she would not perhaps find so agreeable as those described in your last letter. We are indeed approaching the celebrated lakes of Killarney, and your pen and pencil will have ample scope for their descriptive powers; the country we are now passing is fertile and pleasing, but many parts of Kerry are full of almost inaccessible mountains, where agriculture is totally out of the question. Still however, as many of these mountains are not wholly barren,

grazing is much attended to; and here many of the black cattle are fed, which are cured, salted, and shipped off in such prodigious quantities at Cork. Between the months of August and January, 100,000 head of black cattle are said to be killed in that city for exportation. As our travellers advanced, the road became more mountainous; but the view, as they gradually approached the lakes, amply repaid them the trifling inconveniences they had encountered in reaching them. Few scenes indeed present such a variety of prospects. Perpendicular rocks, hanging woods, magnificent cascades; in short, nature appears to have poured forth her various beauties with such a boundless profusion, that the most fastidious taste, may in vain endeavour to point out a deficiency, or attempt to supply a defect.

SECTION III.

THE LAKE OF KILLARNEY.

THE Lake of Killarney is surrounded by high mountains, and it is properly divided into three parts, called the lower, middle, and upper lakes. The northern, or lower lake, is about six miles in length, and from three to four in breadth. The country on this and the eastern boundary, is diversified with gentle swells, many of which afford beautiful prospects of the lake and surrounding scenery. The southern shore is composed of immense mountains, rising abruptly from the water, and covered with woods of the finest timber. From the centre of the lake, the view of this range is wonderfully sublime, presenting to the eye an extent of forest six miles in length, and nearly a mile in breadth, hanging as a robe of rich luxuriance on the sides of two mountains, whose bare tops, rising above the whole, form a perfect contrast to the verdure of the lower region. On the side of one of these mountains, is O'Sullivan's cascade, which falls into the lake with a roar that strikes the timid with awe. The view of this sheet of water is uncommonly fine, appearing as if it were descending from an arch of wood, which overhangs it above, seventy feet above the level of the lake. Coasting along this shore, affords an almost endless entertainment,

every change of position presenting a new scene; the rocks, hollowed, and worn into a variety of forms by the waves, and the trees and shrubs bursting from the pores of the sapless stone, forced to assume the most uncouth shapes, to adapt themselves to their fantastic situations.

The islands are not so numerous in this as in the upper lake; but there is one of uncommon beauty, namely, Inis-fallan, nearly opposite O'Sullivan's cascade. When our travellers landed upon this enchanting spot, Edward was lost in astonishment as he viewed its beautiful bays, and projecting promontories, skirted and crowned with arbutus, holly, and other shrubs and trees. The interior parts are diversified with hills and dales, and gentle declivities, on which every tree and shrub appears to advantage; the soil is rich, even to luxuriance, and trees of the largest size incline across the vales, forming natural arches, with ivy entwining in the branches, and hanging in festoons of beautiful foliage. Under the shade of these natural arches, Edward proposed they should take their frugal meal, to which the doctor consented; they accordingly seated themselves on the projecting roots of a huge oak, and there, soothed by the soft murmurs of the waters of the lake, together with the melody of the feathered tribe, which found a peaceful asylum in these calm retreats, they rather mused than talked away the sultry hours of noon.

"Well," said Dr. Walker to his pupil, "are you inclined to continue our excursion, or are we to be hushed to our evening repose by the soothing lullabies which surround us. I confess, that although alive to the witchery of this lovely scenery, I vote for our departure. We have not yet seen the Promontory of Mucruss, which divides the Upper from the Lower Lake, and which is indeed a perfect land of enchantment; you will find it equals, if it does not excel, the scene before us."

Upon arriving at the promontory in question, they traversed the road which is carried through the centre of it, and which unfolds all the interior beauties of the place. Among the distant mountains, that called Tark, appears an object of magnificence, while Mangerton's more lofty, though less interesting summit, soars above the whole. At the extremity of Mucruss, is that celebrated rock, called the Eagle's Nest, which produces wonderful echoes.

"Pray, Sir," said Edward, after listening for some time

to the different vibrations which met his ear in various directions, "how are echoes described or accounted for?"

"Your question will first of all demand the explanation of *sound* in general, which you should thoroughly understand before you can possibly comprehend the nature of echoes. I shall therefore endeavour to give you a perfect idea of the phenomenon of sound.

"When bodies move in elastic fluids, they condense that part towards which they move, at the same time that the part they recede from is rarefied. This condensation or rarefaction must produce an undulatory or vibratory motion in the fluid.

"Thus, if a body, by percussion or otherwise, be put into a tremulous motion, every vibration of the body will excite a wave in the air, which will proceed in all directions, so as to form a hollow sphere; and the quicker the vibrations of the body succeed each other, the less will be the distance between each successive wave. The sensation excited in the mind by means of these waves, which enter the ear, and produce a like motion in a thin membrane stretched obliquely across the auditory passage is called *sound*.

"That bodies move or tremble when they produce sound, requires no particular proof: it is evident in drums, bells, and other instruments, whose vibrations being large and strong, are therefore more perceptible; and it is equally clear, that a similar vibration is excited in the air, because this vibration is communicated through the air to other bodies that are adapted to vibrate in the same manner: thus bells, glasses, basons, and musical strings, will sound merely by the action propagated from other sounding bodies.

"It is established, as well by mathematical reasoning, from the nature of an elastic fluid, whose compression is as the weight, as from experiment, that all sounds whatever, arrive at the ear in equal times, from sounding bodies equally distant. This common velocity is 1142 English feet in a second of time. The knowledge of the velocity of sound, is of use in determining the distances of ships, or other objects: for instance, suppose a ship fires a gun, the sound of which is heard five seconds after the flash from the ignition of the powder is seen; then 1142 multiplied by five, gives the distance 5710 feet, or one English mile and 330 feet.

"When the aerial waves meet with an obstacle which is

hard, and of a regular surface, they are reflected; and consequently, an ear placed in the course of these reflected waves, will perceive a sound similar to the original sound, but which will seem to proceed from a body situated in like position and distance behind the plane of reflection, as the real sounding body is before it. This reflected sound is called an *echo*.

“ The waves of sound being thus reflexible, nearly the same in effect as the rays of light, may be deflected or magnified by much the same contrivances as are used in optics. From this property of reflection, it happens, that sounds uttered in one focus of an elliptical cavity, are heard much magnified in the other focus; instances of which are found in several domes and vaults, particularly the whispering gallery of St. Paul’s Cathedral, London, where a whisper uttered at one side of the dome is reflected to the other, and may be very distinctly heard. On this principle also are constructed the *speaking-trumpet* and the *hearing-trumpet*, which either are, or ought to be, hollow parabolic conoids, having a perforation at the vertex, to which the mouth is to be applied in speaking, or the ear in hearing.

“ There is a remarkably fine echo in Westmoreland, on the lake of Ulswater, which I once heard. Our barge having taken up a station where the finest echoes were to be obtained from the surrounding mountains, one of the cannon on board was discharged; the report was echoed from the opposite rocks; where, by reverberation, it seemed to roll from cliff to cliff, and return through every cave and valley, till the decreasing tumult gradually died away upon the air. The instant it ceased, the sound of every distant waterfall was heard; but before I could express my pleasure and admiration, the returning echo from the hill behind, again claimed my attention. The report was then repeated like a peal of thunder bursting over our heads, continuing for several seconds, flying from point to point, till, once more, the sound gradually declined. Again the voice of waterfalls stole upon mine ear, till to the right the more distant thunder arose from other mountains, and seemed to take its way up every winding dell and creek, sometimes behind, sometimes on this side, then on that, passing with incredible swiftness. When the echo reached the mountains within the line and channel of the breeze, it was heard at once on the right

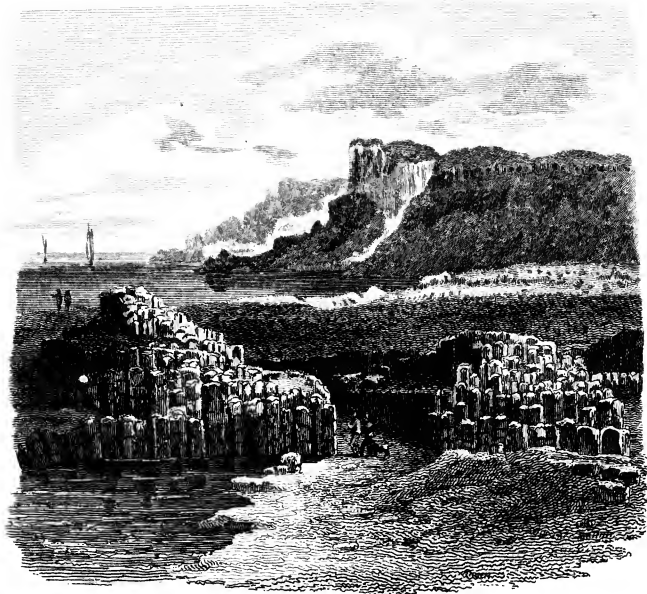
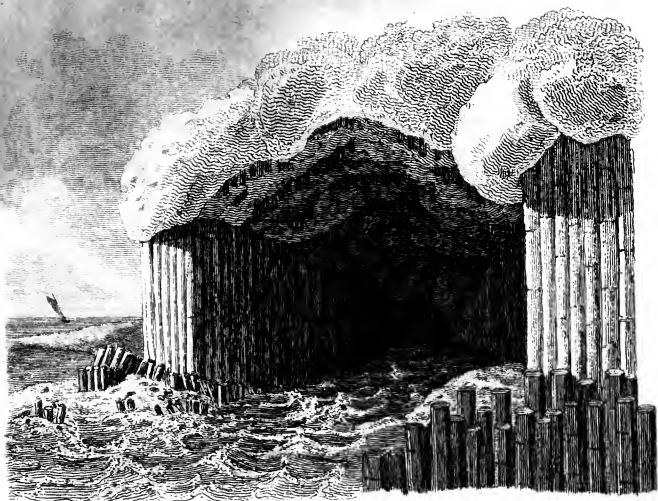
and on the left, at the extremities of the lake. In this manner was the report of the discharge repeated seven times distinctly.

“ At intervals we were relieved from this entertainment, which united tumult and grandeur, by the music of two French-horns, whose harmony was repeated from every recess, which echo haunted on the borders of the lake. Here we appeared to have a whole band at our command. Sometimes we heard the full-toned breathings of the organ; then the hoarser notes of the bassoon burst on our delighted ears; while the caves, the wooded creek, and trilling waterfalls gave back the soft and gentle tones of the melting lute. In the midst of this entrancing concert, our boatmen fired off six brass cannon: it is impossible to describe to you the extraordinary sensation produced by the sudden uproar which followed this discharge. It appeared to me, as if the rocks, the mountains, the woods, the vales, were all uprent, and thrown together in horrible confusion. Nothing short of a general wreck of nature, could, to my imagination, have produced such a wild and awful tumult. I confess I was for a few minutes speechless, and that something very like the sensation of fear, glanced across my mind, at the wild and tumultuous uproar, which interrupted the harmony that had given me so much delight *.”

The upper lake, which they now approached, is about four miles in length, and from two to three in breadth: it is almost surrounded by mountains, from which descend a number of beautiful cascades. The islands in this lake are numerous, and afford an amazing variety of picturesque views.

* Travellers and Natural Historians have furnished us with many accounts of Echoes, which repeat words very often, or have some singularity. Misson, in his Description of Italy, speaks of an Echo in the vineyard of Simonetta, which repeats the same word 40 times. At Milan an Echo reiterates the report of a pistol 56 times; and if the report be very loud, 60 reiterations may be counted. But the most singular Echo is that near Rosneath, a few miles from Glasgow. If a person, placed in a proper situation for the sound to take effect, plays 8 or 10 notes on a trumpet, they are faithfully repeated by the Echo, but a *third* lower; after a short silence another repetition is heard, in a still lower tone; and another interval of silence is followed by a third repetition, in a tone a *third* lower.

Fingals Cave.



Giants Causeway.



The middle lake is small, when compared with the upper and the lower; nor does it present so much variety of prospect; but it boasts of the lofty Mangerton as its eastern boundary, down which descends a cascade of 150 feet perpendicular. This fall of water is supplied by a circular lake on the summit of the mountain, called the Devil's Punch Bowl, which, on account of its immense depth, and continual overflow of water, is reckoned one of the greatest curiosities of Killarney.

Between the lakes of Killarney and Limerick stood an ancient castle, which had belonged, from time immemorial, to the family of Montague; and, though not in the direct road, Dr. Walker desired the postillions to drive to Montague castle: the man eagerly asked, if they were acquainted with the owner, to which the doctor, having answered in the affirmative, he began making innumerable questions, flogging his horses violently one moment, and then almost stopping them, to enable him to make some new enquiry respecting the family. When Dr. Walker told him, that Edward was the heir, he burst into a long congratulatory apostrophe: "Long life to your honour, and good luck to your honour; and sure now," said the man, "you shall drive to your own castle as ye ought." With that he resumes his favourite occupation of flogging, hailing the few straggling individuals he met with, telling them of the honour he had in driving the young heir. Upon approaching the ancient seat of his ancestors, Edward was not much struck by its appearance, and having gone over the deserted apartments, of what had been formerly the scene of feudal splendour, Doctor Walker and his pupil resumed their seat in the chaise. The latter, though but seventeen, remained for some time absorbed in profound thought, which the Doctor did not choose to interrupt.

The country about Limerick is fertile, and particularly rich in pasture. The town is divided into two divisions, the one called the Irish, and the other the English town. In the latter, our travellers took up their abode for a few days, as they were anxious to inspect the woollen, linen, and paper manufactories, which are carried on to a great extent at this place. They were not a little surprized at the handsome streets and extensive quays, which have been lately

erected; and much pleased with the number of hospitals and public structures that adorn the city, and at the same time powerfully display the humanity and public spirit of the inhabitants.

SECTION IV.

KILLALOE.

“ WE will to-morrow view the cascade on the Shannon,” said Dr. Walker, as they returned from the linen manufactory: “ it is only about six miles above Limerick, and it is, I understand, very beautiful. The celebrated and unfortunate Earl of Strafford, to whom Ireland is indebted for her linen manufactory, had formed some idea of removing the rock, which impedes the navigation of this fine river, and forms the cascade: whether he found this undertaking impracticable, or whether he was interrupted in his design by the disasters which recalled him to his native country, I do not know; but the rock still remains, and of late years the upper and lower part of the river have been connected by a canal. This noble river rises in the county of Leitrim, and after a course of upwards of one hundred and fifty miles, it falls into the Atlantic, between Kerry Head and Cape Lean. Between Killaloe and Limerick, just above the cascade, is a very fine salmon and eel fishery. The banks of this river are fertile, and it contains several beautiful islands. “ I should like extremely,” replied Edward, “ to follow the course of the Shannon. Do you think we could, Sir.”— “ We will see what can be done,” said Dr. W.; “ I have not the least objection to this arrangement; for there are many towns seated on its banks, the first of which is Killaloe.”

Edward was delighted with the plan; and on the following morning, the travellers pursued their journey, following the course of the river until they reached Killaloe. The bridge over the Shannon, consisting of nineteen arches, being the only object worthy of attention, they took an early dinner, and, hiring a boat, desired their servant would meet them at Bannaghar.

Our travellers were charmed with the view of the country through which they passed. The river had now assumed the form of a lough or lake, called Loch Derg; and as the weather was very fine and temperate, they were sorry when they approached Bennaghar. Here they staid a short time to view the canal, which opens an inland communication between Dublin and Limerick. "I see nothing to detain us here," said Edward, as they returned to the town of Bennaghar, "and I am anxious to reach Athlone:" but he was quite disappointed as he approached that place. He had pictured Athlone as a large, strong, well built city, since its capture by Baron de Ginckle, in the reign of William III. as described as "an effort of boldness and vigour, to which history scarcely furnishes a parallel." Dr. Walker was amused at the expression of his intelligent countenance. "Why," said the doctor, "what did you expect to find? There, you see, is a bridge composed of many arches, and bearing marks of antiquity upon the very face of it. There, you perceive, are many beautiful figures and inscriptions, which will afford you some amusement perhaps: they relate to the great successes of Queen Elizabeth, of renowned memory, and are meant to perpetuate the recollection of her *clemency*. You recollect, I suppose, the numbers she caused to be executed, and their heads to be placed upon conspicuous situations, in order to deter others from incurring her displeasure. From the disappointment your countenance expresses, I suppose you will have no objection to quit this great town, and proceed immediately to Carrick."—"None at all," replied Edward, "this is indeed a poor miserable place, and appears doubly so, from the idea I had formed of its importance." And the travellers accordingly pursued their journey, but not with quite so much ease and pleasure as hitherto.

SECTION V.

THE BOGS OF IRELAND.

THE counties of West Meath and Longford are much interrupted by bogs; and Edward began at length to discover, that his mother might possibly be inconvenienced by travel-

ing in Ireland. The roads were now become very serpentine, and it often happened, that in order to get forwards one mile, they were obliged to retreat two. Edward became impatient more than once, as their guide prevented his taking what appeared a very sure, gentle, undulating road, covered with moss, and looking far more inviting than that he was compelled to follow. "Sure now and you sink," said the man, "if you go there; 'tis a bog." The bogs in many parts of Ireland rise and fall in alternate hills and valleys, and the deceitful appearance they present of a smooth green surface, has often proved fatal to strangers. Indeed many cattle are lost in these bogs, in the spring; for as the grass generally grows very luxuriantly near their edges, animals sometimes approach too near, and fall into the pits or sloughs, and are drowned.

Carrick, although a place neither possessing amusement or profit, was a welcome asylum to the weary travellers. "I wish the good people, possessing land in the country through which we have just passed, would adopt the draining system," said Dr. Walker, as he took his seat by a turf fire. "The inconvenience of these bogs is very great; a considerable part of the kingdom being rendered entirely useless by them, to say nothing of the dangers to which they expose ignorant travellers. Every barbarous and ill-inhabited country abounds in bogs: now, although Ireland is neither in a state of barbarism, nor is there any lack of inhabitants, yet there are few countries where there are so many persons destitute of employment; many who live nobody knows how, and so many whose intelligent minds, which are susceptible of as much improvement as those of any other people in the world, are so obscured by poverty and oppression. In former times, these bogs served as a place of refuge to the inhabitants, when they were first invaded by the Danes and Britons; and indeed they are now made use of often as places of security, not against foreign invaders, but against custom-house officers. The natives are well acquainted with the different natures of these bogs, some parts of which will bear a man, while the spot close to it would apparently engulf him. When the Irish peasants receive intimation, and they have generally pretty accurate informers upon these occasions, that they are likely to be disturbed in the formation of their favourite liquor, *Whiskey*,

they plunge the *still* into a bog, and are soon beyond the reach of their pursuers."

"But how, Sir," enquired Edward, "do you suppose these bogs were originally formed?"—"That is not a very easy question to answer; for there are different opinions upon the subject. Ireland abounds in springs, but these springs are mostly dry in summer, and the grass and weeds grow thick about these places. In the winter, the water swells prodigiously, and softening the loose earth, the grass floats on their surface, the roots of which, becoming spongy, form a kind of mat. As it collects loose particles of earth or seeds, or leaves, it assumes, by degrees, a substantial form. In the spring it dries and withers, and becomes turf; but new grass springing up through this turf, from the seeds of the last year's crop, this surface, which is again lifted up in the following winter, accumulates, and becomes thicker and thicker, until it acquires such a consistency, that the spring which formed it, has no longer the power of acting upon it. This water, as it is thus prevented from rising beyond a certain degree, extends itself in every direction, and thus increases the size of the bog. When first formed, it is called a *quaking bog*; but when, in the course of years, it becomes an elastic substance, it is called a *turf bog*. This turf is used, as you perceive, for firing. The bottom of bogs is generally a kind of white clay, or rather I should say, sandy marle: so that a little water makes it exceedingly soft; and when dry, it forms a light dust; the grass has therefore no hold upon this uncertain tenure, and is therefore easily loosened, and then floats as we have described. Although the neighbourhood of these bogs is very unwholesome, yet the Irish build their cabins very much in their neighbourhood. Turf is a most impenetrable substance, the rain makes no impression upon it; but stagnates on the surface, except that part which is exhaled by the sun; the vapour therefore that is thus drawn from the bogs is often putrid and stinking, and consequently the air in their vicinity must be infectious. In the turf bogs of Ireland, large quantities of timber have been found, which may be accounted for thus: the Earl of Cromartie mentions a curious circumstance, which fell under his own immediate observation in Scotland. Passing between Achidiscald and Gonnazd, in the neighbourhood of Lochbrun, he observed a firm standing wood so very old, that the trees were leafless and bark-

less: this, he was told, by a peasant, was the usual way in which firs decay; and that, in process of time, they would gradually throw themselves up from the roots, and thus perish. Some fifteen years afterwards, he was much surprized at finding the wood totally gone, and the spot on which it stood covered with a green moss. Having made enquiries upon the subject, he found the trees had fallen, as the peasant had foretold, and that nobody had been at the pains to carry it away; the green moss or fog had overgrown the whole of the timber; and that this moss, being nourished by the moisture which came down from the hill above it, had stagnated on the plain, and formed a regular bog: he was also told, that it was perfectly impassable: doubting the truth of the latter assertion, he immediately jumped upon it, and sunk up to the neck, as you would have done to-day, Edward, had it not been for our guide."

The Morse deer, which is very plentiful in America, appears to have been numerous in Ireland; for in the particular neighbourhood we have just traversed, and about Fermanagh, many horns, and even heads, and in some places whole skeletons of that animal have been discovered at the depth of from four to fourteen feet, under ground. This part of Ireland produces very fine ambergris. At Sligo, and along the coast of Mayo, Kerry, and the isles of Arran, it is found in considerable quantities. "I think," said Edward, "it is a very great pity, that so fine a country as this might be made, if properly attended to, should be so neglected."—"I think so too," replied Dr. Walker: "perhaps when you return from your travels, and have made yourself well acquainted with human nature in its various forms, you will be able to do that, the necessity of which all seem willing to allow; though as yet no one has had the courage or the skill to point out how it should be effected." "I will begin with my own castle," said his pupil.

SECTION VI.

WAKES IN IRELAND.

FROM Carrick, the travellers proceeded to Leitrim; on the road thither, they were not a little inconvenienced by the

funeral of some cousin of their postillion. Upon stopping their poor, lean, half-starved animals, at a wretched inn, or rather hovel, by the road side, to give them a little water, Blarney learnt that a relation of his was dead; and upon being asked to attend his wake, he said, "he couldn't refuse," and so very quietly begged Dr. Walker and his pupil would just be so kind as to stop till the morning. In vain the travellers remonstrated; Blarney was positive; and Dr. Walker was obliged to get out of his chaise, and follow the postillion into the *inn*. There, to the great surprize of Edward, they found the corpse laid out upon the table, with candles, and plates of salt all about him. The host was very busy, as well as his dame; and two girls, their daughters, appeared to be making great preparations for some sort of entertainment, rather than a funeral.

"Sure and you'll dance," said one of them to Edward, who being but little acquainted with the manners of the poorer Irish, stared at the question; but Dr. Walker, who knew the customs of the Irish peasantry well, answered for him, "He likes blind man's buff best." The girl replied, "that they should play blind man's buff, and hunt the slipper too, as soon as her brother came back, who was gone to fetch the piper." When this youth returned, he brought the melancholy intelligence, that the piper was sick, and could not come, but that he had brought a host of friends to *lament* over the dead. To say the truth, the friends came in so fast, and brought with them so strong a perfume of whiskey, that the travellers gladly accepted an invitation, given them by the girls, to go to the barn, where they soon heard sounds of doleful lamentations issuing from the house, which gradually increased, till they became a dreadful howl—"Ah why did ye die;" forming the burthen of the funeral song. The barn, in the mean while, presented a scene of joyous mirth; blind man's buff, and hunt the slipper, were followed up with great spirit. Towards morning, Dr. Walker, as the sounds from within the inn gradually subsided, thought perhaps the postillion would now continue his journey: but he was mistaken; he protested he would not move a step till his cousin was safely lodged in the ground; and as our travellers were totally unacquainted with the road, they were obliged to make a virtue of necessity, and stay quietly till the middle of the day, when Blarney assured them he would make up for lost time. He was as

good as his word; for he flogged the wretched animals till he got them into a gallop; and, regardless of the entreaties of his passengers, and the cracking of his crazy vehicle, Blarney drove on, and at length safely landed them at Leirtrim.

Having thus followed the course of the Shannon to its source, they traversed the counties of Fermanagh, Tyrone, and Londonderry. They made some short stay at the capital of the last mentioned county, the siege of which, in the dispute between James II. and William III. for the crown of Great Britain, is deservedly celebrated. Londonderry stands on the Foyle, over which there is a wooden bridge of singular construction, one thousand and sixty-eight feet in length.

“Now for the Giant’s Causeway,” said Edward joyfully, as they prepared to quit Londonderry: “I really quite long to see it; for I think I have heard that it is the finest exhibition of basaltic columns in the universe.” “You have heard right,” replied Dr. Walker.

SECTION VII.

THE GIANT’S CAUSEWAY—BASALTIC, AND GRANITE ROCKS.

THE British dominions present the noblest specimens in the known world of columnar basalt; amongst which, the *Giant’s Causeway* stands conspicuous, it consists of three piers of basalt columns, which extend some hundred feet into the sea. It is surrounded by precipitous rocks, from 200 to 400 feet high, in which there are several striking assemblages of columns, some vertical, some bent or inclined, and some horizontal, and as it were mortised or driven into the rock. Bengore, which bounds the Causeway on the east, consists of alternate ranges of tabular and massive, with columnar basalt.

But among the various and grand objects on this coast, Pleskin is perhaps the most striking: it presents several colonnades of great height and regularity, separated from each other by tabular basalt; and at Fairhead, the north-east

cape of Ireland, and forming the east side of Ballycastle Bay, there is a range of columns of from ten to twenty feet diameter, and between 200 and 300 feet high, supported upon a steep declivity, and offering to the mariner at sea the spectacle of a terrace, which towers nearly 600 feet above the waves that roll beneath.

Another Basalt district, which even exceeds the former in magnificent peculiarities, is that which presents itself in sailing down Loch Nagaul, in Mull. The coast of this island upon the right and left exhibits the step-like appearance of basaltic rocks in great proportion, with yawning caverns and fine columns.

The isles of Ulva and Gometra rise with the abrupt and irregular precipices common to this formation. The Treshamish Isles exhibit columnar and massive basalt, and in the midst of this grand panorama, Staffa presents itself. The columns, which are from sixty to ninety feet high, are approached by a fine causeway, rising gently from the deep, and an immense weight of tabular basalt appears supported by these columns. The pillars are perpendicular, inclined, and in some places extremely curved. In Fingal's Cave, the ranges of columns extend, in deep perspective, into the interior of the rock, presenting a scene of such unrivalled grandeur, as hitherto to have scorned the descriptive pen of the poet, or the pencil of the painter, to represent,

“Pray, Sir,” said Edward, “Of what are the Basaltic columns composed?”

DR. WALKER.—“Basalt is always a homogeneous rock, and abounds in black oxyde of iron; and a piece of basalt presented to a common observer, would immediately be pronounced the product of a volcano, the analogy between it and the lava being most striking.”

Upon reaching Fairhead, Edward was lost in astonishment. Even his glowing imagination had fallen short in the picture of the Giant's Causeway. He was perfectly speechless. “Was I wrong when I described the grandeur of this scene,” said Dr. Walker, as his pupil gazed with astonishment and delight at the magnificent scene before him. “Oh no, Sir,” replied Edward, “Oh how I wish my mother and sisters could see this grand view! I hope you will not quit Fairhead to day, Sir, I could gaze for ever.”—“No,” replied Dr. Walker, “You shall pass one more day

here; but we have, you must remember, a finer prospect of this kind in reserve—the Isle of Staffa.”

Edward was unwilling to allow any view could be finer than the one before him. The next day unfortunately proved very stormy, and the travellers, although they received much gratification in contemplating the majesty of the waves as they broke against the Basaltic columns, were compelled to pass the greater part of the day in the inn where they had taken up their abode, and where they amused themselves with the following short dissertation upon rocks.

EDWARD.—“ In the book you gave me, Sir, upon the formation, or rather nature of mountains, it says that green stone is often found upon primary rocks.”

DR. WALKER.—“ Exactly so.”

“ And,” pursued Edward, “ Primitive rocks are generally found in large masses or blocks, not regularly stratified, and affecting a vertical arrangement in their fractures and fissures. Sometimes they are of a perfectly homogeneous texture, commonly hard and durable, and sometimes composed of two or three ingredients blended together; they are generally crystalline in their texture, and usually constitute the loftiest mountains.

“ The transition series of rocks, or those deemed by the *Wernerians*, next in point of antiquity, to the primitive, are less lofty than the former. In many instances, they present a slaty texture; and they seem to have been deposited in strata, or layers, which are seldom either vertical or horizontal, but variously inclined to the horizon.

“ The secondary rocks, or the more recent series, are nearly, if not quite, horizontal in their position. In their texture they are soft, and, consequently, easy of decay; and they appear rather as mechanical deposits than as chemical compounds which have resulted from fusion, crystallization, or solution. But I think I can recollect the exact divisions of mountains into four classes, as arranged by Werner and his disciples, namely, 1. Primitive; 2. Intermediate; 3. Secondary; 4. Tertiary; to which may be added Volcanic mountains, as a 5th class.

“ I. Primitive mountains are composed of 1. Granite; 2. Gneiss; 3. Micaceous shistus; 4. Argillaceous shistus; 5. Primitive lime-stone; 6. Trap; 7. Porphyry; 8. Sienite;

9. Serpentine; 10. Topaz rock; 11. Quartz; 12. Silicious shistus.

“ II. Intermediate mountains are composed of, 1. Limestone; 2. Trap; 3. Amygdaloid; 4. Wacken.

“ III. Secondary mountains are composed of, 1. Sandstone; 2. Limestone; 3. Gypsum; 4. Chalk; 5. Coal; 6. Common Salt; 7. Argillaceous Iron-stone and Calamine; 8. Trap.

“ IV. Tertiary mountains are composed of, 1. Sand and Pebbles; 2. Clays and Mud; 3. Bituminous Tufa.

“ V. Volcanic mountains emit, 1. Lava; 2. Pumice; 3. Scoriæ. The lava is sometimes mingled with felspar, quartz, or granite. If the mountain be a secondary mountain, marble, calcareous spar, gypsum, and similar substances are ejected.”

DR. WALKER.—“ These different series are tolerably arranged in regard to each other; the primary rocks forming the basis upon which the others rest: the transition rocks upon these primaries, are immediately recumbent, which are succeeded by the varieties of the secondary rocks, and by their detritus, constituting alluvial matters and soils. If the wind does not abate to-morrow, we may, perhaps, have time to go to Loch Neagh. This lake is worthy of notice from its peculiar qualities of turning wood into stone. Some of the ancient writers have gone so far as to say, that it would turn that part of the wood which was in the mud, into iron; the part in the water, into stone, while the part above the water still remained as wood. Mankind delight in the marvellous, and in the early periods of the history of man, we have innumerable instances of the union of great wisdom and of great folly. Men, unaccustomed to search for natural causes, as in the earliest ages of the world, have invariably attributed every uncommon appearance, to the production of invisible beings, such as fairies, genii, and so forth. As they advance in knowledge, they are apt to rush into the opposite extreme, and suppose that every thing contains within itself an all-sufficient power or cause, whereby it acts or is acted upon, without the interference of an all-wise and mighty Creator. I would wish *you*, Edward, not to rest content with hearsay intelligence, where you can from your own observation have the opportunity of judging for yourself. The most patient investigators have always been the most successful enquirers. Two of the greatest philosophers the

world ever saw, Lord Bacon, and Sir Isaac Newton, are in nothing so much superior to all other philosophers as in the deliberation and patience with which they pursued their enquiries. They sought for truth with the most unwearied diligence, they never adopted speculation for fact, nor were they satisfied with the semblance in place of the reality.

SECTION VIII.

THE PETRIFYING QUALITIES OF LOCH NEAGH.

“BUT to return to Loch Neagh,” said the Doctor, “from which I have unconsciously wandered,—this lake is the largest in Ireland; being twenty miles in length from the north-west to the south-east point, and nearly fifteen miles from the north-east to the south-west point. As to its petrifying qualities already mentioned, many writers suppose it consists, not so much in the lake as in the ground near it; that the earth in the vicinity of the lake does produce these petrifications there is little doubt. The great Dr. Robert Boyle has observed that ‘the earth harbours different kinds of *petrescent* liquors, and many of them impregnated with some sort of mineral or other.’ But this petrified wood is found *in* the lake, and as there are no springs, or waters, but are more or less impregnated with such sort of mineral and saline particles, (this is proved by analyzing the most limpid streams) which after evaporation, still in the residuum, give some particles of salt, with some stones and mineral ores, Loch Neagh may produce these petrifications as well as the earth in its environs.

“Petrifying springs are generally impregnated, some with calcareous particles of stones, and others with ferruginous and vitriolic particles. Those of the stony and calcareous kind, when they drop on wood, or other vegetables, act on them for the most part by incrustations and coalitions, which yet adhere close together; they seldom turn the wood into stone; but sticking to it coagulate on it, and by degrees cover them with a crust of a whitish substance, of different thickness, by which the wood is wrapped in a stony coat, this coat being broken before the wood is rotten, you will

find a cavity in the stone, which is very often filled by a subsequent incrustation or petrification, the stony particles then taking the place of the rotten wood. Sometimes, indeed, these waters fermenting the pores of the wood, either longitudinally or transversely, insinuate themselves into them or fill them up with thin stony particles, and by their burning or corroding qualities proceeding from limestone, destroy the wood, and assume the shape of the plant they have thus destroyed.

“ These petrifications generally ferment with acids and spirit of vitriol, and by calcination may be reduced to lime.

“ Again, ferruginous or metallic petrifying springs, mostly act by insinuating their finest particles through the pores and vessels of the wood, or other vegetables, without increasing their bulk or altering their texture, though they greatly increase their specific gravity; and such is the petrified wood on the shores of Loch Neagh; for it does not show any outward addition or coalition of matter covering it, but preserves the grains and vestiges of wood; the only alteration perceptible is in the weight and closeness, and this is caused by the mineral particles which have filled up the pores.

“ Though mines have not been discovered in the vicinity of the Loch, there is reason to believe there are such in its neighbourhood, from the great quantity of iron-stones found on its shores, and places adjacent to it, and from the yellowish ochre and clay to be met with in many places near it. If these iron-stones, which are very ponderous, and are of an ochrish yellow on the outside, and inwardly of a reddish brown, be calcined, they yield strongly to the magnet. That mines are generated, and found in the bowels of hills and mountains, is obvious to any person who has the least knowledge of metallurgy, and that springs also proceed from the same sources, is no less obvious; therefore should a spring happen in any of these mountains to run through a vein of mineral ore of any kind whatever, it will wash and dilute some parts of such mineral, impregnate itself with unctuous, saline, and metallic particles, if in its way, whether under ground, or at its issuing out of the cliffs of the mountains, of the sides of the river, or of the lake in question, it meets with wood, vegetables, or any lax bodies, lodged in the mud or gravel, whose pores by the natural

heat of the mineral streams, or any other accident, being open and duly prepared, these metallic *moleculæ* and saline particles will penetrate through, insinuate and lodge themselves into the pores and vessels of such wood, and fill them up, and by degrees turn them into stone. There are some of these lapidescent juices of so fine a substance, yet of so petrifying a nature, that they will penetrate bodies of very different kinds, and yet scarcely, if at all, visibly increase their bulk, or change their shape and colour.

“ That such springs there are, hidden under this lake will appear probable, from what has been said, and perhaps evident, from the accounts since received, that in the great frost of 1780 the lake was frozen over so as to bear men on horseback, yet several circular spaces remained unfrozen. Mineral streams, or exhalations, highly saturated with stony and mineral particles, are often found to have a petrifying quality, as is seen at the bath called Green Pillars, in the city of Buda, in Hungary. If such streams should in certain places find or force their way through the sand or pores of the earth, they may operate on wood, &c. buried in the ground, permeate its vessels, and by degrees turn it into stone; and such is the most probable, if not the only reason, that can be assigned for those petrifications of wood found in sand.

“ Thus much for Loch Neagh, Edward, but I cannot quit this subject without mentioning those extraordinary petrifications which are to be met with in a great desert to the west of Cairo in Egypt, mentioned by Mr. Horneman. He says, ‘ that in the desert which forms a natural boundary to Egypt, on the west, extending from the Natron valley to the mountains Ummesogier, petrified wood is found of various sizes and forms; sometimes are seen whole trunks of trees of twelve feet in circumference, or more; sometimes only branches and twigs, scarcely any of a quarter of an inch in diameter, and sometimes merely pieces of bark of various kinds, and in particular of the oak. Many of the great stems yet retain their side branches, and in many the natural timber has undergone so little change, that the circular ranges of the wood are discernible. The colour of this petrified wood is in general black, or nearly so, but in some instances it is of a light grey, and then so much resembling wood in its natural state, that their slaves would often collect it and bring it in for firing.’

“ These petrifications are sometimes scattered in single pieces, but are oftener found in irregular layers or strata, covering a considerable space of ground.

“ The appearance of this desert waste in which these petrifications are found, is that of a lee shore, over which the waters streaming before the storm have on their ebb deposited timber, or what else was carried away by the tide. No part of it has the appearance of having been worked by any kind of tool, and those trunks of trees which have been hastily pronounced by travellers masts of vessels, are nothing more than the branchless bodies of trees, thirty or forty feet long, which are in many parts splintered, but not by human workmanship. How this vast deposition of petrified timber came there, has not been decided, nor, most probably, will it ever be decided.

“ Many parts of these deserts are supposed to have been submerged at a period subsequent to the deluge, for there are in many parts marine shells of various kinds, found in the mountains which border upon it.”

EDWARD.—“ I think I should like to travel in Africa very much.”

DR. WALKER.—“ You must then arm yourself with uncommon fortitude, the danger of traversing the interior of Africa is very great, and the fatigue such as those only accustomed to live like the hardy Bedoweens can scarcely endure. Nevertheless, what has been done may still be done, and I do think I should have some pleasure in accompanying you. And now before we leave Ireland let us take a slight sketch of its surface, climate, and productions.”

SECTION IX.

GENERAL VIEW OF IRELAND.

THE face of the country is mostly level, containing many bogs and lakes; it is well watered with rivers, and has a small chain of mountains in Kerry, in Wicklow, in the south-east of Ulster, and in the north-west of Connaught: Croagh Patrick mount, on the south-east of Clew Bay, rises to 2666 feet above the level of the sea; Mount Nephin, in

Mayo, 2640 ; Mangerton in Kerry, 2500 feet. The climate is very mild, and favourable to vegetation ; hence the grain for exportation, and the numerous herds of cattle with which it supplies England and the navy.

By a recent survey, Ireland is found to contain 19,436,960 acres, English measure ; of which 14,932 are cultivated, 3,500,000 waste, but susceptible of cultivation ; and 1,000,000 uncultivable, consisting of roads, lakes, rivers, and sterile ground. The most elevated part of Ireland is a curved line extending from the west of Munster to the north-east, thence through the west of Leinster, and the south and north-west of Ulster. In Connaught the greatest elevation is a straight line from the south of Galway to the north of Sligo.

Ireland is also rich in minerals and metals. Lead, copper, iron, silver, coal, marble, slate, ochres, and clays, are found in all the provinces. Manganese, granite, crystals, pebbles, and garnets, in Ulster, Connaught, and Leinster ; fullers' earth, sulphur, and jasper, in Ulster and Leinster ; amethysts, in Ulster and Munster ; antimony, in Monaghan ; calcedony, in Donegal ; cobalt, in Kerry ; gypsum, abundant in Antrim ; talc, in Carlow and Sligo ; porphyry, in Dublin ; pearls, in Galway and Kerry ; petrifications, in Cork and Londonderry ; gold and tin, in Wicklow ; pearls are found in Lough Corrib and the Lake of Killarney ; silicious sand, in Donegal ; steatite, in Down ; serpent stone, abundant in Sligo ; spar, in Cläre, beautiful like that of Derbyshire.

Its exports are, yarn, live cattle, the produce of slaughtered cattle, fish, copper ore, lead ore, flax, paper, grain, and the annual amount of linen cloth exported, is estimated at 2,000,000*l.* of linen yarn, 500,000*l.* The export of corn, meal, and flour to England in 1812, was 1,641,681*l.*

Its imports are, coal, hemp, flax, East and West Indian produce. And the chief ports are, Dublin, Cork, Waterford, Wexford, Londonderry, Limerick, Belfast, and Newry.

Belfast has a stately bridge of twenty-one arches over the Lagan : the inhabitants may be almost considered a Scottish colony. This town is in the centre of the linen trade, besides which, it manufactures cotton, sail cloth, sugar, glass, and earthenware : exports chiefly to America and the West Indies.

Kilkenny is said to be the neatest town in Ireland ; it

manufactures woollens and starch. This part of the kingdom produces plenty of corn, wool, and marble; has fine plantations, and is noted for its minerals, and the salubrity of the air.

Galway is eligibly situated for commerce, the salmon and herring fisheries are carried on with spirit, the manufacture of cotton goods is encouraged, and great quantities of prepared kelp exported.

Drogheda exports much grain; imports coals, and goods from England.

Wexford is large, handsome, and manufactures good woollen; it was here that the first English colony was planted.

Kinsale is a populous and strong port, has a good trade, and is occasionally a station for the royal navy.

The export trade of Sligo is equal to that of Galway.

Newry increases in trade and population, the canal communicates with Loch Neagh, and the Bay of Carlingford.

Colerain has a great salmon fishery, and near it is that astonishing ridge of rocks called the Giant's Causeway.

CHAPTER IV.

SCOTLAND.

SECTION I.

THE HEBRIDES.

ON the following morning as the wind had abated, and the weather appeared to be tolerably settled, our travellers embarked at Fairhead for Cantyre. They had a remarkably pleasant sail, and as they sat upon deck watching the receding columns of the Giant's Causeway, Dr. Walker briefly pointed out to his pupil the most striking features in the character of the Irish. "In their manner," said the Doctor, "among the higher classes they resemble the English in many re-

spects; although it must be confessed, that there is now one striking difference between the two nations. The Irish are still given to a great excess in wine; a vice which has almost disappeared in the sister island. Hunting, and other robust exercises, occupy much of the time of the Irish gentry; hence they enjoy an unusual flow of health and spirits; and although they possess from nature, minds of the most intelligent cast, yet, from the warmth with which they pursue their favourite sports, little time is allowed them for cultivating and improving their intellectual faculties. I am, of course, speaking generally upon this subject. There are numerous instances, in which the Irish equal, if they do not surpass, the literary character of any other nation. But for the celebrated men of this island, I must refer you to the Biographical Dictionary of distinguished Irishmen. The character of the people we are about to visit, I mean the Scotch, is, in most respects, totally different from that of the Irish. The peasantry are equally hardy, can endure fatigue and privations with the same unwearied patience as the Irish peasant; but they are laborious and industrious, and extremely attached to their superiors. The elder branch of the family generally inherits the whole, or at least the greater part of the family property, so that the younger parts are compelled to provide for themselves, by their own exertions. Hence the numbers that quit their country, and seek their fortunes in foreign climes. Few men are more successful in life than the Scotch; this success must be attributed not to their being *Scotchmen*, but to the patient and persevering diligence with which they generally pursue all their undertakings.

“Scotland can boast of many literary characters of the first class. Robertson, Hume, Blair, Beattie, Dugald Stuart, Kaimes, Jeffrey, and many others have added greatly to the stock of human knowledge; while her poets, Thomson, Walter Scott, Burns and others, have almost exhausted pleasures of imagination.

“I shall say nothing of the Highlanders, who are at most a distinct race of beings from the Lowlanders, as we shall have many opportunities of judging of their character and manners, as we travel through their wild, romantic, and beautiful country.”

Upon reaching Cautyre, our travellers staid but to refresh themselves, and then hired a boat to take them to the beau-

tiful Isle of Arran, having traversed the southern parts of the island, which are low and highly cultivated, they continued their journey towards the north, where the scenery becomes more picturesque. Among the mountains which adorn this part of Arran, that of Goatfell, which is 3,000 feet in height, stands conspicuous. From Arran they proceeded to the rocky isle of Bute, once so celebrated for its wood-crowned heights, which are mentioned even at so remote a period as the time of the Roman Emperors. The island has lost much of its beauty in consequence of the great quantity of timber which has been cut down very lately. The Marquis of Bute has a very fine seat here, called Mount Stewart, lying directly opposite to the Larges, where the Spanish Armada was wrecked. The capital, Rothsay, gives the title of Duke of Rothsay to the eldest sons of the kings of Great Britain. From Rothsay they embarked for Dumbarton in order to take a survey of the beautiful Loch Lomond.

The first view of it from Tarbat, presents some extensive serpentine winding, amidst lofty hills: on the north, barren, black and rocky, which darken with their shade that contracted part of the water. Near this gloomy tract, beneath the craig Roston, was the principal seat of the M'Gregors, who, for a massacre of the Colquhouns, or Cahouns, were proscribed and hunted down like wild beasts; their very name was suppressed by act of Council; so that the remnant, now dispersed like Jews, dare not even sign to any deed. Their posterity are still said to be distinguished among the clans in which they have incorporated themselves, not only by the redness of the hair, but by their still retaining the mischievous disposition of their ancestors.

On the east sides, the mountains are equally high, but the tops form a more even ridge, parallel to the lake, except where Ben Lomond overtops the rest. The upper parts are black and barren; the lower exhibit the rich tints of cultivation. The eastern boundary is part of the Grampian hills, which take their name from a single hill, the Mons Grampius of Tacitus, where Galgacus waited the approach of Agricola, and where the battle was fought so fatal to the brave Caledonians. Antiquarians have not agreed upon the particular spot, but it is by some placed near Comrie, at the upper end of Strathern, at a place to this day called *Galgachan Moor*.

On passing the point of Fiskin, an expanse of water bursts upon the sight, varied with all the softer beauties of nature, and presents a fine contrast to that on the east, where the Grampian hills present a bold and rugged outline. Immediately is a flat, covered with wood and corn; beyond, the headlands stretch far into the water, and consist of gentle risings; many have their surfaces covered with wood, others adorned with trees, loosely scattered over a brilliant verdure, or the more sombre, but not less pleasing, hue of the purple heath. Numbers of islands are dispersed over the lake of the same elevated nature as the little capes, and wooded in the same manner: others just peep above the surface, and are tufted with trees; and numbers are so disposed as to form magnificent vistas.

Opposite Luss, where is the seat of the Colquhouns, at a small distance from shore, is a mountainous isle, almost covered with wood; it is nearly half a mile long, and has a most fine effect. There are somewhat about twenty-eight islands in the lake, some of which are well stocked with deer.

The length of this beautiful Lake, is twenty-four miles, and its greatest breadth eight; its greatest depth, which is between the point of Fiskin and Ben Lomond, is a hundred and twenty fathoms. Our travellers having leisure, rode to the eminence of Millegs, to see the rich prospect between Loch Lomond and the Clyde. One way is seen the beautiful lake, Ben Lomond, and the vast mountains above Glen Crow. On the other hand appears a fine reach of the Clyde, enlivened with shipping, a view of the romantic and beautiful seats of Roseneath, and Ardin-chapel, and the busy towns of Port Glasgow and Greenock.

“The Grampian Hills,” said Dr. Walker, “may be considered as a grand frontier chain, extending from Loch Lomond to Stonehaven, forming pretty nearly the boundary between the Highlands and the Lowlands; though four or five counties, on the north-east of that chain, have in their northern and eastern parts the advantages and names of Lowlands. The mountainous tract of the Highlands, comprehends the counties of Bute, Argyle, Inverness, Nairne, Ross, Cromarty, Sutherland, Caithness, and the Hebrides; together with part of Dumbartonshire, Morayshire, Banffshire, Aberdeenshire, Kincardineshire, Angus-shire, and Perthshire. Population about 250,000. The language is Gaelic or Erse. The rest of Scotland is called the Low-

lands. Besides this division, Scotland is divided, by nature, by its friths, lakes, and rivers, into three parts, viz. the northern, the middle and the southern. The middle is separated from the northern by a loch and a chain of lakes, extending from the Moray Frith to the Isle of Mull; and from the southern part by the Frith of Clyde, Loch Lomond, the river Forth, and the Frith of Forth. The northern is chiefly an assembly of vast dreary mountains;—mountainous chains traverse the middle, in different directions, and excepting its eastern coast, arable land is in disproportion:—the scenery is very romantic. The southern part resembles England in its general aspect and state of cultivation.

“ I hope, Edward, you are already convinced we need not quit the British Isles to search for beautiful or sublime prospects. Even among the gardens of Italy, we may talk of Loch Lomond, and amidst the inferior mountains of Switzerland, we may mention Ben Lomond, and Ben Nevis, the latter of which we shall see as we pass the borders of Argyleshire. It is 4,250 feet above the level of the sea, but even this mountain, by the side of the stupendous Mont Blanc, would hide its diminished head, and appear but a hillock. The height of Mont Blanc is 15,550 feet. In speaking of the height of mountains, you must understand that it is always calculated from the level of the sea. The Barometer has been applied with great success in measuring mountains; for every 103 feet which you ascend with the barometer, the mercury in its tube falls $\frac{1}{8}$ of an inch, 103 feet of air being equal to $\frac{1}{8}$ of an inch of mercury on the *surface* of the earth. The barometer on the top of Snowdon, in Wales, sinks 3,67 inches; therefore that mountain is 3,780 feet in perpendicular height. Do you understand that, Edward.”

EDWARD.—“ Perfectly, Sir.”

DR. WALKER.—“ Have you sufficiently contemplated the beauties of this charming lake? If so, we will resume our journey, and get a peep at Ben Nevis, in Argyleshire. Kelvin Bridge is but eight miles from hence, but we will see that in our southern tour.”

After traversing the mountainous region, and experiencing the well-known hospitality of the Highlanders, our travellers approached the object of their curiosity; they had for a length of time seen its lofty head towering above the summits of the neighbouring mountains. On the north-east side it rises perpendicularly nearly 1,500 feet, presenting the

view of a frightful precipice. The upper half of the mountain is destitute of all vegetation. After much labour and fatigue our travellers reached the summit where the extensive view surpassed even their expectations. The tops of Jura and hills of Cullan, in the isle of Skey, formed the boundary of sight on the west, while on the east it extended to Ben Lawres, in Perthshire, and the river Ness.

“What a superb view!” exclaimed Edward, as his eye wandered over the extensive scene. “How much I am indebted to you, Sir, for proposing to make the tour of the British Islands previous to our visiting the Continent. I would not but have seen the beauties of our own country for the world.”

SECTION II.

JOURNEY IN THE HIGHLANDS.

THE Highlander, who had accompanied them as a guide, warned them of an approaching storm, and the travellers began hastily to descend, but they did not reach the level ground, before the heavy clouds, which now enveloped the top of Ben Nevis, had begun to discharge their watery stores. The thunder reverberating from mountain to mountain, produced an awful sensation, while the livid flashes of lightning, which penetrated and illumined the deep recesses of the rocks, added considerably to the grandeur of the scene. Dr. Walker and his pupil were not a little delighted at finding themselves once more safely seated by the side of the bright cottage fire of their friendly guide, who had accompanied them in their mountain excursion, and having intimated, that it was their intention to take a view of the Hebrides, and even the Orkneys, he entreated he might be allowed to accompany them. As their English servant had more than once expressed a wish to return home, they accepted his offer, and Colin was immediately invested in his new office. Colin was a shrewd clever fellow, and our travellers found him a very useful companion, particularly so in their immediate travels in Scotland. He feared neither cold or hunger. Whether he climbed the mountain's brow, or wandered along the peaceful valley, Colin was equally happy; he possessed, in a large degree, that temper of ac-

commodation to their circumstances which is so conducive to happiness, and which is so generally met with among the Highlanders. He could sing all the favourite national airs of his country, and although not bred to arms, fire flashed from his eye at the well known sound of "Up and war them a' Willie;" and Colin lacked but the opportunity, not the spirit, to prove himself the brave defender of his country's cause. The day after the storm, he entreated the Doctor would allow him to attend the wedding of one of his cousins; the good man not only consented, but begged that himself and Edward might be admitted as guests upon the happy occasion. Proud of so flattering an offer, Colin hastened to give notice of their approach, and Dr. Walker and his pupil were received at the door of the Highland cottage by the venerable father and mother of the bride. Every thing at this numerous meeting was conducted with the greatest decorum, and the presents made to the new married couple were so considerable, as to enable them to furnish a cottage with some degree of comfort. A good dinner, and a dance in the evening, closed the festivities of the day; in the latter Colin figured away with great eclat, and both the Doctor and his pupil were not a little astonished at the agility displayed by the company, and the length of time which they continued the reel without the least appearance of fatigue. The party separated in perfect good humour; they were merry, not riotous; their characteristic sobriety having outweighed the temptation even of their favourite whiskey; not one of the party exhibited the least symptoms of intoxication.

"What is whiskey made of, Sir?"

"Why of malt, and it is distilled by a very common chemical process. The malt is dried, mashed, boiled, and from the liquor thus made, the alcohol, or pure spirit, is distilled. Proof spirit consists of half water and half pure spirit; that is, such as when poured on gunpowder, and set on fire, will burn all away; and permit the powder to take fire and flash, as in open air. But if the spirit be not so highly rectified, there will remain some water, which will make the powder wet, and unfit to take fire. Proof spirit of any kind weighs seven pounds twelve ounces per gallon."

EDWARD.—"And pray, Sir, how is the strength of spirits known?"

DR. WALKER.—"By the improved hydrometer, which is calculated to ascertain the specific gravity of fluids to the

greatest precision possible. This instrument, which you saw the exciseman use in Arran, consists of a large hollow ball, with a smaller bolt, screwed on to its bottom, partly filled with mercury, or small shot, in order to render it but little specifically lighter than water. The larger ball has also a short neck, into which is screwed the graduated brass wire, which, by a small weight, causes the body of the instrument to descend in the fluid with part of the stem.

“The common method of shaking the spirits in a phial, and raising a head of bubbles, to judge, by their manner of rising or breaking, whether the spirit be proof or near it, is very fallacious.

“There is no way so certain, and at the same time so easy and expeditious, as this by the hydrometer; which will infallibly demonstrate the difference of bulks, and consequently the specific gravities in equal weights of spirits, to the thirty, forty, or fifty thousandth part of the whole; which is a degree of accuracy few people wish to exceed.”

SECTION III.

MULL, ST. COLUMBO—AND FINGAL’S CAVE.

THE county of Argyle presents no object worthy of record; the capital town, Inverary, is a neat and pleasant place, and in its environs the marine cataract of Loch Etif, and the beautiful lake of Awe present the chief objects of curiosity in this county, for the traveller may, in some parts, traverse miles without seeing a single hamlet.

Dr. Walker engaged a fisherman to take them to the Isle of Mull, the largest of the Hebrides, where having inspected every thing that was interesting, they at passed on to the small island of Iona, or Icolm kill, the ancient burial place of the kings of Scotland. It contains also the ruins of a cathedral, and a monastery. Our travellers passed one night in the solitary village it contains, and the next day they proceeded to view the church of St. Mary’s.

“I cannot enter into the origin or history of the religious erections upon this Island,” said Dr. Walker, as they approached St. Mary’s, “it is sufficient to say that it seems to

have served as a sanctuary for St. Columbo, and other holy men of learning, while England, Ireland, and Scotland were desolated by barbarism. It appears that the northern pagans often landed here, and paid no regard to the sanctity of the place. The church of St. Mary, which is built in the form of a cathedral, is a beautiful fabric. It contains the bodies of some Scotch, Irish, and Norwegian kings, on whose tombs there are Gaelic inscriptions, but the tomb of Columbo, who lies buried here, is uninscribed. The steeple is large, the cupola 21 feet square, the doors and windows are curiously carved, and the altar is of the finest marble. There are innumerable inscriptions of ancient customs and ceremonies in this Island, which are a sufficient proof that in former times when the continent of Europe was enveloped in ignorance, the Islands, if not Scotland itself, were the asylum of learning and learned men."

From Iona they embarked for Staffa, in a small boat, and the day being remarkably fine they had a most delightful sail, and reached the entrance of the cave without the least inconvenience. This was particularly fortunate, for the Island being open to the swell from the Atlantic, the sea which surrounds it is often extremely rough.

The mind can hardly form an idea more magnificent than such a space as that occupied by the cave of Fingal, supported on each side by ranges of columns, and roofed by the bottoms of those which have been broken off in order to form it; between the angles of which a yellow stalagmitic matter has exuded, which serves to define the angles precisely, and at the same time to vary the colour with a great deal of elegance. The whole of this cavern is lighted from without, so that the farthest extremity is visible from the mouth of the cave. The air within being agitated by the flux and reflux of the tides, it is perfectly dry and wholesome, being free from the damp vapours with which natural caverns generally abound.

"Why is it called Fingal's cave, Sir?" enquired Edward.

DR. WALKER.—"When Sir Joseph Banks first visited this cave, and indeed brought it into notice, he asked his guide what was the name of it? The cave of *Fihn Coul*, was his reply, whom the translator of Ossian has called Fingal. Sir Joseph was delighted at meeting in this cave the remembrance of a hero, whose existence has been almost doubted in England. As to the name of the island itself, it

is of Norwegian origin, Staffa being derived from staf,—a staff, or prop,—or, figuratively, a column.

“ The little island of Staffa is about three leagues north-east from Columb-kill; its greatest length is about an English mile, and its breadth is not more than half an one. On the west side of the island is a small bay, where boats generally land. At a short distance from Staffa, is a small island, called Buachaille, or the herdsman, which is wholly composed of pillars, without any stratum above them.

“ On proceeding to the north-west, you meet with the highest range of pillars, the magnificent appearance of which is past all description; here they are bare to their very base, and the stratum below them is also visible; in a short time it rises many feet above the water, the whole of this stratum slips gradually to the south-east, beyond this the pillars totally cease, and a brown rock appears until you approach the celebrated cave.”

SECTION IV.

TWILIGHT—PHYSICAL PROPERTIES OF.

OUR travellers staid so long in the interior of the natural columnar hall, that they thought it advisable not to return to Mull that evening, and accordingly the boatman rowed round towards the north of the island, and they took up their abode at the only house it contained. The evening being remarkably fine, Doctor Walker and his pupil amused themselves till a late hour, in wandering over the small but extraordinary isle of Staffa.

“ I like to walk in the twilight,” said Edward, as they slowly returned to their inn. “ Every thing is so quiet and so still. Pray, Sir, when is twilight said to begin? I have often wondered, when the sun was quite gone down and there was no moon, why it was not quite dark. I know it is so in stormy weather—but I mean now, in summer, when there is neither sun or moon, it is still light enough to walk about.”

DR. WALKER.—“ The Crepusculum, or Twilight, is that faint light which we perceive before the sun rises and after he sets. It is produced by the rays of light being refracted in their passage through the earth’s atmosphere, and

reflected from the different particles thereof. The twilight is supposed to end in the evening when the sun is 18° below the horizon, or when stars of the sixth magnitude (the smallest that are visible to the naked eye) begin to appear; and the twilight is said to begin in the morning, or it is day-break, when the sun is again within 18° of the horizon. The twilight is the shortest at the equator, and longest at the poles; here the sun is near two months before he retreats 18° below the horizon, or to the point where his rays are first admitted into the atmosphere; and he is only two months more before he arrives at the same parallel of latitude.

“The benefits of twilight are obvious. A change so great, as from the darkness of midnight to the splendour of noon-day, would probably be injurious to the sight; and it would be unpleasant to all, and in many cases very dangerous to travellers, to be involved in darkness without timely notice of its approach.

EDWARD. “I can understand how in all countries situated near the equator, twilight is of much shorter duration than it is in countries of high latitudes; for at the equator the sun rises and sets perpendicularly,—but to places at a great distance from the equator, it rises and sets very obliquely; and hence it requires a longer time to go 18° below the horizon.

DR. WALKER.—“At the latitude of 49° N. twilight continues the whole night on June 21st; and, at places still farther north, it continues the whole night, for a certain number of days before and after the summer solstice. At London there is no total darkness from May 28th till July 20th.

“Twilight continues, at the north pole, from September 22d, when the sun sets, to November 12th,—a space of 51 days. Twilight first appears again there about the 30th of January, and continues till sun-rise on March 21st. Thus, though the inhabitants (if any) at the north-pole never see the sun for 6 months, yet out of that time, they have twilight for 14 weeks. The time that they receive no light from the sun is only 12 weeks; and, during that time, the moon is 6 weeks above the horizon.

“Now we are upon this subject,” continued the Doctor, “I will pursue it, while our lady hostess prepares our frugal supper; and first of all it will be proper to treat of the physical properties of light.

“The physical properties of light are easily understood; and I will therefore now take leave to notice such of them

as are most common; leaving, till we study optics, such as are usually discussed in treating of that science.

“ It is generally allowed, that light consists of inconceivably small particles, which are projected, in all directions, with an amazing velocity, from the luminous or radiant body.

“ This, however, is only an hypothesis, for the materiality of light is denied by some. But the theory of light which we have adopted, appears to be the most simple of any, and serves best to explain the phenomena of vision.

“ M. Romer was the first who observed the velocity with which light moves. He discovered that it took but seven or eight minutes in passing from the sun to the earth. It must travel, therefore, at the rate of 150,000 miles in a second of time; a velocity so great, that, were it not for the extreme minuteness of its particles, our organs of vision would be destroyed by its impulse upon them.

“ The rarity of this fluid, and the minuteness of its particles, are not less matter of wonder than its velocity; for its rays cross each other in all possible directions, without the least apparent disturbance.

“ Make a small pin-hole in a piece of paper, and all the objects, such as the sky, trees, houses, &c. which you could see without the paper, will be distinctly seen through this tiny hole. The light proceeding from all these objects, passes at the same time through the hole in a great variety of directions, before it can arrive at the eye; yet it does not appear that vision is disturbed by that means.

“ Set by night, a lighted candle on an eminence, it will be seen all round to the distance of half a mile; there is therefore no place within a sphere of a mile in diameter, in which the eye can be placed, where it will not receive some rays from this small flame.

“ The rays of light move always in straight lines, as may be evinced by the impossibility of seeing through a crooked tube.

“ Hence it follows, that the intensity of light decreases, as the square of the distance from the luminous body increases; that is to say, if you remove an object to twice the distance from the luminous body, it will be enlightened only one-fourth part as much as before; if to three times the distance, it will be illuminated only one-ninth as much, and so on, in Geometric progression.

“ The chemical properties of light are not less astonishing than its physical properties ; and it is now beyond doubt that light does have considerable influence upon many chemical processes, in the great laboratory of nature.

“ The effect of light upon vegetation, is well known. Many flowers follow the course of the sun ; and plants that grow in houses, seem solicitous, as it were, to get at the light. Plants that grow in the shade, or in darkness, are pale, and without colour, and when this is the case they are said to be etiolated or blanched. Gardeners avail themselves of this fact, to render vegetables white and tender. The more plants are exposed to the light, the more colour they acquire.

“ Vegetables are not only indebted to light for their colour : their taste and odour are derived from the same source : hence hot climates are the native countries of perfumes, odoriferous fruits, and aromatic resins.

“ The action of light on the organs of vegetables, causes them to pour out streams of pure air from the surfaces of their leaves, while exposed to the sun ; whereas, on the contrary, when in the shade, they emit air of a noxious quality. Even animals, in general, droop when deprived of light ; and it appears to be of great importance to the health and happiness of human beings. The darkness I lived in was the only thing I could not accustom myself to, says Trenck, in his description of his confinement.

“ Birds that inhabit tropical countries, have much brighter plumage than those of the North. This is also the case with insects ; and the parts of fishes which are exposed to the light, such as the back, fins, &c. are uniformly coloured ; but the belly, which is deprived of light, is white in all of them.

“ Light has considerable influence upon the crystallization of salts. Many of which will not crystallize, except exposed to the light. Camphor kept in glass bottles exposed to light, crystallizes in symmetrical figures, on that side which is turned towards the light.

“ Many bodies, if exposed to light, either at high or low temperatures, combine with it, and emit it again, under certain circumstances. These are called solar phosphori. Substances of this kind have been prepared by chemists, and have the property of shining in the dark.

“ But I must observe, that besides preparations of art,

various animal and vegetable substances seem to possess a great deal of this phosphorus. The glow-worm is a remarkable instance. Dead fish, rotten sea-weeds, and great numbers of insects, have this property in a great degree. Phosphorus is never met with pure in Nature. It is commonly found united to oxygen, in the state of phosphoric acid, which is found plentifully in different animal, vegetable, and mineral substances. You observe this piece of phosphorus is a yellowish semi-transparent substance, of the consistence of wax. It is luminous in the dark, at the common temperature of the atmosphere. You see it takes fire spontaneously, and burns rapidly in the open air, at 122° of Fahrenheit, with a brilliant white flame, and is converted into phosphoric acid.

“The combustibility and luminous property of phosphorus, have given birth to various experiments, and the following will evince its characteristic properties in a pleasing manner.

“That phosphorus burns at the usual temperature, appears by writing with it upon black or purple paper, or any other smooth surface. The writing will be luminous in the dark, as if on fire. The fiery appearance vanishes by blowing upon it, but becomes visible again after a few seconds.

“All this you perceive is very plain, and I therefore trust you will not forget it. Make a brief entry of it into your journal, and I will revise it for you.”

“Ten thousand thanks, Sir,” replied Edward, “I shall certainly note down, as far as I am able, the particulars of all you are so kind as to relate or explain to me.”

SECTION V.

THE ISLES OF SKYE AND ORKNEYS.

HAVING partaken of their frugal meal they retired to rest, and Colin, early in the morning having roused the travellers, led them with exultation to the parlour, where a Scotch breakfast awaited them. He had at Torbimore, a fine harbour in the island of Mull, laid in a little store of provision, which he had reserved for the isle of Staffa, as he concluded that an *island made of pillars* could not be very productive

either of eggs or orange marmalade. The surprise expressed by his master at their sumptuous repast, gave great delight to the servant, who seemed to let no opportunity slip of making himself useful, or agreeable. On their return to Mull, a vessel was hired to take them on to the isle of Skye, one of the best cultivated of the Western Isles. Here they were hospitably entertained by an old friend of the Doctor, who undertook to shew them the basaltic cave, at the east end of the island, in which the unfortunate and ill-advised Pretender found shelter with his faithful guide, after his disastrous defeat at Culloden. This island abounds in deer and black cattle; and though in many parts mountainous, it contains many fine tracts of level country. It also produces limestone, marble, and so forth. The narrow channel which divides it from Inverness, to which it belongs, is so shallow at low water, that the cattle are made to swim across it. It was the intention of our travellers to have visited Lewes, but having learnt that it contained nothing particularly attractive, that the country was wild, barren of wood, and but little cultivated, they resolved on sailing immediately for the Orkneys. Upon arriving at Pomona, they resolved on making some stay in these islands. The ancient Gothic cathedral at Kirkwall, which is now converted into a parish church, is a particularly fine building. Its roof is supported by 14 pillars on each side, and its steeple, in which is a good ring of bells, by four large pillars; the three gates of the church are chequered with red and white stones, embossed and elegantly flowered. While they were in Pomona, they heard that a vessel, bound for Iceland and Greenland, had been obliged to put into one of the Orkneys to refit.

“ I do not say this is a *fortunate* circumstance for the captain of that vessel or his passengers, but it is so for us, Edward,” said Dr. Walker, when he heard this intelligence. “ You know the old saying, ‘ It is an ill wind that blows nobody any good:’ now, if you have any inclination to see the wonders of Iceland, we will be off immediately.”

“ With all my heart, Sir,” replied his pupil, “ I am ready to attend you wherever you will go.”

“ And what says Colin ?” added the Doctor.

“ Colin will gang a’ the world o’er wi’ ye,” replied the Highlander.

“As we are all agreed then,” resumed his master, “pack up our goods, Colin, and for fear of accidents, let us pay our reckoning and depart.”

The captain of the vessel very willingly consented to take them on board. They were not provided with furs and particularly warm clothing, but the master of the vessel having a good store on board, he said he could supply them as they advanced towards the arctic regions.

CHAPTER V.

VOYAGE TO ICELAND.

SECTION I.

INTRODUCTION—AURORA BOREALIS—SEASONS AND CLIMATES.

EVERY thing being thus amicably arranged, and the wind setting fair, they quitted the Orkneys, and prepared to encounter the piercing cold of Iceland. “You of course know,” said Doctor Walker to his pupil, “that Iceland extends as far north as the sixty-seventh degree of N. lat. that it belongs to Denmark, and that it is only accessible at one season of the year. About the ninth century, a Norwegian colony settled in this island; upon their arrival they found it inhabited by Christians, whom they called *Papas*; it is also said that these Norwegians found among the inhabitants Irish books, bells and crosiers; and it is therefore conjectured, that Iceland was peopled by the inhabitants of the British isles. The Icelanders are an honest well-informed people; industrious, and very faithful and obliging. Thus you see, Edward, that although the climate we are about to visit is cold and inhospitable, yet the human beings who inhabit it, are not deficient in those points of character, which tend to the comfort and well being of society. Their chief employment is that of fishing and taking care of their cattle, and the women prepare the fish, and sew and spin. Some of the men work at mechanic trades, and a very few in gold

and silver. Their love of their country is so great that the most advantageous offers will not tempt them to settle at Copenhagen. They are also most religiously inclined, and never cross a river, or any dangerous place, without taking off their hats, and imploring the Divine protection. They are extremely fond of the study of history, and in their social meetings, the master of the house begins, and when he is tired another continues the reading. They also play chess remarkably well, and one of their pastimes consists in reciting verses. The dress of the lower order is composed of a coarse black cloth, called Wambol, that of superior classes of fine broad cloth, ornamented with silver."

About the third evening of their voyage, as they were upon deck, Edward was surprised and delighted with an extraordinary illumination in the heavens, which darting in various directions from the horizon up towards the centre of the vast concave above them, presented a scene totally new to our youthful traveller. "See, Sir," said he, "what beautiful colours, and how rapidly they change their hue, and dart in such fantastic forms over that calm deep blue ether!" "Why," said the Doctor smiling, "the aurora borealis appears to have given you a new language. You have heard of the Northern Lights?"

"Yes," replied his pupil, "but I had formed no idea of their exquisite beauty. Pray, Sir, will you have the goodness to explain the cause of them?"

DR. WALKER.—"The aurora borealis is that shining light which is often seen by night in the heavens, and which the vulgar call northern lights, or streamers.

"This phenomenon was thought to be the result of certain nitrous and sulphureous vapours, thinly spread through the atmosphere above the clouds, where they ferment, and taking fire, the explosion of one portion kindles the next, and the flashes succeed one another, till all the vapour is set on fire, the streams whereof seem to converge towards the zenith of the spectator, or that point of the heavens which is immediately over his head. But the aurora borealis is now supposed to be an electrical phenomenon; and its flashes of light seem to proceed from the electric fluid, while it is condensed in passing in the columns of elevated vapour.

"The spectacle has vanished, Sir, with your description," observed Edward, as the Doctor concluded his remarks.

“ Yes,” replied his tutor, “ and as I begin to feel rather colder than is agreeable, we will retire to our cabin if you please.”

SECTION II.

CLIMATES AND SEASONS.

DR. WALKER.—“ YOU are aware that no vessel has ever yet penetrated to the north or south poles, but you are not perhaps aware that the southern latitudes are considerably colder than those of the same latitude in the north. For instance, Glasgow is situated just about the same latitude north, as that in which Cape Horn is found in the south. And yet, the winter days of the former are not, in general, so cold as the summer days of the latter. This difference is hardly to be accounted for, unless we attribute the intense cold of the south frigid zone to the entire absence of *land*, at least as far as we know, in those regions, or even in the south temperate zone, compared to the vast continents which are found in the northern hemisphere. One other reason may contribute, in some degree, to this difference. The north pole from the eccentricity of the earth's orbit, is turned towards the sun eight or ten days longer than the south pole. But this reasoning is little better than an hypothesis. But it may not be amiss, as we are about to visit the different regions of the earth, to take a more accurate survey of its climates and seasons.

“ The axis of the earth makes an angle of $23^{\circ} 28'$ with a perpendicular to the plane of its orbit; and keeps always the same oblique direction throughout its annual course; hence it follows, that during one part of its course, the north pole is turned towards the sun, and, during another part of its course, the south pole is turned towards it in the same proportion; which is the cause of the different seasons, as spring, summer, autumn, and winter.

“ The seasons in the torrid zone are very different from what we observe in the temperate zone.

“ As it is summer with us when the sun is nearest our zenith, it has by some been imagined that the inhabitants of the torrid zone have double seasons; namely, two summers, because the sun is twice vertical to them,—two autumns, when he is returning, &c. But in many places a torrent of rain follows the course of the sun, and the worst season is

when the sun is vertical; the only distinction of seasons within the tropics, therefore, is from hot and dry, to hot and rainy; most countries in the torrid zone having six months inclining to a wet, and six months inclining to a dry air.

“ On the western coast of Africa, at Sierra Leone, the dry season is from September to June, and the wet from June to October. About the end of June the rains increase, accompanied with dreadful storms of thunder and lightning.

“ On the gold coast, the rainy seasons last from April to October; and in the kingdom of Congo, from the end of March to the middle of September. The greatest quantity of rain generally falls about mid-day.

“ The seasons on the eastern coast are the reverse of those on the western: the winter, or rainy season, in Sofala, Mozambique, and Zanguebar, is from September to February. In Egypt rain is a very uncommon phenomenon, yet a large portion of Grand Cairo was lately (1817) washed away by a dreadful torrent of rain.

“ In Abyssinia, the climate, though hot, is tempered by the mountainous nature of the country. From April to September there are heavy rains. These rains, added to the melting of the snows on the mountains, occasion the overflowing of the Nile.

“ In Bengal, the hot or dry season begins with March, and continues to the end of May: the intense heat is sometimes interrupted by violent thunder storms. The rainy season continues from June to September; the three last months of the year are generally pleasant, but excessive fogs prevail in January and February. By the latter end of July, all the lower parts of Bengal are overflowed, and form an inundation of more than a hundred miles in width, nothing appearing but villages and trees, excepting, very rarely, the top of an elevated spot appearing like an island.

“ The chains of the Gaults, running from north to south along the western peninsula of India, intercept great masses of clouds, and produce opposite seasons on the coasts of Malabar and Coromandel. The rainy season, on the coast of Coromandel, is with the N. E. monsoon, or from October to April; and on that of Malabar with the S. W. monsoon, or from May to September. In the month of September the navigation on the Malabar coast is open, and ships begin to sail from the Malabar shore to all parts of the world.—

The rains are not continual during the wet season, but pour down in floods for several days together, or for several hours in a day.

“ Peru is divided into two different climates by the Andes,—for whilst it is summer in the mountainous parts, it is winter in the vales. Winter, on the mountains, begins in December,—but this in the vales is the first summer month; and a journey of four hours conducts the traveller from one season to another.

“ In general the confined regions on the west of the Andes are dry, whilst the wide countries on the east of that chain are deluged with torrents of rain, from the trade winds blowing over the Atlantic.

“ Travellers, on the Andes, have sometimes enjoyed a delightful serenity in these elevated regions, at the same time that they have heard the horrid noise of tempests discharging themselves on the level country: they have seen lightnings issue from the clouds, and heard the thunders roll far beneath their feet.

“ At Lima, rain is seldom or never seen, but a strong dew falls and waters the vallies. The country is much subject to earthquakes; the most dreadful seems to have been that of 1747, when the port of Callao was submerged, and out of 4,000 inhabitants only 200 escaped.

“ In Brazil the wet season commonly begins in March or April, and is over in August; when the spring, or rather the summer, begins. The nights are very cold; and the nights in summer are colder than in winter.

“ In Jamaica the rain commonly begins in May. July is always very wet; and toward the end of that month, and the beginning of August, the weather is very close. In September and October hurricanes are frequent.

“ In Nicaragua it rains six months, from the first of May to the first of November; in the other six months it is hot and dry.

“ That part of the frigid zone which is inhabited, viz. Greenland, Lapland, &c. has only two seasons, winter and summer. Their night of winter, the sun never appearing above the horizon, is extremely severe. The most rapid rivers are sometimes frozen five or six feet deep or more; the largest lakes and bays are frozen to bear any weight, and rocks often burst by the intensity of the frost. The brilliancy of the stars, the aurora borealis, and the full moon

which never sets, make some atonement for the absence of the sun. The long twilight also, which they enjoy before the sun rises and after he sets, considerably diminishes the time of their total darkness.

“ The transition from winter’s frost to summer’s heat is very rapid in the frigid zone. The short summer is very warm, but foggy. The continual sunshine now enables the inhabitants to lay up a store of provisions for winter.

“ The hottest part of the earth is in the middle and western parts of Africa. The trade winds, in passing over the extensive sandy deserts of this continent, become heated to an extreme degree before they arrive at the western coast.

“ The climate, on the western continent, is much colder than it is in similar parallels on the eastern continent.

“ Canada, in North America, which is nearly in the same parallel with France, has the winters almost as severe as at Petersburg: the river St. Laurence, notwithstanding its breadth, is frequently frozen the whole of the winter, strong enough to bear even carriages upon it. Philadelphia and New York, nearly in the same parallel with Madrid, have often severe winters, but the heat of the summer is excessive.

“ The cold, as I before observed, in the southern hemisphere is much greater than in the northern. The climate of Terra del Fuego is an instance of this: situated as far south as Newcastle is north of the equator; and, therefore, were the degrees of heat and cold proportionable to the latitude, we might expect the summers of Terra del Fuego as warm as those on the banks of the Tyne; yet Captain Cook, who was there at Midsummer, found the cold so excessive, that a party, botanizing on the hills, was in danger of perishing by cold.

“ The mountains and vast fields of ice, around the south pole, extend to a much greater distance than those around the north pole. Navigators have penetrated to within 9 degrees of the north pole; yet Captain Cook could not get nearer the south pole than within 18 degrees.

“ In great continents the weather is more settled than it is in islands: the summer’s heat is greater, and the winter’s cold is more intense.

“ In islands the heat is tempered by clouds and vapours from the surrounding sea; but the weather is inconstant.

The cold of winter is also mitigated from the same cause, and the frost is generally of short duration. This is particularly the case with respect to Great Britain."

SECTION III.

OF SNOW AND THE POLAR ICE.

DR. WALKER.—“ Pray, Edward, did you ever attentively examine a flake of snow? We are going to the land of snow and ice, and I wish you to understand, as well as view, the phenomena of nature, as far as human knowledge *can* account for them, but there *are* bounds the mind of man cannot pass. Dr. Grew, in speaking of the nature of snow, observes, that if a person will attentively view a thin, calm, and still flake of snow, he will find that many parts of it are of a regular figure; for the most part, as it were, so many little rowels or stars of six points: being as perfect and transparent ice, as any we see on a pool of water. On each of these six are set other collateral points, and those always at the same angles as are the main points themselves. Next, among these irregular figures, though many of them are large and fair, yet from these taking our first item, many others alike irregular, but much smaller may be discovered. Again, among these not only regular but entire parts of snow, looking still more warily, it will be perceived that there are divers others indeed irregular, yet chiefly the broken points, parcels, and fragments of the regular ones. Lastly, that besides the broken parts, there are some others which seem to have lost their regularity, not so much by being broken, as by various winds, first gently thawed and then frozen into little irregular clumps again.

“ From hence the true notion and external nature of snow seems to appear, viz. that not only some few parts of snow, but originally the whole body of it, or of a snowy cloud, is an infinite mass of icicles regularly figured; that is, a cloud of vapours being gathered into drops, the said drops forthwith descend; in which descent, meeting with a soft freezing wind, or at least passing through a colder region of

air, each drop is instantly transformed into an icicle, shooting itself forth into several points on every side from its centre; but still continuing their descent, and meeting with some sprinkling and intermixed gales of warmer air, or by their continual motion wafting to and fro, touching each other, some are a little thawed, blunted, and frosted, others broken, but the greater part clinging in parcels together, which we call *flakes of snow*.

“ You now know what snow is, and though it appears so soft, yet it is truly hard, because it is, in fact, really and truly *ice*. On the first touch of the finger, the extreme points thaw; else would these small but sharp particles pierce our fingers. As for the whiteness of snow, it is thus easily accounted for;—snow consists of many parts, all transparent *singly*, but, being mixed together, they appear white, as the parts of froth, glass, ice, and other transparent bodies.

The appearance of a mass of ice led to the following dialogue on its formation “ The expansion of water, during its conversion into ice, is shewn by the circumstance of ice swimming upon water; and if water in a deep vessel be examined, at the time ice is forming, it will be found a little warmer at the bottom than at the top; and these circumstances are of great importance in the economy of nature. Water congeals only on the surface where it is liable to be acted upon by the sun, and by warm currents of air, which tend to restore it to a fluid state again; and when water approaches near the point of freezing, it begins to descend, so that no ice can be formed till the whole of the water has been cooled to the point where it preserves the greatest density; and in the deep parts of the sea and lakes, and even in some of the northern latitudes, the duration of the long winter is insufficient to cool the water to the degree at which ice forms.”

EDWARD.—“ At what degree does water freeze, Sir ?”

DR. WALKER.—“ At a temperature below 32 of Fahrenheit it becomes solid, or ice, and when heated to the degree of 212 it boils. The stupendous masses of ice, known by the names of Ice Islands, Floating Mountains, or Icebergs, common to Davis’s Straits, and sometimes met with near Greenland, from their height, various forms, and the depth of water in which they ground, are calculated to strike the beholder with wonder: yet the fields of ice, more peculiar to Greenland, are not less astonishing. Their deficiency in elevation is sufficiently compensated by their amazing extent

of surface. Some of them have been observed near a hundred miles in length, and more than half that breadth; each consisting of a single sheet of ice, having its surface raised in general, four or six feet above the level of the waters, and its base depressed to the depth of nearly twenty feet beneath.

“When the sea freezes, the greatest part of the salt it contains is deposited, and the frozen spongy mass probably contains no salt, but what is natural to the sea-water filling its pores.” The Captain of the ship here observed that, “the ice frozen from sea-water is not so solid and transparent as that procured from snow or rain-water, and that sailors distinguish it into two kinds, accordingly as it seems to have been formed from one or the other.

“When salt-water ice floats in the sea at a freezing temperature, the proportion above, to that below the surface, is as 1 to 4 nearly; and in fresh water, at the freezing point, as 10 to 69, or 1 to 7 nearly. Hence, its specific gravity appears to be about 0.873. Of this description is all *young* ice, as it is called, which forms a considerable proportion of packed and drift ice; in general it occurs in flat pieces commonly covered with snow of various dimensions, but seldom exceeding fifty yards in diameter.

“Fresh-water ice is distinguished by its black appearance when floating in the sea, and its beautiful green hue and transparency when removed into the air. Fresh water ice is fragile, but hard; the edges of a fractured part are frequently so keen as to inflict a wound like glass.

“The most dense kind of ice, which is perfectly transparent, is about one-tenth specifically lighter than sea-water at a freezing temperature. Plunged into pure water, of temperature 32° , the proportion floating above to that below the surface, is as 1 to 15, and placed in boiling fresh water, it barely floats. Its specific gravity is about 0.937. Fields, bergs, and other large masses chiefly consist of fresh-water ice. Brash-ice, likewise affords pieces of it, the surfaces of which are always found crowded with conchoidal excavations when taken out of the sea. Some naturalists have been at considerable pains to endeavour to explain the phenomena of the progressive formation of the ice in high latitudes, and the derivation of the supply, which is annually furnished, for replacing the great quantities that are dissolved and dissipated by the power of the waves, and the warmth of the climate into which it drifts. It has frequently been urged that

the vicinity of land is indispensable for its formation. This opinion is now considered erroneous, for however dependant the ice may have been on the land, from the time of its first appearance, to its gaining an ascendancy over the waves of the ocean, sufficient to resist their utmost ravages, and to arrest the progress of maritime discovery, at a distance perhaps from six hundred to a thousand miles from the Pole; it is now evident, that the proximity of land is not essential either for its existence, its formation, or its increase.

“The first appearance of ice whilst in the state of detached crystals, is called by the sailors *sludge*, and resembles snow when cast into water that is too cold to dissolve it. This smooths the ruffled sea, and produces an effect like oil in stilling the breaking surface. These crystals soon unite, and would form a continuous sheet, but, by the motion of the waves, they are broken into very small pieces, scarcely three inches in diameter, As they strengthen, many of them coalesce and form a larger mass. The undulations of the sea still continuing, these enlarged pieces strike each other on every side, whereby they become rounded, and their edges turned up, whence they obtain the name of *pancakes*; several of these again unite, and thereby continue to increase, forming larger *pancakes*, until they become perhaps a foot in thickness, and many yards in circumference.”

EDWARD.—“I suppose the sea freezes quicker when it is calm and smooth, than when it is rough.”

THE CAPTAIN.—“When the sea is perfectly smooth, the freezing process goes on more regularly, and perhaps more rapidly. The commencement is similar to that just described; it is afterwards continued by constant additions to its under surface. During twenty-four hours keen frost, it will have become two or three inches thick, and in less than forty-eight hours time, capable of sustaining the weight of a man. This is termed *bay-ice*, whilst that of older formation is distinguished into *light* and *heavy* ice; the former being from a foot to about a yard in thickness, and the latter from about a yard upwards.

“Fields of ice commonly make their appearance about the month of June, though sometimes earlier; they are frequently the resort of young whales; strong north and westerly winds expose them to the Greenlandmen, by driving off the loose ice. Some fields exhibit a perfect level plain, without a fissure or hummock, so clear indeed, that I imagine,

upon one which I saw, a coach might be driven a hundred miles in a direct line, without any obstruction. Most commonly, however, the surface contains some hummocks*, which somewhat relieve the uniformity of intense light, by a tinge of delicate green, in cavities where the light gains admittance in an oblique direction, by passing through a portion of ice."

EDWARD.—“Do not two of these fields sometimes meet?”

THE CAPTAIN.—“Yes: and their occasional rapid motion with the strange effects produced on any opposing substance, exhibited by such immense bodies, is one of the most striking objects this country (Greenland, I mean) presents, and is certainly the most terrific. They not unfrequently acquire rotatory movement; whereby their circumference attains a velocity of several miles per hour. A field, thus in motion, coming in contact with another at rest, or more especially with a contrary direction of movement, produces a dreadful shock. The weaker field is crushed with an awful noise; sometimes the destruction is mutual: pieces of huge dimensions and weight, are not unfrequently piled upon the top, to the height of twenty or thirty feet, whilst doubtless a proportionate quantity is depressed beneath. The view of those stupendous effects in *safety*, exhibits a picture sublimely grand; but where there is danger of being overwhelmed, terror and dismay must be the predominant feelings.

“On arriving at the point of collision of two fields of ice, which had been driven together, I have discovered, that the two points had but recently met; that already a prodigious mass of rubbish had been squeezed upon the top, and that the motion had not abated. The fields continued to overlay each other with a majestic motion, producing a noise resembling that of complicated machinery, or distant thunder. The pressure was so immense, that numerous fissures were occasioned; and the ice repeatedly rent beneath my feet. In one of the fissures, I found the snow on the level to be three and a half feet deep, and the ice upwards of twelve. In one place, hummocks had been thrown up to the height of twenty feet from the surface of the field, and at least twenty-five feet from the level of the water; they extended fifty or sixty yards in length, and fifteen in breadth, forming a mass of about two thousand tons in weight. The majestic unvaried

* A hummock is a protuberance raised upon a plain of ice above the common level.

movement of the ice,—the singular noise with which it was accompanied,—the tremendous power exerted,—and the wonderful effects produced,—were calculated to excite sensations of novelty and grandeur, in the mind of even the most careless spectator!”

EDWARD.—“It must indeed be a most magnificent scene. Pray, sir, are the *icebergs* of any particular form?”

THE CAPTAIN.—“No: the term *icebergs* has commonly been applied to those immense bodies of ice, situated on the land, ‘filling the valleys between the high mountains,’ and generally exhibiting a square perpendicular front towards the sea.

“Large pieces may be separated from those *icebergs* in the summer season, when they are particularly fragile, by their ponderous overhanging masses, overcoming the force of cohesion: or otherwise, by the powerful expansion of the water, filling any excavation or deep-seated cavity, when its dimensions are enlarged by freezing, thereby exerting a tremendous force, and bursting the whole asunder.

“Pieces thus, or otherwise detached, are hurled into the sea with a dreadful crash; if they are received into deep water, they are liable to be drifted off the land, and, under the form of *ice-islands*, or *ice-mountains*, they likewise still retain their parent name of *icebergs*.

“These *icebergs* generated on the land between the mountains of the sea coast, are consequently the product of snow or rain water. A considerable portion of these *icebergs* are formed in the deep-sheltered bays abounding on the east coast of Spitzbergen. These have their bed in the waters of the ocean, and are partly the product of sea-water, and partly that of snow and rain water. And it is highly probable that a continent of ice mountains may exist in regions near the Pole, yet unexplored, the nucleus of which may be as ancient as the earth itself, and its increase derived from the sea and atmosphere combined. The profusion of ice in the polar regions, produces peculiar and marked effects on the surrounding elements. The sea, in consequence, exhibits some interesting characters, and the atmosphere, some striking phenomena. Of these, the power the ice exerts on the wind,—on aqueous vapour,—on the colour of the sky,—and on the temperature of the air, are the most prominent; and of those, accordingly as the ice or swell has the ascendancy, the results are varied and remarkable.

1. "When the wind blows forcibly across a solid pack or field of ice, its power is much diminished ere it traverses many miles: insomuch, that a storm will frequently blow for several hours on one side of a field, before it be perceptible on the other; and, while a storm prevails in open water, ships beset within sight, will not experience one-half of its severity.

"It is not uncommon for the ice to produce the effect of repulsing and balancing an assailing wind. Thus, when a severe storm blows from the sea, directly towards the main body of ice, an opposite current will sometimes prevail on the borders of the ice; and such conflicting winds have been observed to counterpoise each other, a few furlongs distant from the ice, for several hours: the violence of the one, being, as it were, subdued by the frigorific repulsion and lesser force of the other. The effect resulting, is singular and manifest.

2. "The moist and temperate gale from the southward, becomes chilled on con-mixture with the northern breeze, and discharges its surplus humidity in the thickest snow. As the quantity of the snow depends considerably on the difference of temperature of the two assimilating streams of air, it follows, that the largest proportion must be precipitated on the exterior of the main body of ice, where the contrast of temperature is the greatest: and since that contrast must be gradually diminished, as the air passes over the gelid surface of the ice, much of its superabundant moisture must generally be discharged before it reaches the interior. Hence, we can account for the fewness of the clouds,—the consequent brightness of the atmosphere,—and the rareness of storms, in situations far immured among the northern ice.

"Among the curious phenomena of these northern regions, I must not omit the *ice-blink*.

"On approaching a pack*, field, or other compact aggregation of ice, the phenomenon of the *ice-blink* is seen whenever the horizon is tolerably free from clouds, and in some cases even under a thick sky. The *ice-blink* consists in a stratum of a lucid whiteness, which appears in that part of the atmosphere next the horizon. It is evidently occasioned thus: those rays of light which strike on the snowy surface of the ice, are reflected into the superincumbent air, where they

* A number of pieces of ice closely connected together, so that they cannot, from the top of a ship's mast be seen over, is called a pack.

become visible; but the light which falls on the sea is in a great measure absorbed, and the superincumbent air retains its native ethereal hue. Hence, when the ice blink occurs under the most favourable circumstances, it affords to the eye a beautiful and perfect map of the ice, twenty or thirty miles beyond the limit of direct vision, but less distinct in proportion as the air is hazy. The ice-blink not only shews the figure of the ice, but enables the experienced observer to judge, whether the ice thus pictured be field or packed ice; if the latter, whether it be compact or open, bay or heavy ice. Field ice affords the most lucid blink, accompanied with a tinge of yellow; that of packs is more purely white; and of bay-ice, greyish. The land, on account of its snowy covering, likewise occasions a blink, which is yellowish, and not much unlike that produced by the ice of fields.

“The ice operates as a powerful equaliser of temperature. In the 80th degree of north latitude, at the edge of the main body of ice, with a northerly gale of wind, the cold is not sensibly greater than in the 70th degree, under similar circumstances.

“The reciprocal action of the ice and the sea on each other, is particularly striking, whichever may have the ascendancy. If, on the one hand, the ice be arranged with a certain form of aggregation, and in due solidity, it becomes capable of resisting the turbulence of the ocean, and can, with but little comparative diminution or breaking, suppress its most violent surges. Its resistance is so effectual, that ships sheltered by it, rarely find the sea disturbed by swells. On the other hand, the most formidable fields yield to the slightest *grown* swell, and become disrupted into thousands of pieces; and ice of only a few weeks growth, on being assailed by a turbulent sea, is broken and annihilated with incredible celerity. Ice, which for weeks has been an increasing pest to the whale fisher, is sometimes removed in the space of a few hours. The destruction is in many cases so rapid, that to an inexperienced observer, the occurrence seems incredible, and rather an illusion of fancy, than a matter of fact. Suppose a ship immoveably fixed in bay ice, and not the smallest opening to be seen: after a lapse of time sufficient only for a moderate repose, imagine a person rising from his bed,—when, behold, the insurmountable obstacle has vanished! Instead of a sheet of ice expanding unbroken to the verge of the horizon on every side, an undulating sea re-

lieves the prospect, wherein floats the wreck of the ice, reduced apparently to a small fraction of its original bulk.

The Captain was now called upon deck, and Dr. Walker observed, "that ice was an article they were not in danger of wanting, though there are countries where from its scarcity ice is a luxury. In all hot climates ice is made." "Made!" ejaculated Edward. "Yes," replied the doctor. The greatest degrees of heat which are known, have been produced by concentrating the solar rays with a mirror, or lens, or by supplying a blow-pipe with oxygen gas. A very great degree of cold is produced by mixing snow with certain salts. The best salt for this purpose, is muriat of lime. If this be mixed with dry, light snow, and stirred well together, the cold produced will be so intense, as to freeze mercury in a few minutes. Salt and snow also produce a great degree of cold.

"Evaporation likewise produces cold. The method of making ice artificially in the East Indies, depends upon this principle. The ice-makers at Benares dig pits in large open plains, the bottom of which they strew with sugar-canes, or dried stems of maize, or Indian corn. Upon this bed they place a number of unglazed pans, made of so porous an earth, that the water oozes through their substance. These pans are filled towards evening, in the winter season, with water which has been boiled, and are left in that situation till morning, when more or less ice is found in them, according to the temperature of the air; there being more formed in dry and warm weather, than in cloudy weather, though it may be colder to the human body.

"Every thing in this operation is calculated to produce cold by evaporation; the beds on which the pans are placed, suffer the air to have a free passage to their bottoms, and the pans constantly oozing out water to their external surface, are cooled by the evaporation of it.

"In Spain, they use a kind of earthen jars, called buxaros, the earth of which is so porous, being only half-baked, that the outside is kept moist by the water which filters through it; and, though placed in the sun, the water in the jar becomes as cold as ice.

"It is a common practice in China, to cool wine or other liquors, by wrapping a wet cloth round the bottle, and hanging it up in the sun. The water in the cloth evaporates, and thus cold is produced.

“ Ice may be produced at any time, by the evaporation of ether.

“ Professor Leslie has lately discovered that porphyritic trap, pounded and dried, will absorb one-tenth part of its weight of moisture, and can hence be easily made to freeze the eighth part of its weight of water. In hot countries the powder will after each process recover its power by drying in the sun. This curious and beautiful discovery of artificial congelation, will therefore produce ice in the tropical climes, or even at sea, with very little trouble, and no sort of risk or inconvenience.

“ And now my dear Edward, you are already convinced of the wonderful power of chemistry. This one discovery which enables man in the hottest climate, even in the torrid zone, to compose artificially, and by such a simple process the product of the frigid zones is but a single instance, but it is sufficient to rank that noble science among one of the most important to man. Even in our every day meals, our tea, our coffee, every process of cookery, of medicine, in short, almost all the operations of nature and art, are carried on by the means either of chemical, electric, or magnetic processes, with all of which I wish you to be acquainted in some degree.

SECTION IV.

THE WHALE FISHERY.

The Captain had now returned to the cabin, and Edward asked him “ in what latitude are whales most generally found ?”

THE CAPTAIN.—“ The place where whales occur in the greatest abundance, is generally found to be in the 78th or 79th degree of north latitude, though from the 72d to the 81st degree they have been met with. They seem to prefer those situations which afford them the most secure retreats. Among the ice, they have an occasional shelter ; but so far as it is permeable, the security is rather apparent than real. That they are conscious of its affording them shelter, we can readily perceive, from observing that the course of their flight when scared or wounded, is generally towards the nearest or most compact ice. At one time, their favourite haunt is

amidst the huge and extended masses of the field ice; at another, in the open seas adjacent. Sometimes the majority of the whales inhabiting those seas, seem collected within a small and single circuit; at others, they are scattered in various hordes, and numerous single individuals, over an amazing extent of surface. To discover and reach the haunts of the whale, is an object of the first consideration in the fishery, and occasionally the most difficult and laborious to accomplish. In close seasons, though the ice joins the south of Spitzbergen, and thereby forms a barrier against the fishing-stations, yet this barrier is often of a limited extent, and terminates on the coasts of Spitzbergen in an open space, either forming, or leading to, the retreat of the whales. Such space is sometimes frozen over until the middle or end of the month of May, but not unfrequently free of ice. The barrier here opposed to the fisher, usually consists of a mass of ice from 20 to 30 or 40 leagues across in the shortest diameter. It is generally composed of packed ice, and often cemented into a continuous field by the interference of bay ice, which incredibly augments the difficulty of navigating among it.

“As the time that can be devoted to the whale-fishery, is, by the nature of the climate, limited to three or four months in the year, it is of importance to pass this barrier of ice as early as possible in the season. The fisher here avails himself of every power within his command. The sails are expanded in favourable winds, and withdrawn in contrary breezes. The ship is urged forward amongst the drift ice through the force of the wind, assisted by ropes and saws.—Whenever a vein of water, as it is called, appears in the required direction, it is if possible attained. It always affords a temporary relief, and sometimes a permanent release, by extending itself through intricate mazes, amidst ice of various descriptions, until at length it opens into the desired place, void of obstruction, and the retreat of the whales.

“The formidable barrier before described, is regularly encountered on the first arrival of Greenland ships in the month of April, but is generally removed by natural means as the season advances. However extensive, huge, and compact it may be, it is usually found separated from the land, and divided asunder by the close of the month of June; and hence it is, that however difficult and laborious may have been the ingress into the fishing country, the egress is commonly effected without particular inconvenience.

“ That the ice should envelope the whole coasts of Spitzbergen in the winter season, and expose the western shore about the month of June; that the ocean should be almost annually navigable on the meridians of 5° to 10° E., to the 80th degree of north latitude, whilst the ice in every other part of the world, can rarely be penetrated beyond the 74th degree, are facts highly curious, and certainly worthy of consideration.

“ In the month of May, the severity of the frost relaxes, and the temperature occasionally approaches within a few degrees of the freezing point: the brine then exerts its liquefying energy, and destroys the tenacity of the bay ice, makes inroads in its parts by enlarging its pores into holes, diminishes its thickness, and, in the language of the whale-fisher completely *rots* it. The packed drift ice is then loosed; it submits to the laws of detached floating bodies, and obeys the slightest impulses of the winds or currents. The heavier having more stability than the lighter, an apparent difference of movement obtains among the pieces. Holes and lanes of water are formed, which allow the entrance and progress of the ships, without that stubborn resistance offered earlier in the spring of the year.

“ Bay ice is sometimes serviceable to the whale-fishers, in preserving them from the brunt of the heavy ice, by embedding their ships, and occasioning an equable pressure on every part of the vessel: but, in other respects, it is the greatest pest they meet with in all their labours: it is troublesome in the fishery, and in the progress to the fishing ground; it is often the means of *besetment*, as it is called, and thence the primary cause of every other calamity. Heavy ice, many feet in thickness, and in detached pieces of from 50 to 100 tons weight each, though crowded together in the form of a pack, may be penetrated, in a favourable gale, with tolerable dispatch; whilst a sheet of bay ice, of a few inches only in thickness, with the same advantage of wind, will often arrest the progress of the ship, and render her in a few minutes immovable. If this ice be too strong to be broken by the weight of a boat, recourse must be had to sawing, an operation slow and laborious in the extreme.

“ When the warmth of the season has rotted the bay ice, the passage to the northward can generally be accomplished with a very great saving of labour. Therefore it was, the older fishers seldom or never used to attempt it before the

10th of May, and foreigners are in general late. Sometimes late arrivals are otherwise beneficial ; since it frequently happens, in close seasons, that ships entering the ice about the middle of May, obtain an advantage over those preceding them, by gaining a situation more eligible, on account of its nearness to the land. Their predecessors, meanwhile, are drifted off to the westward with the ice, and cannot recover their easting ; for, they are encompassed with a large quantity of ice, and have a greater distance to go than when they first entered, and on a course precisely in opposition to the direction of the most prevailing winds. Hence it appears, that it would be economical and beneficial to sail so late, as not to reach the *country* before the middle of May, or to persevere on the seal catching stations until that time. There are, however, some weighty objections to this method. *Open seasons* occasionally occur, and great progress may sometimes be made in the fishery before that time.

“ The change which takes place in the ice amidst which the whale-fisher pursues his object, is, towards the close of the season, indeed astonishing.

“ As to the mode of catching, or rather killing whales, I need not describe that to you, for it is a subject upon which you are likely to be informed by sight.”

SECTION V.

NATURAL PHENOMENA OF ICELAND, ITS SPRINGS, &c.

As our travellers approached Iceland, they were glad to accept the captain's offer of warmer cloathing, and about the middle of July they anchored on the south-west shores of Iceland. From Ryhiabick, a town on this part of the coast, they proceeded across the valley of Ryham, which appeared to great advantage from a comparison with the dreary country by which it was surrounded. The roads which led to it were composed of tracks made by the farmers in the lava and other volcanic matter. The valley of Ryham is richly cultivated and watered by a fertile stream, but what principally arrested the attention of our travellers was, the clouds of steam which ascended in various parts of the valley from the

hot springs, and the jets d'eau which darted into the air on every side, and they resolved not to quit this curious island, without taking an accurate survey of the most prominent of these natural boiling springs.

Of the antiquity of these springs little can be said, except that Saxo Grammaticus in the Preface to the History of Denmark, which was written in the twelfth century, mentions the great height to which they ejected water. The operations of subterraneous heat, seem indeed to be of great antiquity in Iceland; and the whole country probably owes its existence to the fires which burn beneath its surface. Every hill proves, at least, with what violence these fires have acted for ages; and the terrible eruptions of lava which burst from the mountain of Skoptefield in 1783, show that they are as yet far from being extinguished.

The springs of Rykum they first visited, among which the most remarkable is that distinguished by the people of the neighbourhood by the name of the Little Geyzer. The water of it boils with a loud and rumbling noise, in a well of an irregular form, of about six feet in its greatest diameter; from thence it bursts forth in the air and subsides again, nearly every minute. The jets are dashed into spray as they rise, and are from twenty to thirty feet high. Volumes of steam or vapour ascend with them, and produce a most magnificent effect, particularly as the dark hills, which almost hang over the fountain, form a back ground to the picture. The jets are forced in rising to take an oblique direction, by two or three large stones, which lie on the edge of the bason. Between these and the hill, the ground, (to a distance of eight or nine feet) is remarkably hot, and entirely bare of vegetation. If the earth is stirred a steam instantly rises, and in some places it was covered with a thin coat of sulphur, or rather, loose stones only were covered with flakes of it. In one place there was a slight efflorescence on the surface of the soil, which by the taste seemed to be allum.

The spray fell towards the valley, and in that direction covered the ground with a thick incrustation of matter which it deposited. Close to this, and in one spot very near the well itself, the grass grows with great luxuriance.

The village of Rykum or Ryka, called either indiscriminately, from *Ryk*, an Icelandic word, signifying *smoke*, is situated in the middle of the valley, and, by an observation

made by Dr. Walker, is in latitude $54^{\circ} 4' 38''$ N. About twenty miles from Rykiavick, and eight or ten from Oreback, a small harbour on the southern coast of the island. The village consists of the farmer's house, and the houses of his servants or dependents, and a small church. All the adjacent lands belong to him, and he keeps a considerable number of sheep and cattle, and some few horses. These constitute his riches; and he purchases at Rykiavick, with skins, wool, and butter, whatever he requires, of which the chief article is fish for his winter's provision.

“The springs at Hankadal are more magnificent than this Edward,” said Dr. Walker, “and we will not quit Iceland without seeing them.”

The springs known by the name of Geyzers, are situated about six and thirty miles from Mount Heckla, and about twelve miles, in a north-east direction, from the village of Skalholt. The road from thence to the springs is over a flat country, which although marshy in several places, is not unpleasant to the eye, and abounds in excellent pasturage.

The steam ascending from the principal springs during their eruptions, may be seen from a considerable distance. When the air is still it rises perpendicularly, like a column, to a great height; then spreads itself into clouds, which roll in successive masses over each other, until they are lost in the atmosphere. Our travellers perceived one of these columns when distant sixteen miles at least, in a direct line from Hankadal.

The springs mostly rise in a plain, between a river that winds through it, and the base of a range of low hills, and some very near their summits. They are all contained, to the number of 100 or more, within a circle of two miles.

The most wonderful and beautiful spring rises nearly in the midst of the other springs, close to the hills. It is called Geyzer, the name probably in the old Scandinavian language, for a fountain, from the verb *geysa*, signifying to *gush*, or to *rush forth*.

The next most remarkable spring rises at a distance of 140 yards from it, on the same line, at the foot of the hills. It is called the New Geyzer, on account of its having but lately played so violently as at present.

There are others of consequence in the place, but none that approach to these in magnificence, or that when com-

pared with them, deserve much description. The generality of the springs are in every respect similar to those near Rykum; boiling in cauldrons of three or four feet diameter, and some of them throwing their water, from time to time, by sudden jets into the air. Many springs in this place, as in the other, boil through strata of coloured clay, by which they were rendered turbid. Here, however, the red clays were brighter, and in a greater proportion to the clays of other colours. Here also, as in the valley of Rykum, are many small springs, which throw out a sulphureous vapour, and near which the ground, and the channel of the water are covered and lined with a thin coat of sulphur.

The farm of Hankadal, and the church of the parish, stand near one another, about three quarters of a mile beyond the great spring. The house is one of the best built in Iceland. It occupies a large space of ground, and consists of several divisions, to each of which there is an entrance from without. Some of these are used as barns and stables for the cattle, and others as workshops. The dwelling part of this house was small, but comfortable. There was a parlour with glass windows, a kitchen, and separate bed-chambers for the family. The building was partly of stone, partly of wood, and covered with sods, under which the bark of birch trees on boards are generally placed, as a greater security against rain.

Dr. Walker and his pupil were obliged to the mistress of this farm, who was a rich widow, for a very hospitable reception, although at first she seemed to consider them rather unwelcome guests, and left them, though they had requested admittance into her house, as they were drenched with rain, and their tents and baggage were not yet arrived, to take up their lodging in the church. They had not been long there, however, before she invited them to her house, and by her kindness made ample amends for her former inattention. She put them in possession of her best room, and set before them plenty of good cream, some wheat cakes, sugar, and a kind of tea made of the *dryas octopetela*, called in English the *mountain avens*.

The view from near the Church was very beautiful. It extended towards the south, along the plain into an open country. On the other sides, it was bounded by hills, which had not the barren and rugged appearance that deform almost every scene in this division of the island. It was

however, still finer from some of the eminences near the springs. The plain and surrounding mountains, seen from a height, appeared to more advantage; and the eruptions from the great wells breaking from time to time the general stillness that prevailed, were much more distinct.

The course of the river, winding under the eye could be traced with great accuracy. It flows through the plain into an open country, where, being increased by the waters of numerous streams and rivulets, it bends to the westward, and near Skalholt falls into a considerable river, called the *Hvit-au*.

The pleasant and fertile pastures near its banks, were enlivened by many herds of cattle and sheep, the united riches of three or four farmers in the neighbourhood of Hankadal. The mowers also at work in the different fields surrounding each house, gave, at this season, additional beauty to the prospect. High hills to the westward were separated from the eminences immediately above the springs by a narrow valley. They were partly clothed with bushes of birch, which, although in no place above five feet high, were gratifying to the sight, which so seldom in Iceland can rest on any appearance even of underwood. Above these, some vegetation still continued to cover the sides of the hills, and our travellers found a variety of plants near their summits, which were certainly, in some places, not less than 1,600 feet above the plain.

To the eastward, the plain, several miles in breadth, is bounded by a long range of blue mountains, extending considerably to the south. Beyond these, the triple summit of Hekla may be seen from the western hills, but it could not be distinguished from the plain, or even from the heights, in the country just described.

But to return to the account of the springs which break out in different places from the sides of a hill, and the space enclosed between its base and the windings of a river. The soil through which they rise is a mixture of crumbled materials, washed by degrees from the higher parts of the hill. In some places these have been reduced into a clay, or earth; in others they still remain in loose and broken fragments of the rock from whence they have fallen, or as dust produced by their friction against each other. Above the great spring, the hill terminates in a double pointed rock, which our travellers found, by measurement, to be 310 feet

higher than the course of the river; the rock is split very strangely into lamina, and at first sight has much of the appearance of a schistus, or thick slate. It consists, however, of a grey coloured stone, of a very close grain, the separate pieces of which although divided as they lay, do not break in the hands in any particular direction. It is supposed that the substance of the rock is chiefly argillaceous, and that like every other stone in the island, it has suffered some change by the action of fire. It is not precisely lava, as it bears no mark of having been once in a melted state, whatever baking or induration it may have sustained in the neighbourhood of subterranean heat. It contains no heterogeneous matter or cavities, in which agates, or zeolites, or vitrified substance could have been formed.

The attention of our travellers during the four days they remained in this place, was so much engaged with the beauties and remarkable circumstances of the two principal springs, that they had no time for inspecting those of inferior note.

The springs in general resemble those at Rykum, but there are five or six which have their peculiarities, and throw up their waters with violence, to a considerable height. Their basons are of irregular forms, four, five, or six feet in diameter, and from some of them the water gushes out in all directions, from others obliquely. The eruptions are never of long duration, and the intervals are from fifteen to thirty minutes.

The periods of both are exceedingly variable. One of the most remarkable of these springs throws out a great quantity of water, and from its continual noise, it is called the Roaring Geyzer. The eruptions of this fountain are incessant. The water darts out with fury every four or five minutes, and covers a great space of ground with the matter it deposits. The jets are from thirty to forty feet in height. They are shivered into the finest particles of spray, and surrounded by great clouds of steam. The situation of this spring was eighty yards distant from the Geyzer, on the rise of the hill. By a gradual deposition of the substances dissolved in its water for a long succession of years, perhaps of ages, a mound of considerable height has been formed, from the centre of which the Geyzer issues. It rises through a perpendicular and cylindrical pipe or shaft, seventy feet in depth, and eight feet and a half in diameter, which opens

into a bason or funnel, measuring fifty-nine feet from one edge to the other.

The bason is circular, and the sides of it, as well as those of the pipe, are polished quite smooth by the continual friction of the water, and they are both formed with such mathematical truth, as to appear constructed by art. The declivity of the mound begins immediately from the borders of the bason. The incrustations are in some places worn smooth by the overflowing of the water; in most, however, they rise in numberless little tufts, which bear a resemblance to the heads of cauliflowers, except that they are rather more prominent, and are covered by the falling of the finer particles of spray, with a crystalline efflorescence so delicate as scarcely to bear the slightest touch. Unmolested the efflorescence gradually hardens, and although it loses its first delicacy, it still remains exceedingly beautiful.

When the guides first led our travellers to the Geyzer, the bason was filled to within a few feet of its edge. The water was transparent as crystal: a slight steam only arose from it, and the surface was ruffled but by a few bubbles, which now and then came from the bottom of the pipe. They waited with anxiety for several minutes, expecting at every instant some interruption to this tranquillity. On a sudden, another spring, immediately in front of the place on which they were standing, darted its waters above an hundred feet into the air, with the velocity of an arrow, and the jets succeeding this first eruption were still higher. This was the spring already mentioned under the name of the New Geyzer.

While gazing in silence and wonder at this unexpected and beautiful display, they were alarmed by a sudden shock of the ground under their feet, accompanied by a hollow noise, not unlike the distant firing of a cannon. Another shock soon followed, and they observed the water in the bason to be much agitated. The Icelanders hastily laid hold of them and forced them to retreat some yards. The water in the mean time boiled violently, and heaved as if some expansive power was labouring beneath its weight, and some of it was thrown up a few feet above the bason. Again there were two or three shocks of the ground, and a repetition of the same noise. In an instant the surrounding atmosphere was filled with volumes of steam rolling over each other as they ascended, in a manner inexpressibly

beautiful, and through which, columns of water shivering into foam, darted in rapid succession to heights which, at the moment, the spectators were but little qualified to estimate. Indeed, the novelty and splendour of such a scene had affected their imaginations so forcibly, that they believed the extreme height of the jet to be much greater than it was afterwards determined to be. In a subsequent eruption, a gentleman ascertained by means of a quadrant, the greatest elevation to which the jets of water were thrown, to be ninety-six feet.

Much of the water began to descend again at different heights, and was again projected by other columns, which met it as they arose. At last, having filled the bason, it rolled in great waves, and in numberless rills, made its way down the sides of the mound. Much was lost in vapour only, and still more fell to the ground in heavy showers of spray. The intervals at which the several jets succeeded each other, were too short for the eye to distinguish them. As they rose out of the bason, they reflected by their density, the purest and most brilliant hue. In certain shades the colour was green like that of the sea; but in their further ascent, all distinction of colour was lost, and the jets broken into a thousand parts appeared as white as snow. Several of them were forced upwards perpendicularly; but many receiving a slight inclination as they burst from the bason, were projected in beautiful curves, and the spray which fell from them, caught by a succeeding jet, was hurried away still higher than it had been, perhaps, before.

The jets were made with inconceivable velocity, and those which escaped uninterrupted terminated in sharp points, and lost themselves in the air. The eruption, changing its form at every instant, continued for ten or twelve minutes; the water then subsided through the pipe, and disappeared.

The eruptions of the Geyzer succeed each other with a degree of regularity, but they are not equally violent, or of equal duration. Some lasted eight or ten, while others continued, with unabated violence, fifteen or eighteen minutes. Between the great eruptions, while the pipe and bason were filling, the water burst several times into the air to a considerable height. These partial jets, however, seldom exceeded a minute, and sometimes not a few seconds in duration.

After the eruption of it had been violent, the water sank

into the subterraneous caverns, and left the pipe quite empty. If the eruption had been moderate, the subsidence of the water would have been proportionably less. The first time the pipe was perfectly emptied, they sounded its depth, and found it very rough and irregular. The pipe remains but a short time empty. After a few seconds, the water rushes into the pipe again with a bubbling noise, and during the time that it is rising, it is frequently darted suddenly into the air to different heights, sometimes to two or three, sometimes sixty feet above the sides of the bason. By a surprize of this kind, while our travellers were engaged measuring the diameter of the well, they had nearly been scalded, and although they were able to withdraw themselves from the great body of water as it ascended, yet they remained exposed to the falling spray, which fortunately was so much cooled in the air as to do them no mischief.

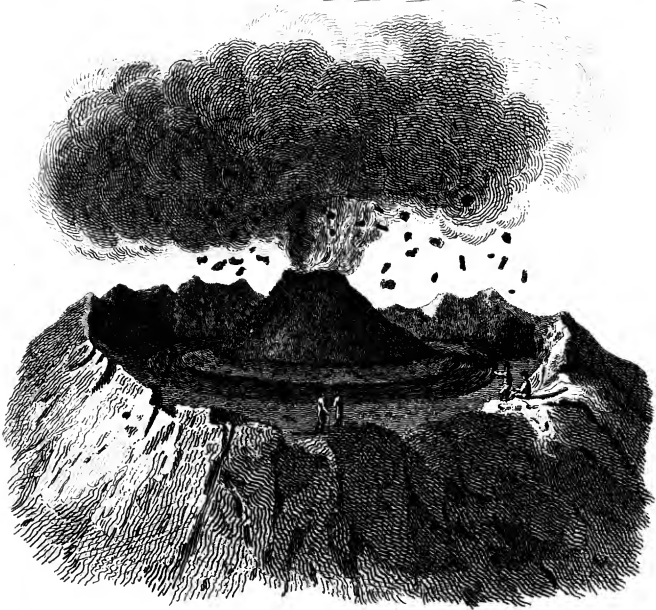
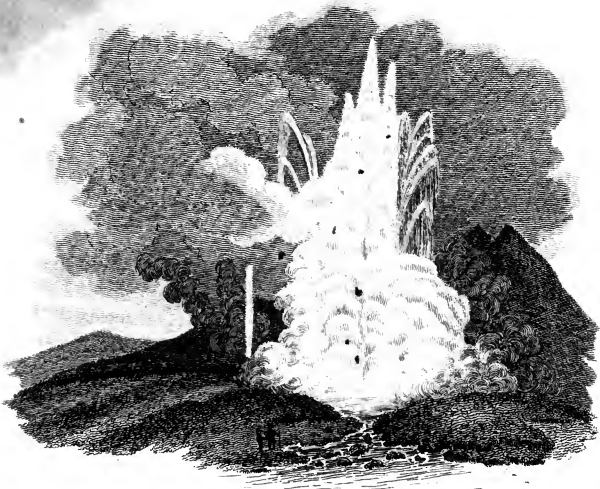
Of these jets they counted twenty in an hour and a half, during which the waters had filled the pipe, and part of the bason. It then seemed oftentimes agitated and boiled with great violence. The jets were more beautiful, and continued longer, as the quantity of water in the bason increased. The resistance being greater, their force was in some degree broken, and their form, more divided, produced a greater display of foam and vapour.

While the pipe was filling, they threw into it several stones of considerable size, and amidst these they rose and fell repeatedly. They were easily distinguished in the white foam, and contributed much to the novelty and beauty of this extraordinary phenomenon.

When the bason was nearly full these occasional eruptions were generally announced by shocks of the ground, similar to those preceding the great eruptions. Immediately after the shocks, the whole body of water heaved exceedingly; a violent ebullition then took place, and large waves spread themselves in circles from the centre, through which the column forced its way.

When the water had been quiet in the bason for some time, the thermometer placed in it stood at 180° only, but immediately after an eruption, it rose to 200° . The party boiled a piece of salmon in it which was exceedingly well tasted.

Geysers in Iceland.



Crater of Vesuvius.



SECTION VI.

MOUNT HEKLA, AND THE SULPHUR MOUNTAIN.

HAVING viewed the wonders of the valley of Rykum and Hankadal, our travellers at length arrived in the plain from which Hekla rises; but they had no view of the mountain as they approached, for it was unfortunately enveloped in thick clouds. Their road lay through lava which had been exposed to view by the blowing of the sand that covers so great an extent of country. Storavellir is situated in the midst of this tract; and round it there is a great deal of excellent grass. The provost had a large stock of hay, which, without any report in his favour as a good moral economist, would have been a sufficient proof of his merit.

On their road as they drew near Hekla, they traversed the river Wester Rangua, the water of which is perfectly transparent, and flows along the foot of the mountain on the west side. The bed of this river is very remarkable, being formed of rugged masses of lava, which is here and there elevated in peaks, and causes a great rapidity in the stream. Owing to the clefts in this lava it is very dangerous to attempt crossing the river at this place, without a guide.

On the end of a long ridge, running nearly north and south, close to the base of Hekla, is a small farm called Naifurbolt. Near this tenement our travellers halted and pitched their tent. The cottager owning this farm was an active intelligent man, and he undertook to be their guide in their expedition to mount Hekla. They rose the day after their arrival at an early hour, and highly delighted at perceiving the mountain free from clouds, began their arduous undertaking. Their route lay through sand and lava for about three miles, when the surface became too rugged and steep for horses. Their guide proposed they should leave the poor animals standing till their return; but though they would not have stirred from the spot, Dr. Walker sent them back not chusing that such valuable and steady servants should remain a whole day without food. They now proceeded a considerable way along the edge of a stream of lava, and then crossed it where it was not very broad, and gained the foot of the south end of the mountain.

From this place they saw several mounts and hollows from which the streams of lava below appeared to have issued.

Their journey had hitherto been attended with little difficulty, but when they arrived at the steepest part of the mountain which was covered with loose slags, they sometimes lost at one step, by the yielding of these loose masses, a space that had been gained by several. In some places they saw black sand collected in heaps, which, had the wind been high, they would have found very troublesome.

Beautiful as was the morning, before they reached the first summit, they were surrounded by clouds, which prevented their seeing beyond the distance of a few yards. Placing, however, implicit confidence in their guide they proceeded, and having attained what they thought was the nearest of the three summits, they sat down to refresh themselves, when their guide informed them, that he had never been higher up the mountain, than the spot on which they then rested. As the clouds divided, they were soon convinced they had not reached even the southern summit; they therefore resumed their labour, and after leaping over some fissures and stepping carefully along masses of slags, that lay over others, they at last arrived at the first peak. Here they were so enveloped in clouds that they began to imagine they should proceed no further, for the peak consists of a very narrow ridge of slags, not more than two feet broad, having a precipice on each side many hundred feet high, and to attempt to move in the dark under such circumstances, would have been the height of presumption.

One of these precipices forms the side of a vast hollow, which seems to have composed a section of the craters. At length, however, the sky cleared gradually and enabled them to discover a ridge below them, that seemed to connect the peak they were on, with the middle one.

“Now you must keep the centre of gravity, Edward,” said the Doctor, “with as much precision as a rope-dancer while we pass this narrow ridge of slags, which appears scarcely wide enough for our feet.”

Having surmounted this difficulty they at length attained the highest point of this celebrated mountain; and the sky having resumed its former brilliancy, they had a full view of the surrounding country. Towards the north it is low except where a jokal here and there towers into the regions of perpetual snow. Several large lakes appear in different places, and among them the Fiske Vata was the most conspicuous. In this direction our travellers saw nearly two

thirds across the island. The middle peak of Hekla forms one side of a hollow, which contains a large mass of snow at the bottom; and is evidently another crater. The whole summit of the mountain is a ridge of slags, and the hollows on each side appear to have been so many different vents, from which the eruptions from time to time have issued.

The fog again returning, they were prevented from examining, to the extent they wished, whether there were any indication that lava had flowed from the upper part of the mountain.

Edward, who was engaged in collecting a few slags, as curiosities for his sisters; having removed some from the surface, in order to get what he thought better specimens, burnt his fingers in attempting to pick up one which he thought particularly valuable. Dr. Walker immediately placed a thermometer among these stones, and it rose suddenly to 144°. It had been remarked to them by several of the inhabitants, that there was less snow on Hekla at that time, than had been observed for many years. The heat therefore which the Doctor had ascertained, he concluded was rather the symptom of reactivity in the mountain, than the remaining effects of the last eruption. The crater, of which the highest peak forms a part, does not much exceed a hundred feet in depth. The bottom is filled by a large mass of snow, in which various caverns have been formed by its partial melting. In these, the snow had become hard and transparent, reflecting a bluish tinge, and their whole appearance was extremely beautiful, reminding our travellers of the description of magic palaces in the eastern isles. Their descent from their elevated situation was greatly retarded by a thick fog; and their task was much more dangerous than in their ascent. They missed their way, and were under the necessity of crossing the lava they had passed in their way up, at a place where it had spread to a much greater breadth; and from the rapidity of the slope along which it had flowed, had become frightfully terrific. "Well, Edward," said Doctor Walker, as they directed their steps towards their temporary home,— "What think you of Mount Hekla?"

EDWARD—"That it is a very wonderful mountain, but not so much so, as Vesuvius or Etna, I should think."

DR. WALKER.—"You are right: it is far behind those two mountains, both in the frequency and magnitude of its

eruptions. Its reputation arises perhaps from being placed in so cold a region, and from the difficulties which must be surmounted before it can be visited.

“Iceland, however, independent of its burning mountains, and boiling springs, possesses yet a greater curiosity. I mean its sulphur mountain, which I intend you shall visit, although it is perhaps more wonderful than beautiful, but it is surrounded by that fascinating attraction—danger.

“You smile, Edward, at that expression, but it is a very just one—that which calls all our powers into action, is danger and difficulty, at least with minds of any sort of tone. There are beings indeed who are content to sit down and exclaim—‘I never can endure it,’—‘I never can attempt such an undertaking,’—but, generally speaking, danger and difficulty enhance the pleasures of life. Have you never observed your cousin George, attempting to imitate you when you were climbing a tree to get him an apple, and if perchance, some one has endeavoured to stop his efforts, has he not burst from them, and exclaimed,—‘Ah, but I’ll try though.’ What a look of exultation has accompanied his animated countenance, when descending in triumph with the apple in his pocket! Was the apple not sweeter, think you, than if it had been given to him? Would you have felt half the pleasurable sensations at the retrospection of your late excursion, if it had been unattended by difficulty or danger? Oh, no. But it is time to retire to rest, and to-morrow we will bend our steps towards the sulphur mountain.”

On the following morning Dr. Walker and his pupil resumed their journey, and upon arriving at the village of Kriswick, three miles distant from the mountain they intended to inspect, they pitched their tent, and rested for that night in the vicinity of this wonderful phenomenon. “Now Sir,” said Edward, gaily, “for our dangerous and pleasurable excursion,” as they started for the sulphur mountain.

At the foot of this mountain was a small bank, composed chiefly of white clay and some sulphur, from all parts of which steam issued. Having ascended a ridge immediately above a deep hollow, from which a profusion of vapour arose, they heard a confused noise of boiling and splashing joined to the roaring of steam, escaping from narrow crevices in the rock. This hollow, together with the whole side of the mountain opposite, as far up as they could see, was covered with sulphur, and chiefly of a white and yellowish colour.

As they walked over this soft and steaming surface, the vapour rose so thick that they frequently could not see each other at a very short distance. The day however being dry and warm, the footing was not so very uncertain as it would have been, had the weather been wet.

Dr. Walker almost repented having brought his pupil to this terrific spot, for the danger in the present instance was so great, as very much to deaden the sensation of pleasure. One of the company suffered extreme pain from having plunged his leg into the hot clay. Wherever the sulphur is removed, steam instantly escapes, and in many places the sulphur was so hot as not to be handled. The sulphureous smell of the steam was mixed with hydrogen gas. When Dr. Walker plunged the thermometer into the clay, it rose gradually to within a few degrees of the boiling point. The guide gave them a particular caution to avoid stepping on the smallest hole from whence steam issued; indeed he was provided with planks, which were laid over from bank to bank, and greatly facilitated the peregrinations of our travellers.— At the bottom of this hollow they found a cauldron of boiling mud, about fifteen feet in diameter; they approached within a few yards of it, the wind blowing the steam to the opposite side. The mud was in constant agitation, and often thrown up to the height of five or six, or even eight feet. Near this spot was an irregular space filled with water boiling briskly, and at the foot of the hill, is a cavity formed by a bank of clay and sulphur, from whence steam rushes with a great force and hideous noise from among the fragments of the rock.

As they ascended the mountain they met with a spring of cold water. "This is indeed a place of wonders," exclaimed Edward. "Who would have thought of meeting with cold water in such a place as this, which is a fit habitation for a fire king only."

The higher they ascended the thicker they found the sulphur; it was from one to several inches in thickness. The crust was beautifully crystalised, and immediately beneath it they found a quantity of loose granular sulphur, which appeared to be collecting and crystalising as it was sublimed along with the steam. Sometimes they met with clay of various colours, white, red, and blue, under this crust; but they could not examine this place, as the moment the crust

was removed, steam came forth, and was exceedingly annoying.

Below the ridge, on the further side of this vast great bed of sulphur, they saw a great deal of vapour escaping with much noise. Having crossed to the opposite side of the mountain, they found the surface sufficiently firm to permit their walking cautiously upon it. They had not, however, as yet, visited the principal *spring*, as it is called, and this was a task of much apparent danger, as the side of the mountain in which it lies for nearly half a mile, is covered with loose clay, into which their feet sunk at every step. In many places there was only a very thin crust, below which the clay was wet and very hot. At a small distance, a dense column of steam mixed with a little water, was forcing its way impetuously through a crevice in the rock at the head of a narrow valley, or break in the mountain. The violence with which it rushes out is so great, that the noise it produces is sometimes heard at several miles distance. Behind this column of vapour is a dark-coloured rock, which forms an advantageous back-ground to this wonderful scene.

But it is quite beyond the power of words to convey any adequate idea of the wonders and terrors of this extraordinary place. The sensations of a person, even of firm nerves, standing on a support which but feebly sustains him, over an abyss where literally fire and brimstone are in incessant action; having before his eyes tremendous proofs of what is going on beneath him; enveloped in thick vapours; his ears stunned with thundering noises; all these terrifying and awful phenomena united, must be experienced to be understood. Our young traveller, Edward, may therefore be excused at rejoicing most heartily when he once more gained the firm ground; nor was the Doctor less pleased when he again entered their tent, free from harm.

SECTION VII.

VOYAGE BACK TO SCOTLAND—THE TIDES AND SALTNESS OF THE SEA.

OUR travellers having thus gratified their curiosity, in seeing the most remarkable phenomena of Iceland, re-embarked for Scotland. "Pray Sir," said Edward, as they sat one

evening upon deck, "how is the saltness of the sea accounted for?"

DR. WALKER.—"Why this is a subject which has been variously discussed, and I will give you some of the different opinions upon the subject. There are persons who suppose that this saltness arises from great beds of salt lying at the bottom of the sea. But others more rationally suppose it is owing to the following cause. Salt is one of the original principles of nature, and is mixed, in greater or less quantities, with most other bodies. Now all rivers run into the sea, and carry some salt with them; but no rivers run out of it, nor is any water taken from it, except by exhalation or evaporation. But chemists have demonstrably proved, that no salt can ascend in either of these ways; and, consequently, all the salt carried into the sea, by the immense numbers of rivers that run into it, remains behind, and occasions its saltness.

"That no salt ascends from the sea, either by exhalation or evaporation, is evident from this, that rain-water, which falls from the clouds, and which was originally exhaled from the sea, is, of all kinds of water, the sweetest, purest, and lightest, and is made the *standard* by which philosophers judge of all other waters."

"I think the last conclusion most satisfactory," replied Edward, "and now Sir, if you will not think me very troublesome, will you have the goodness to explain the nature and cause of the tides of the sea."

DR. WALKER.—"Most willingly. As rivers flow and swell, so also does the sea. Like them it has its currents, which agitate its waters, and preserve them from putrefaction. That regular motion of the sea, according to which it ebbs and flows twice in about twenty-four hours, is called its *tides*.

"In its flux, the sea generally rises for about six hours, when it remains, as it were, suspended, and in equilibrio, for some minutes. At that time it is called *high water*.

"In its reflux, the sea falls for about six hours, when it remains, as it were, in a like manner, suspended, and in equilibrio, for some minutes. At that time it is called *low water*.

"We are told that Aristotle, despairing to discover the true cause of these wonderful appearances, had the folly, in spite of his philosophy, to throw himself headlong into the sea.

“ The *tides* are occasioned by the *attraction* of the *moon*. This doctrine remained in obscurity, till Newton explained it by his great principle of gravity or attraction.

“ The tides are greatest at the new and full moons, and are thence called spring tides, and least at the first and last quadratures, and are thence called neap tides, and the highest tides are near the time of the equinoxes.

“ When the moon is in conjunction or opposition with the sun, as the tides, which each endeavours to raise are in the same place ; whereas, when the moon is in the first or last quarter, the sun being in the meridian when the moon is in the horizon, depresses the water where the moon raises it ; whence the tides are then the least of all. On the full and new moons, which happen about the equinoxes, when the luminaries are both in the equator or near it, the tides are the greatest ; for example, the two eminences of water are at the greatest distance from the poles, and hence the difference between ebb and flood tide is more sensible ; for if those eminences were at the poles, it is obvious we should not perceive any tide at all : again, if the equatorial diameter of the earth be produced, it passes through the moon, which diameter is longer than any other, and, consequently, there is a greater disproportion between the distances of the zenith, centre, and nadir, from the centre of gravity of the earth and moon, in this situation, than in any other ; finally, the water rising higher in the open seas, rushes to the shores with greater force, where being stopped, it rises higher still ; for it not only rises at the shores in proportion to the height to which it rises in the open seas, but also according to the velocity with which it flows from thence against the shore. The spring tides, which happen a little before the vernal and after the autumnal equinox, are the greatest of all, because the sun is nearer the earth in the winter than in the summer.

“ When the moon is in the northern hemisphere, it produces a greater tide while it is in the meridian above the horizon, than when it is in the meridian below it ; when in the southern hemisphere, the reverse is the case.

“ For the like reason, when the moon is in the southern signs, the greatest tides on the other side of the equator will be when it is below our horizon, and the least tides when it is above it.

“ These things would happen uniformly, were the whole surface of the earth covered with water ; but since there is a

a multitude of islands and two vast continents, which interrupt the natural course of the water, a variety of appearances are to be met with in different places, which cannot be explained, without regarding the situation of shores, shoals, and other objects, which contribute in producing those appearances.

“ There are frequently streams or currents in the ocean, which set ships a great way beyond their intended course. There is a current between Florida and the Bahama islands, which always run from north to south. A current runs constantly from the Atlantic, through the straits of Gibraltar, into the Mediterranean. A current sets out of the Baltic sea, through the sound or strait between Sweden and Denmark, into the German ocean ; so that there are no tides in the Baltic.

“ About small islands and head-lands in the middle of the ocean, the tides rise very little ; but in some bays, and about the mouths of rivers, they rise from twelve to fifty feet.

“ Perhaps it may be said, that as a current constantly runs from the Atlantic into the Mediterranean, the waters of that sea ought to increase. By no means. The water extracted from it in vapours, is more than sufficient to counterbalance the influx. It has been found by calculation, that in a summer’s day, there may be raised in vapours, from the Mediterranean, 5280 millions of tuns of water. Yet this sea does not receive, from all its nine great rivers, above 1827 millions of tuns per day, which is but one third of what is exhausted in vapours ; so that, were it not for the influx from the Atlantic, the Mediterranean would soon be rendered dry.

“ The tides flow from east to west, for they must necessarily follow the moon’s motion, which is from east to west.

“ The course of the tides, however, is sometimes interrupted by continents, and other large tracts of land. The tide, for instance, in the Indian ocean, being stopped by the eastern coast of Africa, must necessarily flow south, towards the Cape of Good Hope, which having passed, it then runs northward along the Western coast of Africa, to that of Spain, Portugal, and France, till it enters the English channel ; there meeting the tide from the German ocean, running a contrary way, it is necessarily stopped, and produces a very great swell of water.

“ These two tides, thus flowing in opposite directions, and meeting a little irregularly, have sometimes occasioned two

tides, the one immediately after the other, in the river Thames, which, though proceeding from a natural cause, and consequently very easy to be explained, has been looked upon as a prodigy.

“So much for the tides, Edward. Now I dare say, although you were inquisitive as to the saltness of the sea, you never reflected upon another of its properties. I mean its *fluidity*. How would you describe a fluid?”

EDWARD.—“Why I do not exactly know; but I think I should define it as something which always eluded my grasp.”

DR. WALKER.—“That is no bad definition. A fluid is scientifically defined to be a body whose parts yield to any impression, and in yielding, are easily moved amongst each other.

“Fluids are of two kinds: non-elastic and incompressible fluids, such as water, oil, mercury, &c.; and elastic and compressible fluids, as air of different sorts.

“The cause of fluidity is not perfectly known. Some are of opinion, that the particles of fluids are spherical, and in consequence of their touching each other, in few points only, cohere very slightly, and easily slip or slide over each other. But that the particles of fluids are of the same nature or figure as those of solids, seems probable from the very frequent conversion of the one into the other. Some have not thought it rational to suppose, that the particles of gold, lead, glass, &c. when in fusion, are rendered spherical by the action of the fire, but the sparks of steel, when struck with a flint, if caught on a piece of white paper, and examined with a microscope, will be found spherules, which could only result from their having been in a state of fusion. The original cause of fluidity may not, after all, consist in the figure of the particles, but simply in their want of cohesion.

“If the particles of a body cohere strongly together, it is evident that they will not easily move amongst each other. An imperfect cohesion must, therefore, be one of the properties of a fluid mass.

“Modern philosophers suppose, that a certain portion of heat combined in some way or other with bodies, occasions fluidity, and that the relative proportions of heat contained in fluids and solids, is the cause of the difference between them.

“It is from the imperfect cohesion of fluids, that, when in

small quantities, they arrange themselves in a spherical manner, and form drops.

“ This, I believe, is the sum of all that has been said upon this subject, and the sum total of all I shall say to-night, for I am rather inclined to be weary.”

CHAPTER VI.

SCOTLAND.

SECTION I.

THE NORTH OF SCOTLAND.

OUR travellers had a very pleasant voyage until they came off the coast of Scotland, when a strong east wind setting in, with a heavy swell of the sea, the captain was glad to take shelter in the frith of Cromarty, the most safe, extensive, and commodious bay or harbour of Scotland, and one of the finest in Europe, perhaps in the world. This truly excellent but much neglected harbour, the *Portus Salutis* of the Romans, is about twenty two miles in length, and in some parts four in breadth; the entrance is narrow and bold, being formed by two huge lofty rocks, which project into the sea, till they approach within a mile of each other, and therefore defend this fine bay completely from winds and storms. These rocky promontories, or islands, thus approaching each other, and being very nearly alike in form, are called by the natives, the *Sooters of Cromarty*, meaning the woovers. Such in fact is the vast extent of sea room in this bay, and such its length, breadth, and depth, that almost the whole of the British navy might ride with safety within it; besides which the anchorage ground for many miles up is so smooth, and so perfectly desirable, that were a vessel even driven from her cable, little or no damage would be incurred.

Dr. Walker resolved, now that they were so near Loch Ness, to take a survey of that lake; and on their road visited Inverness, where there is a manufactory of ropes and canvass. Having partly dined on some of the celebrated salmon caught in the river Ness, they strolled to Craig

Phadraig, a *vitriified* fort, as it is called; the stones composing its walls, have every appearance of having been partly melted by fire. "Are we far from Forres, Sir," said Edward, as they returned to Inverness, "Shakspeare has almost made that classic ground?"

"Too far for us to visit it just now," replied the Doctor. "But you will have nothing to regret, for it is picturesque only in the 'mind's eye,' to apply a quotation from the poet who threw a charm round every thing he touched. Forres has at present but little to boast of. It has indeed a remarkable column in its neighbourhood, said to have been erected to commemorate the expulsion of the Danes in the reign of Malcolm II. about the year 1008.

EDWARD.—"Did you ever see it, Sir?"

DR. WALKER.—"No: I never did; but I understand it is rather a curiosity. It is twenty-five feet in height, and three in breadth, and is covered to the top with figures on horseback.

"And now for Loch Ness.

"The great curiosity of Loch Ness is, that it never freezes; the river of the same name into which it discharges itself, is six miles in length; no ice is ever seen upon it, but it smokes in frosty weather. About seventeen miles, perhaps more from this place, is a lake called Lochan Wyn, or Green Lake, which is always covered with ice, winter and summer. "I cannot account," said Dr. Walker, "for this last phenomenon; now the number of springs and fountains in Loch Ness, may prevent its waters freezing. This lake has been sounded in many parts with a line of 500 fathoms, but no bottom found."

"Loch Ness is surrounded by rocks and woods, and is particularly wild and romantic. On the north side stands the remains of the famous castle of Urquart, seated on a rock and surrounded by a great ditch, which was formerly supplied with water from the lake.

"I suppose you ken why 'tis called Loch Ness," said their guide? "No, indeed," replied the Doctor, "I do not." "Why then I'll tell ye," rejoined the Highlander. "Nisus, an Irish Chief, wi his wife Donadilla, settled a colony on Stratharig, and yon promontory, where he took up his residence is to this day called Down Dearmill. He being the first man who ever launched a boat upon the loch. It was called Loch Nisus after him, and so in time it was changed to Loch Ness."

“Thank you my good friend,” said Dr. Walker. “Can you tell us the name of that high mountain in the distance?”

GUIDE.—“Meal-fuor-voury. It is about four miles west of the castle, and it is said to be two miles perpendicular from the lake. On the top of it is a lake of cold fresh water, about thirty fathoms in length, and six broad. No stream runs to or from it, and it has never yet been fathomed. 'Tis always full, and never freezes.”

Having gratified their curiosity with the picturesque scenery in its environs, they continued their journey, and passing over the beautiful bridge which crosses the Fyers, they proceeded to the stupendous falls of that river. “What a beautiful object is that bridge,” observed Edward, as they caught a view of it in one of the windings of the road. “How high is it, Sir? It appears to hang in the air.”

DR. WALKER.—“It is 100 feet above the level of the water, and its being composed but of one arch, and uniting those two enormous rocks, it has indeed a surprising as well as beautiful effect.”

SECTION II.

EDINBURGH.

“WE must not,” said Dr. Walker, “stay much longer in Scotland; for really Edward some months have elapsed since we left Dublin, and here we are still in the British Isles. Edinburgh must be the next and last place, that must detain us on this side of the Tweed.”

On their road to the capital of Scotland, they did but stop to take a view of the interesting Loch Leven, where the unfortunate Mary Queen of Scots, was confined in a castle on a small island in the middle of the lake. It was night when our travellers entered Edinburgh, and Edward was up early the next morning, being anxious to view a city of which he had heard a great deal during his travels in Scotland. The first place our travellers visited was the castle. Having crossed the High-street, they entered the parade which is 350 feet in length and 300 in breadth, and divides the castle from the town. Having passed the draw-bridge, they mounted the

rock by the winding path which leads to its summit, and which is defended at an angle where the road turns towards the west by a battery mounted with twelve and eighteen pounders, which point to the north-west; indeed these formidable engines of war, face you very generally on all sides. Here are the guard and store-houses. Further on, the declivity of the hill is occupied by the powder-magazine (which is bomb-proof) houses for the governor and other officers, and the new barracks. The area of the castle is occupied by a chapel, and on the east side stand the apartments formerly occupied by royalty. In the south-east angle of the square, is shewn an apartment in which James VI. was born. A small aperture is pointed out as communicating through a long passage to the grass market. When Mary was near her confinement, a string, to which a bell was fastened, was conveyed through this passage, which was to have announced to the Roman Catholic friends of the Scottish queen, the birth of her child, in order that they might convey it away to be educated in the faith of its mother. In an apartment of this part of the castle, the regalia of Scotland is preserved. In the year 1818, the Prince Regent granted a commission to some of the principal inhabitants of the city, empowering them to break open the room in which they were deposited, and ascertain whether they were there or not, as many reports had spread abroad that they had been secretly removed. They were however found in a high state of preservation, and were replaced in the chest which had contained them.

The castle not only overlooks the city, its environs, gardens, the new town, and a fine rich neighbouring country, but commands a most extensive prospect of the river Forth, the shipping, the opposite coast of Fife, and even some hills at the distance of 40 or 50 miles, which border upon the Highlands.

“The castle,” said Doctor Walker, as they descended its serpentine road, “was deemed impregnable before the use of artillery. It was probably built by the Saxon king, Edwin, whose territories reached to the Frith of Forth, and who gave his name to Edinburgh, as it certainly did not fall into the hands of the Scots, till the reign of Indulphus, who lived in the year 953.

“The town was built for the benefit of protection from the castle, and a more inconvenient situation for a capital can

scarcely be conceived, though few excel it in point of beauty. The High-street is on the ridge of a hill, lying east and west, and on each side of it are lanes or streets running down towards it from the north and from the south. It is full a mile long, is broad and well paved, and the houses being lofty and of hewn stone, it has certainly an imposing appearance; it is built on a rising ground, and gradually ascends from the Holyrood House, until it reaches the base of the rock on which the castle is placed, and which is inaccessible on all sides, but one. When Mary landed, the French who accompanied her, called it *Lislebourg*, from its being surrounded on all sides but one with water.

From the castle they proceeded to Holyrood House, the inner quadrangle of which was planned by Sir Robert Bruce, and built under his immediate direction in the reign of Charles I. It is very magnificent, and of modern architecture, round this quadrangle runs an arcade, adorned with pilasters; and the interior contains a superb suite of apartments for the Duke of Hamilton, who is hereditary keeper of the palace, and for other noblemen. Its long gallery contains portraits of all the kings of Scotland, down to the time of the revolution; the greater part of them are copies by modern artists. James VII. when Duke of York, intended to have made considerable improvements in and about this palace, and truly it stands much in need of them, for at present nothing can be more uncomfortable than its situation; at the bottom of bleak and craggy mountains, without a single tree near it to enliven or vary the scene. At the time of the revolution the fury of the lawless mob, destroyed the beautiful chapel which James had built; it is said to have been a most perfect specimen of gothic architecture. During this time of confusion, the rabble penetrated into the silent and sacred repositories of the dead, where they exposed to view a vault which had been hitherto undiscovered, and in which were found the bodies of James V. and his first queen, and that of Henry Darnley.

Heriot's hospital next attracted their attention. It is built on a rising ground to the south-east of the castle. It is of a quadrangular form, the sides being 40 feet square. It is of the gothic order, and its angles are mounted by turrets. The arms of the founder, George Heriot, goldsmith to James VI. are placed over the north gateway; and in the centre of the quadrangle stands his statue in the costume of

his age. "We must not omit taking a view of Hume's monument," said Dr. W. to his pupil. "It was erected to his memory."

"This monument stands on the south-west end of the Calton-hill, it is of a circular form, and of Grecian architecture. The roof is concealed by the top of the wall, which is enriched by a Doric entablature. You have read his History of England," continued the Doctor.

The new town of Edinburgh is united to the old town by a handsome bridge, called the North-bridge. The houses erected on the side of the North bridge, though in themselves elegant and highly ornamented buildings, greatly obstruct several of the finest views, both from the old and new town. So much is it in the power of a few wealthy individuals to mar the better taste and judgment of the more judicious and patriotic part of the community. A considerable degree of sensation was excited upon the building of these houses, and a most respectable and numerous meeting of gentlemen protested against it, but all in vain. Some of these houses are four stories high.

Having visited the romantic environs of this city, as well as its principal public buildings, Dr. Walker began to make preparations for their journey, and early next morning they commenced their route. On their way to Glasgow, they were very much gratified by the view of the aqueduct bridge over the Kelvin. "And now," said Doctor Walker, as they resumed their seat in the carriage, "as this canal is the principal one in Scotland, and connects the Frith of Forth and Clyde, I will describe its course.

"Its length is 35 miles, beginning at the mouth of the Carron, and ending at Dalmuir-Burnfoot on the Clyde, about six miles below Glasgow. It admits vessels drawing eight feet water.

"This canal was begun in 1768, under that celebrated engineer, Mr. Smeaton. It was attended with great difficulties. In its course there are several aqueduct bridges: that over the great road, to the west of Falkirk, is a very fine one; and that we have just seen over the Kelvin, is considered one of the finest pieces of workmanship in the world. It is built on the solid rock, and consists of four arches, carrying the canal over a valley 65 feet high, and 420 feet long.

"There is another canal now constructing at the ex-

pense of Gōvernment, called the Caledonian Canal, to open a communication between the Murray Frith and the Western Sea. It proceeds along a line of lakes from Inverness, by Fort Augustus and Fort William : length about 80 miles.

“ The plan of this canal, executed for the Houses of Parliament, is a very fine piece of topographical delineation. And now we will briefly skim over whatever is most remarkable in the geōgraphy of Scotland ; beginning with the surface and climate, as contrasted with that of England.”

SECTION III.

GENERAL SURVEY OF SCOTLAND.

IN Scotland are more lakes, more streams, a coast more indented ; more rain and more mountains, especially in the north ; the air is colder, the soil not so rich, and the harvests are later ; neither is it decorated with so luxuriant a variety of woods and hedges, nor a surface so susceptible of cultivation as that of England. The Grampian chain of mountains extends from Loch Lomond to the north-west of Aberdeenshire. The Ochill hills run through the county of Clackmannan, the south of Perth, and the north of Fife. Scotland is 260 miles in length, by about 160 miles at its greatest breadth ; it extends from the 55th degree of north latitude, to more than $58\frac{1}{2}$ degrees north.

The superficial contents of Scotland have been computed at 27,793 square miles, a little exceeding that of Ireland, and considerably more than half that of England. The population being estimated at 1,600,000 souls, there will, of course, be only 57 inhabitants for every square mile. Scotland is divided into 33 counties, which, according to their situations, Geographers have arranged in three divisions.

Scotland abounds in coals, iron, lead, fuller's earth, and potter's clay, in Stirling, Lanark, Fife, Edinburgh, and the adjoining counties. Antimony in Dumfriesshire. Iron, lead, copper, silver, and fine cobalt, in the Ochill hills ; the Grampian mountains produce fine rock crystal, granite, serpentine, and steatites ; and the Hebrides most beautiful marble.

The minerals in the city and vicinity of Edinburgh are, trapp, porphyry, whinstone, basalt, felspar, sandstone, breccia.—Zeolite, tremolite, prehnite, radiated hematites, steatite, green fibrous iron-ore, clay iron-stone approaching to ruddle.—Masses of heavy spar (sulphate of baryt,) amethystine, quartz crystal. Upon Leith shores are nodules of agate, cornelian, calcedony, and occasionally masses of chlorite, imbedded in quartz. St. Catherine's well, about three miles southward, is constantly covered with a scum of naphtha or petroleum.

It produces in the north, cows, sheep, and horses which are small, but very numerous; on the Clyde the horses are large and valuable; Ayreshire furnishes most of the fine greys that give name to a celebrated Scotch regiment of Dragoons. Timber is plentiful in the Highlands, fish abundant in the Orkney and Western Seas.

Its chief ports, in the east, are Dunbar, Leith, Perth, Dundee, Montrose, Aberdeen, Inverness, and Dornoch.—Thurso, in the north.—In the west are Portpatrick, Ayr, Irvine, Greenock, and Glasgow.—In the south are Wigton, Kirkcudbright, and Dumfries.

Scotland has four Universities, Edinburgh, Glasgow, Aberdeen, and St. Andrew's.

Its principal Islands we have seen, but we will just mention them in order to make our geography of this country complete. Bute and Arran, are two beautiful islands, which adorn the Frith of Clyde; and west of the peninsula of Cantyre begin the Hebrides, the principal of which are Hay, Jura, Mull, Tiree, Col, Sky, and Lewis. The Orkney Isles are separated from the continent by a strait called the Pentland Frith. Of these the inhabited isles are about 26 in number: the chief is Mainland, frequently called Pomona. Kirkwall and Stromness are the principal towns. The Shetland isles are to the north of the Orkneys: they are 46 in number, 26 of which are said to be inhabited. Mainland is the largest. The principal town is Larwick.

The principal Scottish Lakes and Friths are Loch Ness, Loch Lochy, Loch Lomond, Loch Tay, and Loch Awe; and those arms of the sea, called Friths, are the Frith of Dornoch, the Murray Frith, the Frith of Tay, and the Frith of Forth, on the east; the Solway Frith, on the south; the Frith of Clyde, and Loch Fyn, with several other inlets, on the west.

SECTION IV.

GLASGOW AND THE FALLS OF CLYDE.

AFTER a delightful journey through a beautiful and romantic country, they reached Glasgow, which is situated on a gentle declivity, sloping towards the river Clyde, 44 miles west of Edinburgh. Glasgow is the second city of Scotland, and, considering its size, not inferior to any in Great Britain as to elegance, regularity, and the beautiful materials of its buildings. The streets cross each other at right angles, and are broad, straight, well paved and consequently clean. The houses have a grand appearance from their height, for they are generally four or five stories high, and many of them towards the centre of the city are supported by arcades, which give the whole an air of magnificence. The first cotton mill set up in Scotland was in this city, and the second was in the small isle of Bute.

“ We will to-morrow get on to Lanark,” said Dr. Walker, “ for our stay in Scotland has already exceeded my intentions.” Upon arriving at Lanark, they went to visit its cotton manufactory, and from thence to take a view of the celebrated falls of the Clyde, which are near that town. The most distant falls are about half an hour’s ride from the town, at a place called Cory-Lin, and are seen to most advantage from a ruinous pavilion, in a neighbouring garden, placed in a lofty situation. The cataract is full in view, seen over the tops of trees and bushes, precipitating itself for an amazing way from rock to rock, with short interruptions, forming a rude slope of furious foam. The sides are bounded by vast rocks, fringed with wood. On the summit and very verge of one is a ruined tower.

Our travellers now followed a winding path, which led them to the beginning of the fall, into which projects a high rock, and here they had a full view of the rushing torrent. In the cliffs of this wild retreat, the brave Wallace is said to have concealed himself, when meditating revenge for his injured country. Having remounted the rock they pursued their walk along the edge of the precipice, about half a mile, when the grand fall of Boniton, in one vast foaming sheet, presented itself. Further on, there is another great fall,

which is succeeded by two smaller ones. Beyond them the river widens, grows more tranquil, and is seen for a considerable distance, bounded on one side by wood-crowned heights, and on the other by rich and swelling fields.

The county of Lanark is in the northern parts hilly, and fit for pasture; while those on the south of the Clyde are level, and produce excellent corn. It abounds with coal and lime-stone; has some lead mines, and quarries of lapis lazuli. As our travellers continued their route through Dumfries, the country became more mountainous, and its capital of the same name is surrounded, at the distance of a few miles, by one continued chain of hills, forming altogether one of the grandest natural amphitheatres in Britain. Dumfries is a well built town, and carries on some trade with the Baltic. Lochmaben was the next town they visited,—and from thence they continued their journey to Moffat, in the neighbourhood of which are some celebrated medicinal springs. These springs are situated on the brow of a precipice, surrounded on all sides by high mountains. A vein of spar runs for several miles on this range of hills, and forms the bottom of the wells. This spar is of a greyish colour, interspersed with large and glittering particles of a golden hue. The lofty mountain of Hartfield is in their vicinity, by some supposed to be the second in height in Scotland. Pursuing their romantic route, they at length arrived at Peebles, a town of no great importance, where they only staid to change horses, and from thence directing their course to the south-east, they paid a visit to Melrose Abbey. There is still enough left of this once superb building, magnificent even in ruins, to convince the spectator that it formerly ranked among the first monastic establishments in Scotland. You remember Walter Scott's lines upon this abbey:

“ If thou wouldst view fair Melrose aright
Go visit it by the pale moonlight;
For the gay beams of lightsome day
Gild, but to flout the ruins grey.
When the broken arches are black in night,
And each shafted oriel glimmers white;
When buttress and buttress alternately,
Seemed formed of ebon and ivory;
When silver edges the imagery,
And the scrolls that teach thee to live or die;

When distant Tweed is heard to rave,
 And the owlet hoots o'er the dead man's grave ;
 Then go—but go alone, the while,
 Then view St. David's ruined pile,
 And home returning soothly swear,
 Was never scene so sad and fair !”

“ Yes,” replied Edward, “ and I think, Sir, if you would stay but half an hour longer we might have the pleasure he describes ; for the moon is up, and the sun is fast declining.”

“ Agreed,” said the Doctor, “ though I very much doubt whether any view we can have of it, will exceed the present beauty, glowing as it now is with the rich colouring of a Claude.”

As, however, the warm evening tints gave place to the cold silvery hue of the moon beams, Dr. Walker confessed the Poet was right. “ Melrose must be visited by ‘ the pale moonlight,’ ” said he, as they paced the choir, “ for in good truth, never saw I scene so fair.” They were interrupted in their musings by the driver reminding them they had still some miles to go that night, and that therefore it would be necessary they should set out. Our travellers reluctantly quitted the lovely scene, and wrapt in that pleasing melancholy which is always produced by the contemplation of monastic ruins, they continued their journey in silence till they arrived at Lauder, and the next day they passed through Dalkeith, on their road to Leith, from whence they were to embark for the Baltic.

SECTION V.

THE PRINCIPAL TOWNS OF SCOTLAND.

THE evening previous to their departure, Dr. Walker gave Edward a short account of the chief towns of Scotland, some of which they had not visited. “ I shall begin with the part we are now at, Edward,” said the Doctor.

“ Leith, situated about two miles to the north, is now nearly connected with Edinburgh : the principal exports to Germany, Holland, and the Baltic, are lead, glass-ware, linen and woollen stuffs, whence it im-

ports timber, oak bark, hides, linen-rags, ashes, flax, hemp and tar. It also shares in the West India trade, and sends ships to the Greenland whale fishery.

“ We have also visited the beautiful city of Glasgow, which is said to rival Manchester in the fabrication of cotton goods, of which it manufactures to the value of 2,000,000*l.* annually ; its other great branches are glass-ware, pottery, printing types, and cudbear. In the university, natural philosophy, chemistry, and the mathematics are its principal subjects. The environs produce plenty of coal, good free-stone, and brick clay. The Clyde and Great Canal confer on it all the advantages of a port and an inland town ; it may be considered as the emporium of Scotland.

“ Paisley which is another town of importance, seven miles west of Glasgow ; is a handsome thriving town, and has gradually risen to importance since the union. It manufactures checked linen, thread, lawns, silk, gauze, and muslin ; its fancy muslin is said to be unequalled. Here are also considerable tanneries, soap-works, and manufactories of ribbands, inkles, &c. It has a populous neighbourhood, with numerous cotton-mills, print-fields, and bleaching-grounds, and its local advantages are great, consisting of good water-carriage, an abundance of coal, lime-stone, free-stone, and coarse granite.

“ The chief manufactures of Dundee, which stands on the Frith of Tay, are glass, linen, sail-cloth, cordage, buckram, thread, and leather.

“ Next comes Aberdeen, which is chiefly situated between the Dee and Don. It is handsome, well built, and for trade and extent is said to be the third in Scotland. Its manufacture of stockings, thread, cottons, sail cloth, and veils, is extensive. The rivers yield an abundance of salmon, and the vicinity good quarries of lime-stone and granite.

“ Greenock, comparatively a new town, is much resorted to by shipping, for which it has suitable manufactures, it participates largely in the herring fishery, of which upwards of 45 thousand barrels have been cured and exported in a season.

“ Perth is an increasing well-built town, pleasantly situated on the Tay, which admits vessels of 200 tons. The bridge, a fine specimen of modern architecture, is 500 yards in length, and of great importance, being the principal tho-

roughfare between the north and south of Scotland. It manufactures linens, cottons, and gloves. The adjacent country is fertile; the rented fisheries amount to 7000*l.* yearly.

“ Inverness, the capital of the Highlands, is increasing and populous, has an excellent salmon fishery, a bridge of seven arches over the Ness, a good harbour, and a moderate foreign trade: it is also the chief market to a wide tract of the surrounding country. Manufactures ropes, linen, canvas, and cottons. An academy, on an extensive scale, has lately been erected. The minerals of this district are limestone, marble, iron-ore, and rock-crystal.

“ Montrose, on the Esk, is neat, healthy, and has a fine harbour, a good foreign trade, and valuable salmon fisheries, both in the North and South Esk. And there is a chalybeate spring, nearly equal in quality to that of Harrowgate. Its manufactures are canvas, linen, thread; and here it makes a great quantity of malt.

“ Campbeltown has a considerable trade: here the fishing vessels rendezvous that annually visit the Western Isles.

“ Stirling, south of the Frith of Forth, is situated on a hill which terminates abruptly in a steep rock. It enjoys a very extensive prospect, and it boasts of an ancient castle, in which the kings of Scotland often resided. The manufactures of this town are carpets, woollens, and tartans. On the banks of the Carron, in the south of the county of Stirling, is the largest iron foundry in Europe; upwards of 1000 men being constantly employed in it.

“ Falkirk is chiefly supported by the fairs; which are held thrice a-year, for Highland cattle, of which above 45,000 are annually disposed of: the greater part of them is sent to England.

“ St. Andrew's, formerly the metropolis of the Pictish kingdom, has an elevated situation, and commands a fine view of the British ocean. The cathedral, a large Gothic structure, founded in 1161, was 157 years in building; but was so demolished in one single day by the rude fanaticism of John Knox and his adherents, that little of it now remains. The university contains two colleges.”

CHAPTER VII.

VOYAGE TO NORWAY.

SECTION I.

STORM AT SEA.

OUR Travellers had been at sea but three days when they were overtaken by a storm, which drove them on the coast of Norway. The preceding evening had been remarkably calm and oppressive, and the vessel lay-to for some hours. About midnight a brisk wind arose, which rapidly became what the sailors call a stiff breeze. Towards morning the thunder muttered in the distance, and every symptom of an approaching storm became very evident. Our travellers were, at their earnest entreaty, allowed to be on deck, where they had not been long, before Doctor Walker directed the attention of the captain to an extraordinary large ball of blue fire, which appeared to the windward of the vessel, rolling on the surface of the water, at about three miles distant from them. The captain viewed with dismay this portentous ball, which came down upon them so fast, that before they could raise the main tack they observed the ball to rise almost perpendicularly, and not above 40 or 50 yards from the main chains: it went off with an explosion as if hundreds of cannon had been fired at once; and left so great a smell of sulphur that the ship appeared to be loaded with that mineral. After the noise was over, which did not last half a second, they found the main-top-mast shattered into above a hundred pieces, and the main-mast rent quite down to the keel. There were some of the spikes, that nailed the fish of the main-mast, drawn with such force out of the mast, that they stuck so firmly in the deck, that the carpenter was obliged to extract them with an iron crow; five men were knocked down, and one of them greatly burnt by the explosion, and one other was killed. To our travellers the whole of this scene appeared so new, so terrific, and so awful, that their feelings amounted almost to agony. The poor fellow who had been killed by the explosion of the fatal ball, was hastily committed to the silent deep, with "maimed rights,"

For the danger became every moment more pressing, and towards night it blew a tremendous hurricane. A difference between the steersman and the master of the vessel added not a little to the dismay which began to evince itself in the weather-beaten countenances of his crew. The captain desired they might tack and make for some of the British ports. The steersman pointing to the compass, declared they were then sailing direct for the northern coast of Great Britain. Capt. Welch did not deny but that the steersman was right as far as related to the compass; but he could not account for a circumstance which appeared in direct opposition to his own observation with regard to the movements of the vessel.

“How terrific but how sublime, is the scene before us,” said the Doctor, as they gazed with fearful delight on the stormy ocean powdered with foam, while its fierce wave crested with fire, now heaved the vessel mountains high, now plunged her in the yawning gulf below, till impelled by a succeeding billow, again she rose, and then again rushed down from its precipitous height.

As the storm increased every moment, the captain entreated Dr. Walker, and his pupil, would withdraw to their cabins, whither they unwillingly retired. Colin remained on deck. In the short pauses which elapsed between the peals of thunder and the howling of the blast, the master's voice was indistinctly heard, and added considerably to the melancholy feelings of the travellers. The heavy roll of the vessel prevented them from keeping their seats; they were obliged to lie down in their hammocks. A tremendous clap of thunder, and a frightful crash on the deck, was followed by an awful, but momentary, calm, and they both sprang from their position, just time enough to make their escape; for the cabins on one side of the steerage, were all driven in by the lightning striking between the decks. The vessel now became unmanageable; in the course of ten or fifteen minutes, there was four feet water in the hold; and one of the pumps was so choaked, as to be unfit for action. All idea of saving the vessel was now hopeless, and instead of approaching land, they appeared, from their last sounding, to be far from any haven; having therefore collected a little fresh water, and a small quantity of provisions, which they put on-board the boats, they quitted the vessel, and committed themselves to the boisterous deep, without knowing which way to guide their fragile barks. Soon after they left the ves-

sel, they saw her pitch on her boom's end; and then suddenly recovering herself, she regained her equilibrium, and in a few moments she gradually sunk to the bottom: the sensations of the anxious sailors, as almost breathless they watched her majestic disappearance, may be conceived, but cannot be described. Towards evening the weather became a little more temperate, and as night came on, they could discover a star or two twinkling occasionally through the gloomy sky. About midnight the clouds began to disperse, and the captain then observed, from the position of the stars, that they were steering towards the north-east, instead of the south-west. This discovery caused an unusual sensation among the people, and a consultation followed as to the course they should pursue, when it was agreed, that as they had been driven so far in that direction, it would perhaps be as well to continue it, hoping they might fall in with some vessel which might take them on board, before their slender stock of provisions should be exhausted. Having rowed all night and great part of the next day, Edward pointed out, in the distance, a small speck, which he found increased in size, and in a short time it was pronounced by the exhausted mariners, to be a ship. They now redoubled their exertions, and Edward, who had never pronounced one single word indicative either of fear or apprehension, but had preserved the most calm and composed manner, during the whole of their perilous situation, threw down his oar, and burst into tears, as a universal shout from the sailors proclaimed, that their signal was observed, and that the vessel was bearing down to their assistance. "Thank God, you are safe," exclaimed the agitated youth, as he grasped the hand of his tutor. "My poor mother, you don't know what I have suffered on her account too." The sailors, in the rude but glowing language of nature, expressed their joy in the strongest terms, upon their providential escape, and upon discovering the British ensign, as the vessel drew near, their satisfaction was complete. They found she was bound for Drontheim in Norway, and thither the captain safely conveyed our travellers. He too had been in the storm, but appeared to have escaped its most violent effects. When the Dr. mentioned how much they had been deceived in their route, the captain said the compass had no doubt been affected by the lightning, a circumstance which had once happened to him on a voyage to Barbadoes.

He and his pupil had lost every thing, and but for the kindness of Captain Welch, who spoke of them to the master of the vessel who had taken them up, they would have been a little distressed. They, however, wrote immediately to England; and while they waited for an answer, they took up their quarters at an inn, and, except in small excursions round the town, they remained stationary at Drontheim.

“ We can embark for Sweden; but we must not quit Sleswick without visiting the village of Anglen, as it gave name to the Anglos or Anglo-Saxons, the ancient possessors of England,” said Dr. Walker.

Their mode of travelling in Holstein, was in what is called a post waggon, a vehicle without springs, drawn swiftly by four horses over abominable roads, varied by deep, uneven sands, and wretched layers of large rough stones, placed by way of pavement. But the discomforts of such a conveyance could not destroy the pleasure of travelling through so fine a country. There is no part of the continent of Europe so like many of the more beautiful districts in England. It reminded our travellers of many parts of Kent, Surrey, and Sussex; even the bleak parts seemed like Cambridgeshire, though more level. The lakes are numerous, and finely adorned with trees; but the shores too flat to admit any comparison with the lakes of England. The frogs of Holstein, which we believe were always remarkable for their numbers, and for the disturbance occasioned by their loud croaking, reminded Edward of the frog concerts which he had heard of in America.

Upon their return to the inn they had previously occupied at Copenhagen, the Doctor was accosted by a Danish gentleman, to whom he had letters of introduction, but who was not in the city when our travellers called upon him; he pressed them exceedingly to dine with him, and Dr. Walker at length consented, although he had made up his mind to spend the evening quietly at home. A large company was invited to meet them, and the table might be said to groan under the weight of soups, Norwegian beef boiled, hams, strongly salted, fish, poultry, pigeons, fowls, and stewed vegetables. The meat is always cut into thin slices, and handed round by the servants, and etiquette forbids that one dish should be touched before another out of the regular course. This weighty display of hospitality was followed

by that of confectionary and sweetmeats, with a profusion of good wines.

“ We must now pay a visit to the Museum,” said Dr. Walker on the following morning, “ which contains many curiosities.” That which principally attracted their attention was, a fine collection of coins, particularly those of the consuls in the time of the Roman Republic, and of the emperors after the seat of empire was divided into east and west. Besides artificial skeletons, ivory carvings, models, clock-work, and a beautiful cabinet of ivory and ebony made by a Danish artist who was blind ; here are to be seen two famous drinking vessels ; the one of gold, the other of silver, and both in the form of a hunting horn ; and from the raised hieroglyphic figures on the outside, they are supposed to have been made use of in religious ceremonies.

“ There is but little doubt upon the subject,” said the Doctor to the exhibitor of these curiosities, “ in Dr. Meyrick’s costume of the Ancient Britons, whose druidical worship bears a strong resemblance to that of the ancient Scandinavian nations, (both nations offered human sacrifices to their god Odin,) there is a picture of a priest holding a horn to catch the blood of the unhappy victim about to be immolated by the priestess. These horns are there described as being sometimes highly ornamented.” From the top of the Museum our travellers enjoyed a most extensive prospect. The city, the roads, the sound, the coast of Sweden, were all before them, sketched as on a map.

Having gratified their curiosity with a view of the Museum, cabinets and mineral collections which are found in the capital of Denmark, they prepared for their departure. “ The geography of this country is not very intricate, and you of course can give a brief sketch of it, Edward,” said the Doctor, after they were embarked.

“ I will try what I can do,” replied his pupil : “ I think I ought from the information you have given me upon this as well as upon many other occasions.”

SECTION II.

SKETCH OF THE CHIEF TOWNS OF DENMARK.

CONTINENTAL Denmark is a flat country, much interspersed with lakes, small rivers and hills; its havens and gulfs are numerous. In winter the navigation is frequently impeded by ice; and the air, at this season, is very cold and foggy, and over the marshy ground, insalubrious: in summer it is frequently much hotter than in England. The transitions in the seasons are extremely sudden; for one month the cold is intense, and the next you may be fainting with heat.

It produces good pastures; and Denmark, were it not for the oppression of its peasantry, might be a very productive and fertile country. It abounds in timber and cattle; the islands are fertile, and furnish grain for exportation: the seas, lakes, and rivers abound with fish. Its exports are timber; horses and other cattle to Holland and Germany; butter, fish, tallow, hides, oil, tar, pitch, resin and grain. Of corn, to the value of 105,000*l.* is sometimes exported in a year.

The river Eydar, and the canal of Kiel, connect the Baltic and the British seas; the canal admits vessels of 120 tons.

Its Chief Ports are Copenhagen, Altona, Kiel, Elsinore, Rypen, Tonningen; and it has two Universities, that of Copenhagen and that of Kiel.

 SECTION III.

ELECTRIC AND AÉRIFORM PHENOMENA.

THE second evening after their arrival, Edward asked Dr. Walker if lightning was not the effect of electricity. Dr. Walker.—“Yes, Lightning appears to be the rapid motion of vast masses of electric matter; and Dr. Franklin has proved, by a variety of experiments, that the lightning of electricity, and the lightning that flashes from the clouds in a thunder-storm, are exactly of the same kind, and operate in the same manner.

“Electricians have the art of making a machine, by which

they can draw fire from a variety of bodies, and even accumulate, or heap it together in such quantities, that when it is discharged, or let off, it will make a report like a pistol, and even kill animals.

“ The particulars, in which lightning and the electric fluid agree, are as follow. 1. Flashes of lightning are generally seen crooked, and waving in the air. The same is the electric spark always, when it is drawn from an irregular body, at some distance: 2. Lightning strikes the highest and most pointed objects in its way, in preference to others, as high hills, and trees, towers, spires, masts of ships, points of spears, and the like. In like manner, all pointed conductors receive or throw off the electric fluid more readily than those that are terminated by flat surfaces. 3. Lightning is observed to take the readiest and best conductor. So does electricity in the discharge of the Leyden phial. For this reason Dr. Franklin supposes that it would be safer, during a thunder storm, to have one's cloaths wet than dry, as the lightning might then, in great measure, be transmitted to the ground, by the water on the outside of the body. It is found, he says, that a wet rat cannot be killed by the explosion of the electrical bottle, but that a dry rat may. 4. Lightning burns: so does electricity. Dr. Franklin says, that he could kindle with it hard dry rosin, spirits unwarmed, and even wood. 5. Lightning sometimes dissolves metals: so does electricity. 6. Lightning has often been known to strike people blind. And a pigeon, after a violent shock of electricity, by which the doctor intended to have killed it, was observed to have been struck blind. 7. Lightning destroys animal life. Animals have likewise been killed by the shock of electricity. The largest animals, which Dr. Franklin and his friends had been able to kill, were a hen, and a turkey which weighed about ten pounds.”

EDWARD.—“ That appears proof sufficient that they are both alike in nature and operations.”

Dr. W. “ To demonstrate, in the clearest manner possible, the sameness of electrical fire with the matter of lightning, Dr. Franklin, astonishing as it must have appeared, contrived actually to bring lightning from the heavens, by means of an electrical kite, which he raised, when a storm of thunder was perceived to be coming on.

“ This kite had a pointed wire fixed upon it, by which it drew the lightning from the clouds. The lightning descended

along the hempen string that held the kite, and was received by a key tied to the extremity of it. That part of the string, which the doctor held in his hand, was of silk, that the electric fire might stop at the key, and not reach his body.

“ He found that the string would conduct electricity even when nearly dry, but that when it was wet, it would conduct it quite freely; so that it would stream out plentifully from the key, at the approach of a person’s finger. At this key he charged phials, and from electric fire thus obtained he kindled spirits, and performed all the common electrical experiments.”

EDWARD.—“ And was it from this discovery of the sameness of lightning and electricity, that Dr. Franklin contrived the method of securing buildings from the dreadful effects of lightning in a thunder-storm?”

“ Dr. WALKER.—“ Yes. With regard to thunder itself or the sound or noise we hear, it is perfectly harmless. It is the lightning that does the mischief. But to the doctor’s invention, which is simply that of fixing a pointed iron rod higher than any part of the building, and joining to the lower end of it a wire, which communicated with the earth; this rod the lightning seizes upon, in preference to any other part of the building, and descends along it and the wire till it reaches the earth, where it is instantly dissipated without doing any harm. All public buildings, and especially all magazines, ought to have such an apparatus for defending them from lightning, and in the present state of science we should suppose all have.

“ The fire of electricity is very different from common fire, and operates in a very different manner. It has been known to melt a sword in the scabbard, without injuring the scabbard itself; and to melt money in a man’s pocket, without burning his clothes. In a word, it seems to be of such a nature, that it can easily penetrate through porous bodies without affecting them, and spends all its force upon those that are hard and solid.

“ The experiment of drawing lightning from the atmosphere by means of an electric kite, is attended with danger. It proved fatal to Abbe Richman, who, in 1753, was killed by a flash of lightning, which he drew from the clouds, in an experiment he was making at Petersburg.

“ Electricity has been applied to some medical purposes,

with so much success, that it may now be considered as part of the science.

“Thunder is the noise produced by the motion of lightning, and the reason why we do not hear the dreadful noise of the thunder, as soon as we see the lightning, is, because sound is longer in arriving to our ears, than light to our sight.

“Light moves almost instantaneously. Sound moves no more than 1142 feet in a second. That light moves much faster than sound, any one may satisfy himself, by observing a gun discharged at a distance; for he will see the fire long before he hears the sound.

“The continuation and repetition of the sound are caused by a kind of echo formed in the clouds, to which many hard bodies upon the earth may contribute, which return those rollings we hear after a great clap of thunder.

“A thunder bolt is nothing but a more solid and most rapid flame, which, with incredible swiftness flies from the clouds to the earth, and through every thing standing in its way, being interrupted by nothing. It sometimes kills men and animals, burns and overthrows large trees and buildings; and sets fire to every thing in its way.”

EDWARD.—“Of its power we have indeed had melancholy proof.”

DR. WALKER.—“Yes, and that of the winds. The effect of the latter, which is an *invisible* agent in the hands of Providence, appears more wonderful than that of lightning. In the course of a few hours one of the proudest works of man is reduced by its almost magical effects to a floating wreck; and yet this wind is nothing more than the common air put violently in motion, and this is occasioned chiefly by heat.

EDWARD.—“By heat, Sir! I am sure we were cold enough in the storm.”

DR. WALKER.—“That is very true; but I will explain this to you, and prove that its violent motion is produced by heat. When any part of the air is heated by the sun, by any electric matter, or by any other heat, it will swell and thereby affect the adjacent air; and so, by various degrees of heat in different places, there will arise various motions of the air. Have you never observed that there is a light breeze at sun-rise, and cannot you now account for it by the rarefaction of the air by the sun?”

EDWARD.—“ Yes, Sir, now you point it out to me.”

DR. WALKER.—“ Well, when the air is much heated, it will ascend towards the upper part of the atmosphere, and the adjacent air will rush in to supply its place, and therefore there will be a stream or current of air from all parts, towards the place where the heat is. And hence we see the reason, why the air rushes with such force into a glass-house, a tile-kiln, or towards any place where a great fire is made; and also why smoke is carried up a chimney, and why the air rushes in at the key-hole of a door, or any small chink, where there is fire in the room. In general, we may take it for granted, that the air will press towards that part of the world where it is most heated.

“ The winds, you know, are divided into four principal ones, the *north*, *south*, *east*, and *west*, which receive their names from the four quarters of the world.

“ From the Frigid Zone comes the north wind, which is consequently the coldest. The *south wind* is the warmest, and particularly in the summer, because it comes from the *Torrid Zone*, over countries where the sun is most vertical. The *east wind* is the driest; because it comes across the vast continent of Asia, which is but little watered by rivers or seas. The *west wind* often blows us rain; because, as it crosses the great Atlantic ocean, it attracts a great quantity of vapours. Now when these impetuous winds happen to meet, the greatest inconveniences follow. The sulphureous exhalations from the south, torrents of nitre from the north, and watery vapours from every side, become indiscriminately blended together in one confused mass. From hence proceed tempests, thunder, rain, hail, and whirlwind.

“ The velocity of wind is computed to be at the rate of 50 or 60 miles an hour, in a great storm; that of a common brisk wind is about 15 miles an hour; and some winds move not even one mile in that space of time. A person, therefore, on horseback, and even sometimes on foot, may be said to outstrip the wind; for, if he moves faster than the wind, which is very possible, he will have a wind in his face, though he move in the same direction with the wind.

“ Besides these, there are certain winds, called Tropical Winds, which blow almost always from the same point of the compass. They are of three kinds:

“ The general trade Winds which extend to nearly thirty degrees of latitude on each side of the equator, in the At-

lantic, Ethiopic, and Pacific Oceans. On the north side of the equator, they blow from the north-east; on the south side, from the south-east; and near the equator, from almost due east.

“ The *Monsoons*, or shifting trade winds, which blow six months in one direction, and the other six months in the opposite direction. These are mostly in the Indian, or Eastern ocean, and do not reach above two hundred leagues from the land. Their change is at the vernal and autumnal equinoxes, and it is accompanied with terrible storms of thunder, lightning, and rain. The Monsoons are occasioned by the *cold air* moving towards those places, in which the air is rarefied by the heat of the sun, in order to restore its equilibrium.

“ The *Land and Sea Breezes*, which are periodical winds, and blow from the land, from night to about mid-day, and from the sea, from about noon to mid-night. These winds do not extend above two or three leagues from the shore.

“ Beyond the latitude of thirty degrees north and south, the winds, as we daily perceive in Great Britain, are more variable, though it may be observed, in general, that the tendency of the wind is from a colder region to that which is hotter.

“ But perhaps before I had explained the cause of wind, I should have spoken of the nature of air itself; and though this may be attended with a repetition of what I formerly told you, yet it cannot be avoided.

“ The air is a fluid in which we live and breathe: it entirely envelopes our globe, and extends to a considerable height around it. Together with the clouds and vapours that float in it, it is called the *Atmosphere*. As it is possessed of gravity, in common with all other fluids, it must press upon bodies in proportion to the depth at which they are immersed in it; and it also presses in every direction, in common with all other fluids.

“ It differs from all other fluids in the four following particulars:—1. It can be compressed into a much less space than what it naturally possesses; 2. It cannot be congealed or fixed, as other fluids may; 3. It is of a different density in every part upward from the earth's surface, decreasing in its weight, bulk for bulk, the higher it rises; 4. It is of an elastic, or springy nature, and the force of its spring is equal to its weight.

“ People who are unacquainted with the principles of natural philosophy, would not suppose that the air by which we are surrounded, is a material substance, like water, or any other visible matter. Being perfectly invisible, and affording no resistance to the touch, it must seem to them extraordinary, to consider it as a solid and material substance; and yet a few simple experiments will convince any one that it is really matter, and possesses weight, and the power of resisting other bodies that press against it.

“ Take a bladder that has not the neck tied, and you may press the sides together, and squeeze it into any shape. Fill this bladder with air, by blowing into it, and tie a string fast round the neck; you then find that you cannot, without breaking the bladder, press the sides together, and that you can scarcely alter its figure by any pressure. Whence then arise those effects? when the bladder was empty, you could press it into any form; but the air with which it is filled, prevents this: the resistance you experience when it is filled with air, proves that that air is as much matter as any other substance that we are acquainted with.

“ The atmospheric fluid, or common air, is composed chiefly of two gases, or aëiform fluids; one of which is capable, by respiration, of contributing to support animal life; and in which metals are calcinable, and combustible bodies may burn. The other, on the contrary, is endowed with directly opposite qualities: it cannot be breathed by animals, neither will it admit of the combustion of inflammable bodies, nor of the calcination of metals.

“ The base of the former, which is the respirable part of the air, is called *Oxygen*, from two Greek words, signifying to produce acidity, because one of the most general properties of this base is to form acids, by combining with many different substances. The union of this base with caloric, is called *Oxygen Gas*, which is the same that was formerly called *Pure*, or *Vital Air*.

“ As all the parts of the atmosphere gravitate, or press upon each other, it is easy to conceive, that the air next the surface of the earth is more compressed and denser than what is at some height above it; in the same manner as if wool were thrown into a deep pit until it reached the top. The wool at the bottom having all the weight of what was above it, would be squeezed into a less compass; the layer, or stratum above it, would not be pressed quite so much;

the one above that still less, and so on, till the upper one, having no weight over it, would be in its natural state. This is the case with the air, or atmosphere, that surrounds our earth, and accompanies it in its motion round the sun. On the tops of lofty buildings but still more on those of mountains, the air is found to be considerably less dense than at the level of the sea.

“ The height of the atmosphere has never yet been exactly ascertained; indeed, on account of its great elasticity, it may extend to an immense distance, becoming, however, rarer, in proportion to its distance from the earth.

“ It is observed, that at a greater height than 45 miles, it does not refract the rays of light from the sun; and this is usually considered as the limit of the atmosphere. In a rarer state, however, it may extend much farther. And this is by some thought to be the case, from the appearance of certain meteors which have been reckoned to be 70 or 80 miles distant, and whose light is thought to depend upon their coming through our atmosphere.

“ It might easily be proved by calculation, that a cubic inch of such air as we breathe, would be so much rarefied at the altitude of 500 miles, that it would fill a sphere equal in diameter to the orbit of Saturn.”

EDWARD.—“ And now, my dear Sir, one question more upon the subject of air, or rather of the atmosphere. How is the blue colour of the sky accounted for; for I have always understood that air is itself colourless and invisible?”

DR. WALKER.—“ So it is; and its invisibility is one of its most astonishing properties, that an element so wonderfully powerful, as to be capable of reducing, in a few short hours, not only the proudest work of man to a mass of floating shapeless wrecks, but also to produce the most astonishing effects on the other elements, should be so strongly felt, and yet unseen: that its voice should be heard in the whispering breeze, and in the howling blast; that it should thus be felt and heard, and yet invisible to the eye, is sufficient to raise in the mind of uncultivated man extraordinary ideas of its apparently magical virtues. It is not therefore at all astonishing that it should have become an object of devout adoration. Its effects on the sea we have lately witnessed. Nor are they less fatal on the land. The monarch of the forest bows his lofty head reluctantly to the blast, until prostrate, at length, he falls, level with the dust. Rocks even yield to

its invisible agency; while in the sandy desert the Mecca pilgrim sees with despair the first faint symptoms of the approaching whirlwind in the "black red ether;" when, as Thomson beautifully and fearfully describes it:

—————" Straight the sands
 Convulsed around, in gathering eddies play;
 Nearer and nearer still they darkening come :
 Till with the general involving storm
 Swept up, the whole continuous wilds arise."

" Fire, again, without air could not exist. Let but the smallest spark appear, and by its potent influence quickly the flames extend; and smoking ruins and houseless wanderers stand on every side the sad memorials of its fatal and assisting agency.

" But in contemplating one of its properties, I have almost lost sight of your principal question,—*the colour of the sky.* This blue colour is occasioned by the vapours which are always mixed with air, and which have the property of reflecting the blue rays more copiously than any other. This has been proved by the experiments which M. Saussure made with his cyanometer, at different heights above the surface of the earth. This instrument consisted of a circular band of paper, divided into fifty one parts, each of which was painted with a different shade of blue: beginning with the deepest, mixed with black, to the lightest, mixed with white. He found that the colour of the sky always corresponded with the deepest shade of blue the higher the observer was placed above the surface of the earth; consequently, at a certain height the blue will disappear altogether, and the sky assume black tints; that is to say, will reflect no light at all. The colour becomes always lighter in proportion to the vapours mixed with the air; hence the blue colour is evidently owing to them."

SECTION IV.

THE MAGNET; OR, MARINER'S COMPASS.

EDWARD.—" How little we think of the wonderful operations of nature that are carrying on around us! Was it not very extraordinary, Sir, that the compass should turn round completely."

DR. WALKER.—“ Most extraordinary. I cannot account for it, unless there was a quantity of iron about the compass box; (which, by the bye, should never be the case,) now this being acted upon by the electric fluid, might possibly produce this inversion of the loadstone one of the most singular and beneficial gifts of Providence. Of its nature and properties you have, of course, some knowledge; but as the evening is wet, and books are scarce, we will amuse ourselves with discussing its wonderful properties.

“ The natural *magnet* or *loadstone*, a hard mineral body of a dark brown, is found, when examined, to be an ore of iron. It is found in various countries, (Norway produces a good deal of it,) generally in iron-mines, and of all sizes and forms.

“ This singular substance was known to the ancients, who had remarked its peculiar property of attracting iron, though there is no evidence that they were acquainted with the wonderful property which it also has, of turning to the pole when suspended, and left at liberty to move freely.

“ Upon this remarkable principle depends the construction and use of the mariner’s compass, an instrument which gives us such infinite advantages over the ancients. It is this enables the mariner to conduct his vessel through vast oceans out of the sight of land, in any given direction; and this directive property also guides the miner in his subterranean excavations, and the traveller through deserts, which otherwise would be impassable.”

EDWARD.—“ I am sure we have experienced the value of it. You used to tell me that I must want a thing to know its value.”

DR. WALKER.—“ Most true, Edward. It is not precisely known when and by whom this directive property of the magnet was discovered. The most probable accounts seem to prove, that it was known early in the 13th century; and that the person who first, in Europe, made mariners’ compasses, was a Neapolitan of the name of Flavio, or John de Gioja, or Giova, or Gira.

“ Before that period, sailors scarcely ever ventured out of sight of land, and in the longest voyages contented themselves with going round the coasts, making by that means their voyages much longer. In the night, and when necessity obliged them to lose sight of the shore, their only guides were the stars, and when these were obscured by clouds, they were absolutely without resource.

“ While navigation continued so limited, men never would have ventured upon such voyages as those to the West Indies, America, and the South Seas, and the existence of those countries would probably have been still unknown to us.

“ We, cannot, therefore, think too highly of this extraordinary instrument, which has so much enlarged our stock of knowledge, and procured for us so many new enjoyments.

“ The natural loadstone has also the quality of communicating its properties to iron and steel; and when pieces of steel, properly prepared, are touched, as it is called, by the loadstone, they are denominated *artificial magnets*, which are even capable of being made more powerful than the natural ones, and as they can be made of any form, and are more convenient, they are now universally used, so that the loadstone, or natural magnet, is only kept as a curiosity.

“ An *artificial magnet*, fitted up in a proper box, for the purpose of guiding the direction of a traveller, is called a *magnetic needle*, and the whole together, is called the *mariner's compass*.

“ All magnets, whether natural or artificial, are distinguished from other bodies by the following characteristic properties, which appear to be inseparable from their nature; so that no substance can be called a magnet, unless it be possessed of all these properties. A magnet attracts iron. When a magnet is placed so as to be at liberty to move freely in every direction, it turns, so that its ends point towards the poles of the earth, or very nearly so; and each end always points to the same pole. This is called the *polarity* of the magnet: the ends of the magnet are called *poles*, and they are respectively the north and south pole of the magnet, according as either points to the north, or south pole of the earth. When a magnet places itself in this direction, it is said to *traverse*.

“ When the *north pole* of one magnet is presented to the *south pole* of another magnet, these ends attract each other; but if the *south pole* of one magnet be presented to the *south pole* of another, or the *north pole* of one to the *north pole* of another, these ends will repel each other.

“ From these *criteria*, it is easy to determine the names of the poles of a magnetical bar, by applying it near a suspended magnet whose poles are known. You will observe, however, when a magnet is so situated, as to be at liberty to

move itself with sufficient freedom, its two poles do not lie in a horizontal direction, but it generally inclines one of them towards the horizon, and elevates the other pole above it. This is called the *inclination* or *dipping* of the magnet; and any magnet may, by proper methods, be made to impart those properties to iron or steel."

SECTION V.

THE MAELSTROOM.

AT this moment the servant entered with a packet of letters from England. "Well, Colin," said Dr. Walker, "these letters are the signal for our departure: are you willing to continue your journey, or has the storm damped your ardour for seeing strange countries?" "Colin ne'er thinks of danger when it is gone by," replied the Highlander, "and where you maun gang, Colin will gang too."

"To-morrow then we recommence our tour," resumed the Doctor, and on the morrow they set off for the silver mines in the vicinity of Konigsberg. During their first day's journey, Dr. Walker amused his pupil with a description of the Whirlpool of Maelstrom, or Moskoestrom. "When I knew," said "the good man, that we were drifting to the north, instead of the south, in our little boat, I must confess I felt some little alarm, for that whirlpool is by no means an agreeable sort of spot to be whirled into. We were, it is true, at a great distance from it; but it would have been very near to imagination, if I had known we had been within 100 miles of it. On the coast of Norway, latitude 67, you will in the map find this dreadful vortex. The island of Moskoe, from whence this stream derives one of its names, lies between the mountains Hesleggen, in Lofoden, and the Island Ver, which are about one league distant, and between the island and coast on each side this dreadful mass of water makes it way. It is nearly 400 fathom deep between Moskoe and Lofoden; but between Moskoe and Ver it is too shallow to admit the smallest ship. When it is flood, the stream rushes up the country between Lofoden and Moskoe with a boisterous rapidity; and when it is ebb, re-

turns to the sea with a violence and noise unequalled by the loudest cataract. It is heard at the distance of many leagues, and forms a whirlpool of great depth and extent; its power is so tremendous, that if a ship approaches within its attraction, it is immediately drawn irresistibly into the vortex, and there, after being furiously whirled round, it suddenly disappears, and is seen no more: just at the turn of ebb and flow, when the water is still, for about a quarter of an hour, shattered fragments are seen to float on the surface; but so completely shapeless, that they may be parts of the wreck, or parts of trees which are sometimes swallowed up by the stream, and dashed to pieces against rocks at the bottom of the ocean. In stormy weather its effects are terrific: ships laying at the distance of a Norwegian mile have been suddenly impelled forwards, and hurried into the middle of the whirlpool. Few situations can be more agonizing than such a one as this, where the unfortunate victims contemplate with despair their inevitable fate. In a storm in the open sea, hope to the last moment encourages the hapless mariner; he perhaps can swim, or possibly he may flatter himself that by clinging to a part of the wreck, he shall be saved; but here no ray of hope cheers the sinking spirits of the despairing sailors. The impetuous torrent still urges them on, till they approach the whirlpool, where an overwhelming destruction awaits them." "Poor creatures!" exclaimed Edward, as the Doctor paused, overcome by the picture he had drawn—"Poor creatures! I should hardly think myself safe on dry land if I were near this dreadful whirlpool!" "Animals," resumed the Doctor, "which have come within the power of the stream, express the greatest dismay, even enormous whales, when they feel the force of the stream, on approaching the verge of the vortex, struggle against it with all their might, making a hideous noise. And now, Edward, suppose we take a brief survey of the climate, soils, productions, and in fact, of Norway altogether, that we may be a little aware what sort of country we are going to traverse.

"The surface and climate of Norway may be mentioned in few words. On the eastern boundaries, along the middle tracts, from Drontheim southward, are immense masses of primitive mountains, which are wild, rugged, and picturesque. The south-east is varied with hills and lakes; its islands are very numerous, and the coast is much indented. The air of Norway is salubrious; and the inhabitants, in general, attain

extreme old age; and though the weather is very cold, yet the harbours are very seldom frozen. The most elevated table land is 2655 feet, and the highest vale 2000 feet. In the south of Norway, the pine grows at the altitude of 3000 feet; in the latitude of $68\frac{1}{2}$ degrees, it does not exceed the elevation of 690 feet. The oak disappears at the latitude of Drontheim.

“ It produces barley, peas, potatoes, flax, hemp, and abounds with extensive forests of pine, beech, and oak. The vallies yield good pasture, but arable land is in great disproportion.

“ Norway abounds with all kinds of rocks, gold, silver, lead, an abundance of copper, cobalt, and iron. Of mines there are about 800. The cobalt mine at Fossum yields a revenue to the government of 15,000*l.* annually; near it is a rich vein of quartz, containing large masses of talc; and at Konigsberg the silver mine, I intend you should visit, it is said yields 70,000*l.* annually.

“ The fowls and quadrupeds common to Europe are met with here; besides which Norway produces the elk and reindeer, which are peculiar to this country, Sweden and Russia. The wild animals become white, or nearly so, in winter.

“ Its exports are timber, copper, iron, hides, furs, tallow, tar, train oil, and fish. The annual exports of deal are estimated at 175,000*l.*; of iron 70,000*l.*; of copper 5000*lbs.* of goat skins 80,000 raw, and 1000 manufactured; and its imports are grain, salt, hardware, linen, brandy, wine, East and West India produce. The balance of trade is in favour of Norway.

“ The chief Ports are Bergen, Christiana, Drontheim, and Christiansand.

“ Of the Principal Towns I will give you a brief sketch:

“ Bergen is nearly semicircular, and is built of wood, a few public edifices excepted. It has a brisk trade in fish, hides, and timber. The coast is dangerous.

“ Christiana is the most regular and beautiful city in Norway; it has the chief court of justice, a fertile and most picturesque district, and some alum works in its vicinity. It exports timber, and supplies the interior with foreign commodities; it trades chiefly with Great Britain.

“ I shall of course say but little of Drontheim. The ancient kings of Norway resided here. It has a good trade, and the district abounds with copper mines. This city, as you must have observed, though built of wood, public edifices

excepted, is remarkably clean and handsome; it has an academy of sciences, enriched with mineral collections and a good library; the inhabitants are distinguished for their information, refinement, and elegance of manners. Of this we have had proof positive. Villas are frequent in its environs, the sites of which are very romantic.

“ Frederickshall, a frontier town, is memorable for the death of Charles XII. of Sweden, with whose history you are well acquainted.

“ Frederickstädt, on the river Glomme, 34 miles N. W. of Frederickshall, is the most important fortress in Norway. It trades in timber.

“ A melancholy circumstance took place in the neighbourhood of this place many years ago. The family seat of Borge suddenly sunk with all its towers and battlements, and its site was instantly filled with water. 14 people, and 200 head of cattle perished by this melancholy accident. It was occasioned by the foundation being undermined by the waters of a river.

“ Tonsberg, 50 miles s. s. w. of Christiana, exports furs, tallow and butter: imports grain and malt. In its vicinity the best cannon are cast.

“ Skeen, 12 miles s. of Tonsburg, is remarkable for its mines of iron and copper.

“ Ahrendahle has iron mines in its neighbourhood, and trades extensively in timber.

“ At Vaage, in Lapland, the centre of the great fisheries, 18,000 men, and nearly 4000 small boats are employed. About 16 millions of large tusk and cod are annually caught among the creeks and islands, where they come to cast their spawn.

“ At Helliesund, in the south of Christiansand, is an extensive lobster fishery; nearly 30,000 of these shell-fish are annually sent to the London market.

“ Norway has undergone a variety of revolutions, and it did not escape a concussion in the great convulsions which lately shook the principal powers of Europe to their foundation. Norway was united to Denmark in the reign of Margaret of Waldemar, the Semiramis of the North, as she is called, A. D. 1397; but it now forms part of the dominions of the king of Sweden. This union was not effected without much opposition from the people. The Norwegians are a very brave people, but extremely illiterate: they are pas-

sionately attached to their country. The peasantry are frank, open, and undaunted; respectful, but not fawning to their superiors; independent, not violent in their usual demeanor. They live chiefly on milk, cheese, dried fish, and occasionally a bit of dried meat, as a luxury."

Norway is reckoned one of the most mountainous countries in Europe, and our travellers were at first not a little alarmed at contemplating the small wooden bridges that united the frightful precipices which repeatedly crossed their route, while a foaming torrent rolled beneath them. The views in this wild romantic country, are most picturesque; huge masses of granite rock, their summits crowned with the solemn fir, assuming every shape, intersected by cataracts, which precipitating themselves some hundreds of feet deep, dashed against their sides, and producing a thundering noise, terrifying those unaccustomed to view nature in her wild and majestic forms.

Edward was not a little astonished at the dexterity and activity of the natives in recovering their sheep and goats, which by a false step, often fall into some of the deep crevices and glens, that are inaccessible, but by adopting the following perilous plan. The daring peasant placing himself on a cross stick, which is fastened to a strong rope, is then lowered from the top of the mountain, or precipice, and having reached the spot where the animal is lodged, he fastens it to the rope, and they are both drawn up together.

SECTION VI.

DOLSTEIN, AND THE SILVER MINES.

OUR travellers visited many of the caverns that are found in these mountains; one in particular, called Dolstein, of which they had heard extraordinary accounts. Having provided themselves with torches they penetrated so far that they at last heard the sea dashing over their heads: they now thought proper to return, although a second flight of natural steps presented themselves. This passage was as wide and as high as an ordinary church; the sides were perpendicular, and the roof vaulted:

As they traversed this mountainous country they were not a little surprized at finding large reservoirs of water on the top of the highest of the rocks.

“The copper mines at Raras are the richest in Europe, except that of Parys, in the Isle of Anglesea:” said Dr. Walker to his pupil, “and this wild country produces also quicksilver, salt, and coal mines, crystals, agates, amethysts, asbestos, thunder-stones, and eagle-stones. You know the properties of the asbestos; it remains unconsumed by fire. When the delicate cloth woven from its soft fibres, is soiled, it is cleansed by being thrown into the fire.”

Upon crossing one of the rocks they were suddenly surprized by so large a flock of the birds called *Alks*, that the air appeared darkened, and the noise produced by their wings resembled very much that produced by a storm. They also saw several large eagles, two kinds of which are found in Norway, the land and sea eagles; the former is so strong, as to be able to carry away a child of two years old, and the latter sometimes darts with such force upon the larger class of fishes, that it is often dragged to the bottom of the sea from its incapability of extricating its claws.

“What a majestic bird that is,” said Edward, as one of these eagles towered majestically over their heads, till they could scarcely trace his flight. “How grand, how beautiful is this wild scene!”

As they approached the southern parts of Norway the road became less dangerous, and although delighted with the romantic scenery they had passed through, they rather enjoyed their present route.

Upon entering Kongsberg they fixed themselves at an inn, where their accommodations were not indeed of the most sumptuous kind, but far preferable to the asylums they had found among the mountains.

THE SILVER MINES OF NORWAY.

Kongsberg is a flourishing town, that contains no less than 11,000 souls, among whom are many Danes and Germans. A mint was set up here as early as the year 1686, and 1689 the mine college was erected. The silver mines were discovered in 1623, upon which the town was immediately built, and peopled with German miners. In 1751 forty-one shafts, and twelve veins were wrought in

this mine, in which 3,500 officers, artificers, and labourers are usually employed. The rich ore in this mine is found only in dispersed strata and interrupted veins. Pure silver is dug out of it; and in the year 1647 gold was also discovered. The veins of silver extend in various directions, and there were several fresh mines opened during the last century; but that which has been most productive is named *Old God's Blessing*, and this has yielded in one week several hundred pounds weight of rich ore. This mine fills the beholder with astonishment from its immense depth, which is no less than 180 perpendicular fathoms, terminated by an extensive plain. Here the sight of thirty or forty piles burning on all sides in this gloomy cavern, and continually fed, in order to mollify the stone in the prosecution of the mines, seems to present an apt image of Pluto's dreary regions; and the swarms of miners covered with soot, and bustling about in habits appropriated to their several employments, present a strange and extraordinary picture. When an explosion is about to take place they all exclaim with a loud voice, *Berg livet! Berg livet!* which means, "take care of your lives."

"The method of blasting rock by gun-powder, is now so very familiar to miners, that little attention is paid to it; but the use of gunpowder may be considered as constituting an important era in mining. The daring ingenuity of man has, however, led him to still more enterprising and more efficacious methods. In Prussia, the mineralogists have lately availed themselves of lightning to accomplish the same end as that of blasting by gun-powder. For this purpose, an iron rod, similar to a conductor is fixed in the rock that is intended to be blasted; when the occurrence of the first thunder-storm generally conveys the electric fluid down the rod in such quantity as to split the rock into several pieces without displacing it.

"The hammer and metallic wedges were probably the first instruments made use of for splitting rocks. The application of wooden wedges, seems a later invention: it is the property of dry wood to expand itself when wetted with water; the miners therefore availed themselves of this property, and driving dried wedges of wood into the natural or artificial crevices of the rocks, they then profusely watered them. The wood greedily imbibing the moisture, it suddenly expanded to so great a degree, that large pieces of the

rock were detached by the force with which it endeavoured to free itself from its confinement.

“Of the force of moisture I shall mention one more instance in overcoming the greatest resistances, as being curious and simple, and interesting. When a mass of millstone has been found sufficiently large, it is cut into the form of a cylinder, several feet in height, and the question then is, how to cut it into horizontal pieces with the least labour and trouble, so as to make many millstones. For this purpose, circular and horizontal indentures are cut out quite round it, and at proper distances, according to the thickness to be given to the millstones. Wedges of willow dried in an oven, are then driven into these indentations by means of a mallet. When the wedges have sunk to a proper depth they are moistened, or exposed to the humidity of the night air; and next morning the different pieces are found separated from each other. Such is the process according to M. de Mairan, in different places for making millstones.

“It appears almost incredible, Sir,” said Edward, “that moisture should have so extraordinary a power.”

DR. WALKER.—“It appears to me to be the effect of attraction, by which the water is made to rise in the exceedingly narrow capillary vessels with which the wood is filled. Let us suppose the diameter of one of these tubes to be only the hundredth part of a line: let us suppose also, that the inclination of the sides is one second, and that the force with which the water tends to introduce itself into the tube, is the fourth part of a grain; this force, so very small, will tend to separate the flexible sides to the tube with a force of about 50,000 grains; which make about $8\frac{3}{4}$ pounds. In the length of one inch let there be only fifty of these tubes, which gives 2,500 in a square inch, and the result will be an effort of 21,875 pounds! As the head of a wedge, of the kind I have just mentioned, may contain four or five square inches, the force it exerts will be equal to about 90 or 100 pounds; and if we suppose ten of these wedges in the whole circumference of the cylinder, intended to form millstones, they will exercise together an effort of 900,000, or 1,000,000 pounds. It needs then excite no surprise that they should separate those blocks into the intervals between which they are introduced.

“Before the discovery of blasting rocks by gunpowder,

it was the custom of our English miners, as well as those of Germany, to split them by wood fires. It is a very ancient mode of mining, and Diodorus Siculus gives an account of it, in which he paints the sufferings of the poor slaves employed by the Egyptians, in such glowing colours, as makes the blood run cold. You know, Edward, Hannibal is said to have opened himself a passage through the Alps, by applying fire and vinegar to the rocks, which opposed his route. Hannibal might have seen this method practised in the silver mines of Spain. This account of Hannibal's splitting the rocks by vinegar, is generally deemed fabulous, from an idea that a sufficient quantity of vinegar could not be procured to effect his purpose; but the rocks were not to be *dissolved* by vinegar; they were, perhaps, split to that degree only, so as to facilitate the use of the crow and pick-axe, or whatever tools the ancients were in the habit of using."

An explosion by gunpowder took place in the mine while our travellers were within it. The tremendous noise of the concussion, the shouts of the men, and the uncommon singularity of the whole scene, made a deep impression upon the mind of Edward, and he felt quite rejoiced when he again saw the cheerful light of the sun.

"Silver," said Dr. Walker, as they directed their steps homeward, "is not only found native, but likewise in various states of combination; it therefore furnishes a more numerous series of ores than gold.

"Native silver occurs crystallized and in a variety of other forms, it is malleable, and enjoys most of the characters of the pure metal; it usually contains traces of antimony, copper, or arsenic, and, like gold, its principal veins are in primitive mountains.

"Schlangenberg in Siberia, Andreasberg in the Hartz, are mines whence large quantities of native silver have been drawn; it has been found in Cornwall and in Scotland. In 1666 a mass was found in Norway weighing 560 lbs. And in 1478, Duke Albert of Saxony descended into one of the Schneeberg mines, and used as a dining table a block of silver weighing nearly twenty tons. But the quantity of silver found in various parts of America far exceeds that of the old world; and the earlier visitors of Mexico and Peru saw in the possession of the natives such abundance of this metal, obtained by little industry and less skill, as induced

them to hope for inexhaustible stores, as the recompense of more intelligent and persevering efforts. In 1545 the rich silver mines of Potosi were, according to Fernandez, accidentally discovered by an Indian clambering up a mountain in search of a lama that had strayed from his flock, and shortly after, the equally valuable mines of Sacotecas in New Spain were opened. Since that period the working of silver mines is greatly increased, and the evidence of modern travellers concerning the profusion of their produce is such as to astonish an inhabitant of the ancient hemisphere. It is difficult to form an estimate of the exact produce in silver of the mines of the New World, but we know that it has been greatly on the increase, and that the precious metals have altogether become more common in Europe. It has been supposed that such are the treasures of those mines, that if properly worked such quantities of silver would be obtained as to shake our commercial system by its abundance.

“ Besides native silver and its alloy with gold we have several other important ores, of which antimonial, arsenical, and sulphuretted silver are the principal.

“ Antimonial silver is a soft sectile and white ore, and when crystallized is in four and six-sided prisms. It consists of 78 parts silver, and 22 antimony. Before the blow-pipe it exhales oxyde of antimony and leaves pure silver.

“ Arsenical silver is more grey than the former; harder, and rather brittle. It is crystallized in small four-sided prisms. It exhales a garlic smell before the blow-pipe, and leaves impure silver. A specimen from Andreasberg analysed by Klaproth, gave

“ Arsenic	-	-	-	35	} parts.
Iron	-	-	-	44	
Silver	-	-	-	13	
Antimony	-	-	-	4	

“ Another yielded

“ Arsenic	-	-	-	30	} parts.
Iron	-	-	-	20	
Silver	-	-	-	28	
Antimony	-	-	-	20	

“ The native compounds of sulphur and silver are numerous and important. The brittle sulphuret contains about 72 per cent. of sulphuret of silver, 10 antimony, and 10 iron, copper, and arsenic. One of the most beautiful ores

of silver is the red or ruby silver, crystallized in six-sided prisms and their modifications. It is a compound of silver, antimony, and sulphur, and is well marked by decrepitating before the blow-pipe, exhaling antimony and sulphur, and leaving a globule of pure silver; its component parts are

Silver	-	-	-	-	60
Antimony	-	-	-	-	20
Sulphur	-	-	-	-	20

“ The mines we have just visited, of Schemnitz, and the Hartz, have furnished exquisite specimens of this ore; it also constitutes a great part of the riches of the Mexican mines.

“ These are the principal ores of silver which we recognize in the cabinet of the mineralogist, and they are the prolific though by no means the only sources of the metal, for large quantities of silver are likewise procured from other ores, in which it constitutes a very small relative proportion, consequently they remain for after consideration.

“ In extracting the silver from the ores that contain it native, they are either fused with lead, and cupelled, which is the modern method, or they are triturated with quicksilver, which forms an amalgam. This is a very ancient process, and was first employed in the Mexican and Peruvian mines, by Pedro Velasco in 1566. The less pure ores may be roasted with common salt, and put into tubs with mercury, iron plates, and water.

“ Nitric acid is the readiest solvent of silver, and when the solution is evaporated it gives crystals, which fused and run into moulds produce *lunar caustic*.

“ This salt is possessed of some curious properties; it is decomposed by the action of light and by phosphorus, hydrogen, charcoal, sulphur, and several of the metals. The silver is precipitated in a beautiful arborescent form by quicksilver, forming the arbor Dianæ, or silver tree. At some future time, I will explain how you may make iron and lead trees.

“ When a solution of 40 grs. of silver in 2 oz. of nitric acid diluted with 2 oz. of water, is heated with 2 oz. of alcohol, or pure spirit, a white powder precipitates, which is fulminating silver. It detonates when gently heated or rubbed. Its composition is not exactly known.

“ The quantity of the precious metals annually raised from the mines amounts to about $10\frac{1}{2}$ millions sterling, of which $2\frac{1}{2}$ millions are in gold, and eight in silver.

“ Of the gold 2,300,000 is from America, and about 200,000 from Europe, Asia, and Africa. Of the silver, seven millions are the produce of America, and the remainder of the other quarters of the world.

“ The pound troy of standard silver consists of eleven ounces two pennyweights pure silver, and eighteen pennyweights of copper, and it is coined into sixty-six shillings.

“ In the time of Herodotus and Plato, that is, about 450, and 400 years before the Christian era, the relative value of gold and silver in Persia and Greece was as 13 and 12 to 1; and in Rome, about 189 years B.C. it was as low as 10 to 1; and when Cæsar returned loaded with the spoils of Gaul, such was the abundance of gold that it became as low as $7\frac{1}{2}$ to 1.”

From Kongsberg our travellers proceeded to Christiansand, where they embarked for Copenhagen.

CHAPTER IX.

DENMARK AND SWEDEN.

SECTION I

COPENHAGEN.

COPENHAGEN makes a magnificent appearance from the sea; it was originally founded by some fishermen, about the middle of the twelfth century. It is a fortified town, and during the late war was bombarded by the English. Some of the apartments in the palace are grand, but our travellers were more interested in their visit to Elsinour, in the neighbourhood of which is shown the very spot where Hamlet's father was said to have been poisoned.

The Danes were formerly brave even to fierceness; but long oppression and tyranny have completely altered the national character. The feudal system continues still in force in many parts, particularly in Holstein and Sleswick, where the noble landholder has the power of life and death over his vassals.

“ What encouragement has a farmer in this part of Den-

mark," said Dr. Walker, as they returned from an evening walk, "to cultivate his land and exert his skill? As soon as he has brought his little farm to perfection, and the crops excel those of his neighbour, he is removed to a more barren spot, there again to toil and labour, with the gloomy prospect of being again displaced, when by his industry the barren wilderness begins to smile, and blossom as the rose.

"In many places, however, the nobles have emancipated their peasants, and a few miles from Copenhagen a plain and simple monument has been erected by the peasants of the late Count Bernstoff in gratitude for their liberation."

"You will not make any great stay in Denmark, I suppose," replied his pupil.

DR. WALKER.—"No, I shall not; indeed I think we will immediately quit this feudal territory and return to Copenhagen," from whence on their road to the quay, they met a funeral procession, the coffin, which was covered with the pall, was placed upon a bier, surmounted by a canopy, which was drawn by a pair of horses only; and this constituted the whole parade of the interment of one of the principal inhabitants of Copenhagen.

SECTION II.

GENERAL VIEW OF DENMARK.

"DENMARK has received Pomerania from Sweden, in lieu of Norway: the inhabitants are estimated at 103,345; those of Iceland at 53,000, of Greenland at 7,000, of the Ferro Isles at 5,000," said Edward.

"Of its principal towns next to Copenhagen, Altona, Kiel, Albourg, and Elsineur, stand conspicuous.

"Altona, is a few miles west of Hamburg, it was in 1713, almost reduced to ashes by the Swedes, though it is now a very commercial town.

"Kiel has a harbour for ships of the largest size, the canal has so much augmented the trade of this place, that it is now one of the most commercial ports in Holstein.

"Albourg contains a palace, an exchange, and other public buildings; has a safe and deep harbour; it trades in

herrings and grain, and manufactures excellent guns, saddles, and gloves.

“Elseneur we have seen, is on the west of the Sound, which is here about two miles and a half over. Vessels passing through the Sound pay a toll to the King of Denmark, which, with those of the two Belts, produce about 100,000*l.* annually. Here are many foreign merchants, and also consuls of the principal nations that trade to the Baltic.

“The foreign possessions of Denmark consist of Iceland, part of East Greenland, Ferro Isles, Delmanhorst and Pomerania, in Germany; Tranquebar on the Coromandel coast, in the south east of Hindoostan; and Christianburg Fort, in Upper Guinea. And its islands at home are, Lessoe, east of Aalborg; Anholt, east of Wiburg; Samsoe, east of Aarhus; Sylt, west of Sleswick; Heligoland, west of Holstein.”

DR. WALKER.—“Vastly well, indeed, Edward, I think if I recollect right, we discussed the properties of the ocean on our voyage from Iceland. There is a remarkable difference between the waters of the ocean, and the Baltic.

“The water of the ocean contains about the thirtieth part of its weight of salt; the water of the Baltic holds only from the 200th to the 100th part, consequently the water of the Baltic ought to stand 1-40th part higher from the bottom of the sea than the water of the ocean, in order to maintain its hydrostatic equilibrium. It is observed on the Baltic shores, that the water subsides, and that its surface is lower in all parts than it formerly was. I am not wise enough to account for this circumstance, but may it not be in consequence of the Baltic becoming salter, and thus approximating to the specific gravity and height of the ocean?

“The Baltic sea has no tides, and it is usually frozen over four months in the year.”

SECTION III.

VOYAGE TO SWEDEN.

As the weather was very calm, our travellers were enabled to take a view of the coast, and at Christiansand, the cap-

tain put them on shore for two or three hours. Here they viewed the cloth and silk stuff manufactories. The inhabitants of this town export great quantities of alum, pitch, and tar. A brisk wind springing up unexpectedly, the captain sent the boat for his passengers, and they quickly re-embarked.

“That,” said the master, as they passed a small sea port, “is Calmor.”

“Calmor,” exclaimed Edward, “Is that the Calmor so celebrated for the convention that goes by that name, where Margaret of Sweden united the three kingdoms of Denmark, Norway, and Sweden.”

“The very same,” replied his tutor, “but it contains nothing worthy of notice at present, we shall not land at it.”

“There is a gold mine at Adelfons,” said the master of the vessel, “in the province of Smaland, and Calmor is in Smaland too, but to be sure it is not very productive. But our copper, iron, and silver mines are very rich.”

DR. WALKER.—“Yes, so I understand. We intend visiting the iron and copper mines.”

“Our iron,” said the captain, “is much valued by the English I know, there is none makes better steel. The mine at Dannemone is a wonderful sight I think. I suppose you know it is a mountain of iron in the middle of a sandy plain.”

DR. WALKER.—“Yes, I understand as much. You come, perhaps, from that part of the country.”

MASTER.—“No Sir, I don’t, I come from Gottenburg, where I suppose you have been, as you are travelling to see sights.”

DR. WALKER.—“We had no time to stop at Gottenburg, but you allude to the celebrated precipice near that town, down which rolls a tremendous cataract, into a deep bed of water, so profound, that huge masts and other bodies disappear for the space of half an hour, and others an hour, before they are recovered; the bottom of this bed has, I understand, never been fathomed.”

MASTER.—“Never, Sir, although sounded by lines of several hundred feet. Perhaps you never heard too of the slimy lake in Gothland, which singes every thing which is thrown into it. That is a great curiosity I think.”

DR. WALKER.—“No, I never did hear of that lake; but as you appear to have taken a great deal of notice of

the *curiosities* that have fallen in your way, and as we are travelling for amusement and information, perhaps you can point out certain spots where we are likely to be gratified on both these points."

MASTER.—"Why, no Sir, I can't say as I can, but these two things were in my native province, and were therefore, familiar to me. You intend going to Fahlun, you say, that's a spot that is every Swede's country, because in its mine Gustavus Vasa was hidden."

DR. WALKER.—"True, and you are right; Dalecarlia is a spot that should be dear to every Swede. But I see we are drawing very near the capital, and a beautiful looking city it is. It reminds me of Venice in one respect. That of its being built on small Islands, but the scenery round it is far more grand and beautiful."

EDWARD.—"What a very singular effect those rocks of granite have which rise perpendicularly from the sea, partly bare and cragged, and partly dotted with houses, or feathered by woods. And look, Sir, at that amphitheatre at the extremity of the harbour, where several streets rise one above the other, and which are crowned by the palace as I suppose. Scarce any thing can be imagined more lovely and agreeable than the appearance of the river upon which Stockholm stands; it is divided into a number of branches, the sides of which are covered with public buildings, and elegant houses. In some places, where the breadth is very considerable, its stream is perfectly tranquil and slow; in others where the channel is narrow, it rushes through with the impetuosity of a torrent. So many small islands are formed by it below the town, that almost every magazine of naval and military stores, possesses a detached one, and there is a wild and romantic cast through the whole landscape, which is not displeasing to the spectator, and which characterises the northern views. The quay is not long but of a prodigious breadth, and there are ten fathoms water close to the shore."

Not only the master, but many of the sailors appeared pleased with the pleasure expressed by Dr. Walker and his pupil upon approaching the capital of Sweden. As it was late when our travellers landed, they retired quietly to their inn, where they were soon joined by Colin.

"Well, Colin," said the Doctor, "how do ye like Stockholm?"

“Why, muckle weel,” replied the Highlander. “But when the Swede was telling o’ his cataract, Colin could have told him o’ the falls of Glomma, in the heights Glen Elcknig, in Rosshire, as a match for his fall at Gottenberg, I think he ca’d it; ’tis sae surrounded by rocks and woods, that ye can scarce ken it, unless ye be quite near to it; and its very grand, I do assure ye.”

DR. WALKER.—“You should have told us of this fall, Colin, when we were in Scotland; we would have seen it.”

SECTION IV.

SWEDISH MANNERS.

ON the following morning, our travellers took a survey of the city of Stockholm, which stands in a singular situation between an inlet of the Baltic, and the lake Mælar. It occupies seven small rocky islands, and the scenery is truly singular and romantic. Most of the houses are of stone, or brick covered with stucco; except in the suburbs, where they are composed of wood, painted red; and this is indeed the material most commonly applied to the construction of dwelling houses in Sweden. The city was founded by Earl Birger, regent of the kingdom about the middle of the thirteenth century. Besides the palace, Stockholm contains a castle, an arsenal, and several academies: its manufactures are not numerous, and its population may be estimated at about 80,000.

Edward was particularly struck by the dull uniformity of the Swedish dress. “Are the people obliged to wear this unbecoming dress?” said he, to his tutor. “Why, gentle and simple are all dressed in the same style, only that I perceive the superior orders wear clothes of a finer texture.”

DR. WALKER.—“Is not that the case every where. But here it is more observed, because black is the prevailing colour. In the year 1777, a national dress was established, for the purpose of suppressing luxury in that article. The men, as you see, wear a close coat, very wide under cloaths, strings in their shoes, a girdle, a round hat, and a cloak, and

the usual colour is black. The women also wear a black robe, with puffed gauze sleeves, and coloured sash and ribbon. There is also a particular uniform for gala days, when the men appear in blue sattin, lined with white, and ornamented with lace: and then the ladies sport white sattin dresses, adorned with coloured ribbons. But still these gayest assemblies present a monotonous *coup d'œil*, compared to the gay variety presented in a London ball-room."

Upon returning to their inn, they were quite ready for their dinner, which was served in great profusion; previous to which, they were presented with bread and butter, and a small glass of brandy.

"As a citizen of the world, Edward," said the Doctor, "you are not to express surprize at any custom, however singular, you may meet with: put your lips to the glass: when at Rome, you may be presented with ice, instead of brandy, as a luxury: both these customs arise from the same cause, the temperature of the different climates. We will, after dinner, visit the arsenal, where, I understand, the cloaths which Charles the Twelfth wore at the time he was killed, are preserved with great care."

EDWARD.—"I believe there are many doubts, Sir, respecting the author of his death; are there not?"

DR. WALKER.—"So many, that the affair has never been satisfactorily determined. Indeed the enquiries at the time the fatal affair took place, were few; and the prince of Hesse, his brother-in-law, appears to have been very lukewarm in ascertaining the cause or causes of the death of so near a relative. All passed without noise or tumult."

Upon examining the cloaths attentively, which were exhibited to them, they perceived that the hat is torn about an inch square, in that part which covered the temple; the right hand glove, which is of soft leather, is covered with blood, and at that part where the handle or hilt of his sword lay; the belt is likewise bloody: he therefore must have put his hand to his head, previously to grasping his sword, for he was wounded in the temple alone. His coat was a common blue regimental one, such as every soldier wore; and round his waist was the broad buff leather belt, in which he hung his sword.

SECTION V.

JOURNEY TO UPSAL.

“ Now then for Upsal,” said Dr. Walker; “ for there appears nothing peculiarly interesting in Stockholm.” And accordingly our travellers recommenced their journey.

Through a long avenue of stately firs, the view of Upsal, the ancient metropolis of Sweden, opened upon our travellers, with its royal palace towering above the other edifices. The city itself, which has a very noble appearance on its approach, is neat rather than elegant, and contains fewer wooden houses than most other towns in that kingdom. The scenery along the gulph of Bothnia to Sundswall is beautiful, and varied between the wooded borders of the sea and the inland lakes. Beyond Sundswall the country becomes somewhat alpine, and our travellers were enchanted with the varying beauties of the landscape: they had never travelled with more amusement; words could give no idea of the changeful scenery; hills, mountains, valleys, forests, lakes, islands, rocks, rivers, cataracts; in short, every feature of nature that the poet or painter can picture to his imagination, or wish to delineate.

Having letters of introduction to a gentleman, who had a large property in the iron mines, he gave them a most friendly reception, and begged they would make his house their home, during their stay at Upsal. Dr. Walker accepted his offer with thanks, and they had thus an opportunity of observing the manners of the people. The Swedish character varies materially in the different provinces. The Scandian is cheerful and hospitable, the Smalander is humble, mild, and submissive; placed amidst barren rocks, and uncultivated wilds, he is easily satisfied, and grateful for the smallest rewards that may be offered for his services. The Ostrogoth resembles the soil on which he is placed, which presents the most pleasing pictures. The Finlander is most laborious, and capable of enduring great hardships; but is somewhat obstinate. The Dalecarlians are bold, independent, and enduring. Such are the principal features of the Swedish character.

Having procured an open carriage, our travellers proposed starting at nine o'clock, for the mines of Dannemora. Upon

looking out of their window, they saw Colin very busy fastening the horses in the usual Swedish style, with ropes to the carriage: upon entering the room, he protested, that he wished much they had brought harness with them; for he thought "in gude truth they'd a' be killed, for the ropes were muckle awkward gear."

"Never mind, Colin," replied the Doctor, "the horses, though small, are like your own Shetland ponies, strong; and the roads, though narrow, are good: so I dare say we shall do very well."

They travelled in a neat little waggon quite new, without springs, in shape like a shoe placed upon wheels, with the heel foremost, the toe being the receptacle for beds, provisions, and baggage. In any country but Sweden, such a vehicle would not promise much comfort or convenience; but there, from the excellence of the roads, and the consequent facility of travelling, our travellers found it one of the most convenient in which they had ever been engaged. In this manner they proceeded through Upsal; and arriving in a small village about nine o'clock in the evening, they were obliged to wait for post-horses, although their Swedish servant had been sent on before to procure them.

The village consisted of three or four filthy looking wooden huts, into which, from apprehensions of the same disgusting dirtiness that they had met with in former receptacles of the same kind, they did not choose to enter, but preferred sitting without, on their luggage. At length they asked for something to eat. To their great surprize, they were immediately conducted into a neat small room, having the floor strewed with juniper, according to the custom of the country; a table stood covered with a white damask cloth, garnished with napkins, silver handled knives and forks, silver spoons, and various other implements of luxury. Here they were regaled with soup, cutlets, and a variety of very delicate viands, beginning and ending their repast with French brandy; and they left the house, wondering much at the moderate recompense demanded by their civil host, but especially at the unexpected cleanliness of their accommodations, and the extraordinary sumptuousness of their fare.

If the sovereigns of Europe were to be designated each by some title characteristic of the nature of their dominions, we might call the Swedish monarch, *Lord of the woods*; because, in surveying his territories, he might travel over a

great part of his kingdom from sun-rise until sun-set, and find no other subjects than the trees of his forests. The population is every where small, because the whole country is covered with wood.

Having sent on a messenger to procure horses, they at length set off. The fields being divided by a wooden paling, travelling through this country could not present that domestic sort of scenery, which is produced by close hedge-row elms, which meet the eye on every side in England. Colin pointed to the pales with disgust; but every now and then, as the road wound through the defiles of the mountains, his countenance brightened, as his native wilds arose to his imagination; and once he sighed and hummed the thrilling air of "Lochaber no more." "Why, Colin," said the Doctor, "I am afraid you wish yourself at home." Colin shook his head, but made no other answer; he appeared indeed to be absorbed in the recollection of home, and his master did not repeat his question.

SECTION VI.

THE MINES OF SWEDEN.

As they drew near the immediate neighbourhood of Donamora, the road became more level, and at length almost assumed the appearance of a plain. Having refreshed themselves at one of the villages in its vicinity, they procured a guide, and at length drew near the enormous mountainous mine of Donamora. It is in depth eighty fathoms, and it occupies a considerable extent of territory: its ore is conveyed to the surface of the earth, through several pits or openings made for that purpose, by means of casks fixed to large cables, which are put in motion by horses. The workmen, standing on the edges of these casks, and, clasping the cables, descend and ascend with the greatest composure. Edward asked, rather anxiously, "if they were to descend in that style." "Why I fear," replied the Doctor, "our heads would grow a little giddy by such a manœuvre, and therefore we shall perhaps be accommodated with a station within the bucket. Do you observe that enormous wheel,

sixty-six feet in diameter, which is employed to draw up the water. This water is afterwards conveyed along an aqueduct, nearly a mile and a half in length. The ore in this mine is not dug out, but blown up by gunpowder, an operation which is performed every day at noon, and is one of the most awful and tremendous that can be imagined."

Our travellers arrived just at the moment of explosion; and although Edward had been witness to the same sort of shock in the silver mines; he was absolutely petrified. "'Tis like subterraneous thunder, is it not, Sir?" said the astonished youth. "Or rather rapid discharges of vollies of artillery," replied the Doctor; "and the sensation of the trembling of the ground will give you an idea of that produced by an earthquake. See to what an height the stones are thrown above the level of the ground. But come, you must prepare for our descent; the concussion has perfectly subsided, and the men are already in attendance. This is rather an odd sensation," continued the Doctor; as the bucket descended into the dark and deep abyss beneath them. Nine minutes elapsed ere they reached the bottom, and then the view of the mine was awful and sublime in the highest degree. Whether fear or admiration was the prevailing sensation experienced by our travellers, they could scarcely define. The light of the day was very faintly admitted to these subterraneous regions; in many places it was absolutely lost, and flambeaus were kindled in its stead. Beams of wood were laid across some parts, from one side of the rock to the other, and on these the miners sat, employed in boring holes for the gunpowder, with the most perfect composure; although the least dizziness, or even a failure in preserving their equilibrium, must have made them lose their seat, and have dashed them against the rugged surface of the rock beneath: so powerful is the force of habit. The fragments, torn up by the late explosion, lay in vast heaps on all sides, and the whole scene was calculated to inspire a gloomy admiration. Our travellers remained for some time, exploring these frightful caverns, which afford employment for no less than 1300 workmen. The weather above was warm, but here ice covered the whole surface of the ground, and they found themselves surrounded with the cold of the most rigorous winter, amid darkness and caves of iron. In one of these, which ran a considerable way into the rock, half a dozen poor shivering wretches were warming them-

selves round a charcoal fire, and eating the little scanty subsistence, arising from their miserable occupation. They started at perceiving such unexpected guests, and appeared pleased when the Doctor and Edward expressed a wish to dry their feet, which were quite wet from the melted ice, by their fire. They immediately made room for them; and a small donation from Edward, at his departure, was received by them with every mark of gratitude.

“Poor creatures,” said Edward, as they slowly ascended, “what a wretched life! Do they live long, Sir, in these mines?”

DR. WALKER.—“The iron mines are not so pernicious as those of *copper*; but the most pernicious of all are the *quicksilver* mines: and those which are the *least* so, are the *salt* mines.”

After their return to the “precincts of the cheerful day,” they paid their respects to one of the owners of the forges in the neighbourhood, who hospitably entertained them, and entreated they would take up their abode with him that night. The offer was too inviting to be rejected; and they were not a little exhilarated at the sight of the cheerful fire, and plenteous good store, which was spread for their entertainment. When our travellers mentioned their intentions of visiting the mine at Fahlun, their host endeavoured to dissuade them from undertaking the expedition. “That mine is particularly unwholesome,” said he; “and I think I could describe it to you sufficiently for your satisfaction.” Edward, however, expressed a particular wish to visit a mine so celebrated for its machinery, its copper, and, above all, as having been the asylum of the hero of the north, Gustavus Vasa. Their host therefore changed the subject, to that of the iron mine they had just visited. “Throughout the whole extent of Sweden,” said he, “the iron mines at present wrought, employ upwards of 25,000 persons, and yield annually upwards of 57,000 tons of metal. It has been calculated, that the furnaces and forges, which give to the iron the degree of perfection requisite before it can be used, consume annually 2,400,000 loads of charcoal. The peasants are chiefly employed in the manufacture of these metals; and as our travellers visited several of the forges, they had an opportunity of witnessing the astonishing dexterity, and perfect unconcern, with which these men pursue their hard, and apparently dangerous, employment. Habited in

coarse linen frocks, they stand close to and hammer a bar of ore, the heat and refulgence of which were almost insupportable at ten feet distance; the sparks flying about them in every direction.

Dr. Walker was anxious his pupil should see the whole process of reducing the ore into iron, which is altogether a very curious process; and therefore the next day they inspected the different forges. It is first roasted in the open air for a considerable time; after which it is thrown into a furnace; and when reduced to fusion, it is poured into a mould of sand, about three yards in length. These *pigs*, as they are then called, are next put into a forge, heated to a prodigious degree; a large piece is then broken off with pinchers when red hot, and this is beat to a lesser size with hammers. It is again put into the fire, and from thence entirely finished, by being laid under an immense engine, resembling a hammer, which is turned by water, and which flattens the rude piece into a bar. Nothing can exceed the skill of the men employed in this concluding part of the operation, as the eye is the sole guide, and it requires an exquisite nicety and precision.

Having once more resumed their seat in their carriage, Dr. W. thus spoke upon the properties and nature of iron. "Iron," said the Doctor, "is the most universally diffused metal throughout nature. It is found in animals, in vegetables, and in almost all bodies. It is seldom found native, but combined with a great variety of substances. It is particularly distinguished by its magnetical properties; by its hardness and elasticity, by its ductility and the property of being welded, but it is very difficult to fuse. Iron soon rusts or oxydates, when exposed to the action of water. Iron filings agitated in water become oxydated, and assume the form of a black powder, called *martial Ethiops*. When iron ore is fused in large furnaces, it is made to flow into a kind of mould formed in sand. This first product, which is exceedingly brittle, and not at all malleable, is called cast iron, of which are formed stoves, pipes, cannon, and other articles. Cast, or crude iron, contains carbon and oxygen. The presence of the former appears from its coating the utensils employed in its fusion with plumbage or black lead, which contains nine-tenths of carbon, and one of iron."

EDWARD.—"I do not quite comprehend you, Sir. What is carbon, and what is oxygen?"

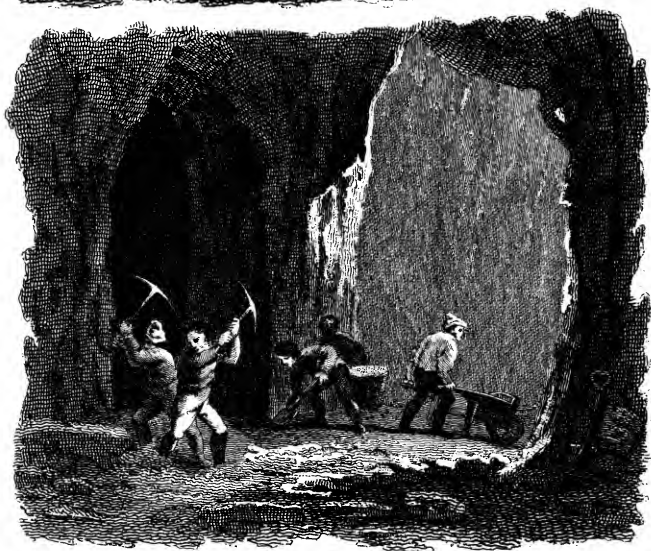
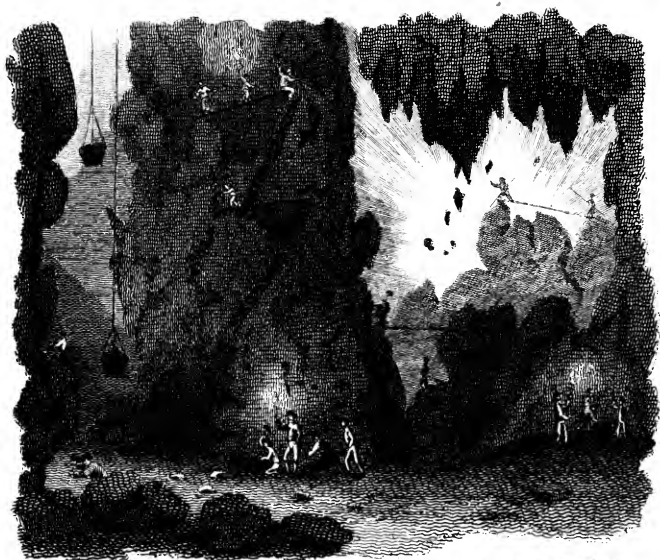
DR. WALKER.—“ Carbon and oxygen are two gasses. Our atmospheric air is composed of oxygen, nitrogen, and carbonic acid. Oxygen is that wholesome air, without which we could not breathe. This gas is absorbed by combustible bodies, and converts them into acids; hence its power of oxydizing, or rusting, certain metals. Gold, silver, and platina, will not become oxydated by exposure to the air; but in a very high temperature, that is to say, in a strong heat, oxyds are produced even from those metals. But to return to the air: nitrogen gas is unfit to maintain combustion, or support life; yet a small portion is absorbed in respiration. It is a little lighter than atmospheric air; when separated from it, is unflammable, and one of the most general elements of animal substances. Though *nitrogen gas* is of itself so noxious to animals, it answers an important end, when mixed with oxygen, in atmospheric air. Were it not for this large quantity of nitrogen in the atmosphere, the blood would flow too rapidly through the vessels, and would shorten the life of man. *Carbonic acid gas* is incombustible, and does not detonate with oxygen gas, and it is most noxious to animals. The atmospheric air, which is produced by this mixture, supports animal life, by giving out its caloric, or that substance which produces heat to the blood. The blood of the veins is purple, approaching to black, until it imbibes the atmospheric air through the lungs, when it becomes a brilliant red, pregnant with heat and motion. The loss of oxygen by respiration and combustion, is supplied by the leaves of trees and other vegetables, which in the day exude or breathe a large portion of oxygen gas; but at night they throw out azote or nitrogen gas: and hence they are unwholesome in a close chamber, while people sleep. They vegetate upon this impure air, and in return give out the oxygen. Any one or more of the simple substances, when united to a less quantity of oxygen gas than is necessary to form an acid, produces what is called oxyd: hence the words carbon and oxygen, when applied to metals, means, that they contain properties partaking of the nature of those gasses, or else that they are capable of being acted upon by them.”

EDWARD.—“ You mentioned *simple substances*, what am I to understand by that expression?”

DR. WALKER.—“ Simple substances are those bodies, which have never yet been decomposed, nor formed by art.



Iron Mine.



Salt Mine.

All the simple substances with which we are at present acquainted, are light, caloric, or heat, oxygen, nitrogen, the metals, some of the earths, and the four simple combustibles, carbon, hydrogen, sulphur, and phosphorus. But to resume our original subject.

“ Crude iron is in three states, white, grey, or black, according as it contains a larger proportion of carbon, an exact proportion of carbon and oxygen, or a larger proportion of oxygen.

“ To render the iron malleable, it must be freed from the carbon and oxygen which it contains; by being fused, and kept in that state for some time, stirring and kneading it all the while; by this the carbon and oxygen unite, and are expelled in the form of carbonic acid gas. It is then subjected to the action of large hammers, or to the pressure of rollers by which the remaining oxyd of iron and other impurities are forced out. The iron is now no longer crystallized or granular in its texture; it is fibrous, and ductile, and is in a purer state, though far from being absolutely pure. It is capable of being welded and worked by hammers into any form. It is now called forged or wrought iron.

“ There are several varieties of iron in this state, arising from the intermixture of other substances. There is one kind of forged iron, which when cold is ductile, but when heated, is extremely brittle; it is also fusible. This is termed hot short iron. Cold short-iron possesses precisely the opposite properties, being highly ductile while hot, but when cold, extremely brittle. The causes of these peculiarities have not been perfectly explained.

“ Iron is capable of being reduced to a third state, which is that of steel. It is converted into steel by exposing it to heat in contact with carbonaceous substances, which unite themselves with it. Thus we have three states in which iron may exist, viz. cast-iron, forged-iron, and steel.

“ Cast-iron contains too great a quantity of carbonaceous substance: it may be called steel too much steelified; it is therefore exceedingly brittle, and not at all malleable.

“ Forged iron is iron purified from all foreign substances. And in regard to its property of being welded, we may judge from the following account I am about to relate; for were it not for the property which iron has of being *welded*, that is, united in various parts without the assistance of rivets or solder, this very plentiful metal would be useless for many

purposes ; but as it is, what may not be accomplished by it ! The most stupendous metallic fabric ever executed by man, is the Chinese "bridge of chains," hung over an awful precipice near Ringtung, to connect two mountains. In this bridge there are twenty-one chains, stretched over the valley or abyss ; these are bound together by other chains which cross them. The whole forms a perfect and safe road, extending from the summit of one mountain, to that of the other. A bridge, upon a similar principle, and of the same material, is now in the act of being erected over the Menai Strait, (to connect Wales with the Isle of Anglesea), by Mr. Telford, the engineer.

" Steel is formed by bedding in charcoal, in a close furnace, alternate layers of malleable iron and charcoal, and exposing them to a strong fire for six or eight days. This process is called *cementation*. During this operation, the iron combines with a quantity of carbon, and is converted into blistered steel. This is either rendered more perfect and malleable, by subjecting it to the operation of the hammer, or it is fused, and cast into small bars, forming cast-steel.

" Steel holds a middle rank between cast and forged, or malleable iron. It is composed of very small grains ; and when hot, possesses a considerable degree of malleability. It is specifically heavier than forged iron.

" It is denser than forged iron, but it is not harder. To communicate to it the necessary hardness, it must be tempered ; that is to say, after being exposed to a greater or less degree of heat, according to the required degree of hardness, it must be suddenly cooled by immersion in cold water. Tempering renders it harder, more elastic, and more brittle. It may be made so hard as to scratch glass. Steel, thus hardened, may have its softness and ductility restored, by again heating, and suffering it to cool slowly.

" A polished bit of steel, when heated with access of air, acquires very beautiful colours. It first becomes of a pale yellow, then of a deeper yellow, next reddish, then deep blue, and at last bright blue. At this period it becomes red hot, and the colours disappear ; at the same time that the metallic scales, or the black imperfect oxyd of iron which is formed, incrusts its surface. All these different shades of colour indicate the different tempers the steel has acquired by the increase of heat. Artists have availed themselves of

this property, to give to surgical and other sharp instruments those degrees of temper, which their various uses require.

“Tempered steel is more elastic, and harder than iron. Its use is too well known to require elucidation.

“Wootz, a metal brought from the East Indies, was examined by Dr. Pearson, who discovered that it was iron united to carbon, and also to oxygen.

“The sulphate of iron is common copperas in an impure state.”

“Having said thus much upon iron, I will mention copper and lead. Copper is found native, but in very small quantities; it is generally met with in the state of an oxyd, or united to acids and sulphur. The copper mine of the isle of Anglesea, is perhaps the largest known mine of that metal in the world. Pure copper is of a red colour, very tenacious, ductile, and malleable.

“Nitrate of copper is copper dissolved with nitric acid.

“The sulphate of copper, or what is commonly called blue vitriol, is sulphuric acid, concentrated with copper.

“Verdigrise is acetous acid, imperfectly oxydated with copper.

“Copper may be alloyed with most of the metals. As an alloy of silver, it renders it more fusible; this mixture is employed as a solder for silver plates. Copper, when alloyed with tin, forms bronze, a metal used for making bells, cannon, statues, &c. When alloyed by cementation with the oxyd of zinc, called *calamine*, it forms brass. With arsenic, it forms white tombac. The salts found with copper, have a poisonous quality.

“Copper is employed for making kitchen utensils, but very improperly; for as these vessels are liable to be corroded by the salts and acids used in culinary preparations, they often become dangerous, and may thus make us swallow slow poison. Kitchen utensils of tinned-iron are far preferable, because iron possesses no quality injurious to health.

“Lead is seldom, if ever, found in the native state. It is chiefly mineralized by sulphur, and is then called *galena*. When exposed to heat with access of air, it fuses, and is oxydated at the surface. If this oxyd be removed, more is formed, and thus the whole may be converted into grey oxyd of lead. This oxyd, when exposed to a strong heat, is converted into a yellow oxyd, called *massicot*. If this yellow

oxyd be exposed to a still more violent heat, it assumes a beautiful red colour, and becomes red lead, or minium; litharge is a semi-vitrified oxyd of lead, obtained by keeping a stream of air upon fused lead: it is generally procured in the process of separating silver from lead.

“ If litharge be exposed to a strong heat, it becomes converted into glass of lead, which forms the basis of the common glazing for earthen-ware.

“ The acetous acid corrodes lead, and the result is a white oxyd, known under the name of white lead.

“ All the oxyds of lead are soluble in vinegar, and form acetite of lead, known under the name of sugar of lead.

“ Lead is applied to a great variety of uses in the arts, which do not require illustration. Lead forms alloys with other metals which are used as solders.

SECTION VII.

THE MINES OF DALECARLIA.

As they entered the province of Dalecarlia the scenery became wild and picturesque, to a great degree. Fahlun is environed by mountains and lakes, and as our travellers traversed this independent region they experienced many instances of that frank and generous hospitality which is seldom found where the mind is fettered by slavery. The little groups of female peasants they occasionally met with, dressed in their short jackets and many coloured petticoats, gave a life to the dreary scene around them. They are in general well formed, and many of them would present good models for a Hebe. Their countenances are open and frank, their eyes blue and expressive; and their manners are pleasing and attractive. So hardy are they that it is not unusual with one of these damsels, to wash her linen in a brook and put it on wet and so let it dry. Their food generally consists of black bread and water: but content, that world of wealth, gives to their homely fare the flavour of nectar and ambrosia.

“ Health and industry need no tempting cates,” said Dr.

Walker, as the cheerful smile and not inelegant curtsey, from one of these mountain nymphs, arrested his attention; "and the hard brown crust that girl holds in her hand, possesses a magical relish, unknown to the lazy epicure at a turtle feast, whose vitiated appetite stands in need of high seasoned dishes, and sauces, piquant. How degraded, how sunk is that man whose happiness depends upon his *cook*."

The Dalecarlian peasants offered their services where they were needful, theirs were the services of free will, and the manner in which they were conferred, shewed they felt they were voluntary. This style of conduct does not pervade Sweden, for had they been travelling in Smaland, instead of Dalecarlia, they would, indeed, have received the same services, but arising from different feelings.

"Well Edward," said Dr. Walker, as they drew near the mouth of this celebrated mine, which is nearly three quarters of a mile in circumference, "from the frank and independent air of the Dalecarlians you are not surprised that Gustavus Vasa should have chosen a refuge among them. You know his history I suppose?"

EDWARD.—"Not the particulars of it, Sir, nor the circumstances which led to his misfortunes."

DR. WALKER.—"As we are going on I will give you a sketch of it. Christian II. who, by the bye, married the sister of Charles V. having resolved to render himself absolute by a barbarous policy, which proved the means of his own destruction, and of emancipating Sweden from the Danish yoke, laid a plot for massacreing all the principal nobility of the country. He succeeded in his horrid and merciless design, for of all those who could possibly oppose his arbitrary intentions, Gustavus Vasa, a descendant from the ancient kings of Sweden, alone escaped. An immense price was set upon his head; the Danish soldiers were sent in pursuit of him in every direction, but he eluded their vigilance, and after assuming various disguises he at last found shelter in the mines of Dalecarlia, where he worked for some time as a miner: at length, finding he was betrayed, he appealed to the feelings and spirit of the hardy Dalecarlians, and with their assistance he drove his persecutor from his much injured country. Gustavus was appointed at first, administrator of Sweden, and was afterwards chosen King with the unanimous consent of the whole nation. He established the Protestant Religion in Sweden, and in the

year 1554 the Roman Catholic ceremonies were prohibited. You know his eldest son Eric was a suitor of Queen Elizabeth?"

"Yes," replied Edward, "Elizabeth had many wooers, all equally assiduous, and all equally unsuccessful. Elizabeth was a great Queen, and a great coquette."

"Upon my word," replied the Doctor, "'tis well for you her Majesty does not hear you: but I must confess I am of your opinion, and think her enmity against the unfortunate and indiscreet, if not guilty Mary Stuart, was rather excited by the charms of the latter as a woman, than by her crimes as a wife or queen."

EDWARD.—"Do you think Mary was *really* guilty of her husband's death, Sir?"

DR. WALKER.—"'Tis a subject upon which I cannot venture to decide. The history of those times, as far as relates to her at least, is so enveloped in mystery, and historians differ so much as to the relation of facts, that truth is scarcely to be hoped for: but as I am an Englishman, and therefore accustomed to look upon all as innocent, however suspicious appearances may be against them, until they are proved guilty, I confess I am inclined to hope she had no such great crime to answer for; absolute *proofs* of her guilt are wanting, and I am therefore rather cautious how I judge harshly of one so peculiarly situated as was the sensitive and accomplished Queen of Scots."

Upon approaching the mine of Dalecarlia, our travellers curiosity was attracted by the hydraulic machines which are destined to convey the water to the different quarters, and the power of which is such, that one of the wheels has a diameter of not less than forty-four feet. Another wheel of proportionate magnitude is employed to raise the ore from the mine to the surface of the earth, and is admirably constructed. Regular circles are placed on each side, and round these the chain rises, taking a larger or smaller circumference, in proportion to the necessary circle to be made, so as to counterbalance the weight, and consequently the increased motion of the bucket.

A vast chasm, of tremendous appearance, presents itself to the view of the stranger, at the mouth of the mine. This being the part of the mine which was first opened, either through ignorance or the neglect of those who had then the management of the works, the excavations so weakened

the foundations of the hill, that the whole fell in, leaving a most chaotic scene of precipitated rocks, and a gaping gulf resembling the mouth of a volcano. Great care has been since taken that no such disaster should again occur. Plans and sections are drawn of all the galleries, and where the prosecution of the works in the same direction might be dangerous, orders are issued to the miners to stop, and an *iron crown* is fixed on the spot, as a prohibition ever to proceed further. The workmen then explore in a different direction, while every subterraneous excavation is nicely watched.

Our travellers descended into the great chasm by a range of wooden steps, which cross in a variety of directions the rough masses of fallen rocks, of gravel and of the ancient machinery. Ere they reached the entrance of the cavern they had to descend thirty toises, and this being accomplished, they proceeded horizontally to a considerable distance within. They now lost the pure air of day, and gradually became sensible of an oppressive vapour which rolled towards them in volumes, from the mouths of a hundred caves leading into the main passage.

“ This does indeed recall the regions of Tartarus,” said the Doctor, as they descended the steps cut in the winding rock, “ the air of the iron mines was purity itself compared to what we now inhale. Cannot you recal to you imagination Virgil’s description of the descent of Æneas into the infernal regions? Here are the same caverned portico, the rocky rough descent, the steaming sulphur, and all the deadly stench of the Avernus. And here,” continued the Doctor, after a short pause, “ in these pestilential regions did the great Gustavus find a temporary asylum against the malice of his enemies.”

Edward made no answer; he was wholly engrossed in contemplating the miserable beings who appeared to flit around him like spectres. In one part of these caverns, the steam is so excessively hot as to scorch at the distance of twelve paces, and the sulphureous smell in its vicinity is intolerable. Near this spot a volcanic fire broke out some years ago, in consequence of which strong walls were constructed as a barrier to its power, and several contiguous passages, which, had it spread, would have proved dangerous, were walled up.

“ We are not yet arrived at the end of our subterraneous

excursion," said the Doctor to Edward, who began to evince symptoms of fatigue, the effect of the vapours rather than of exertion; "but if you really have seen enough of these subterraneous wonders, we will immediately return."

"By no means, Sir," replied his pupil, "let us see all that is to be seen."

They accordingly traversed many long and winding galleries, as well as large vaulted caverns, where the workmen were disposed on all sides, employed in hewing out masses of the rock, and preparing other parts for explosion. Others were busily employed in wheeling the brazen ore toward the black abyss, where the suspended buckets hung ready to draw it upward. From the effect of such violent exertion, combined with the heat, these poor creatures are obliged to work almost naked. Their groupes, occupation, and primitive appearance, scantily illumined by the trembling rays of torches, formed a curious and interesting scene. The depth of this mine being 1,200 feet, a full hour is required to penetrate to the bottom. The mass of copper lies in the form of an inverted cone. Five hundred men are employed daily in working these mines, where females are not admitted, on account of the deleterious quality of the vapours.

"This mine," said the Doctor, "was anciently a state prison in which criminals, slaves, and even prisoners of war, toiled out their wretched existence. It was a barbarous policy, thus to class men who were fighting their country's battles with the refuse of society. It was no uncommon thing with Peter the Great, when he gained a battle, to send the Swedish prisoners into Siberia. This was equally cruel, and so contrary to all the laws of war as now established, that no prince would dare to make the attempt."

Near the bottom is a rocky cavern, called the *Hall of the Senate*, on account of its having been the resting place of several Swedish Kings, who came attended by the senators to examine the works, and here took refreshments.

SECTION VIII.

CUSTOMS AND MANNERS OF THE SWEDES.

AFTER leaving the mines, and when they had for a short time, inhaled the pure breath of heaven, Dr. Walker and his pupil had a consultation as to their future route.

“There appears nothing inviting in the more northern parts of Sweden,” said the Doctor, “rocks and mountains covered with fir-trees, and intersected by rivers and cataracts, appear in one place, while on another their lofty and barren summits are covered with snow. The inhabitants too, of these cold and chilling regions, present no features either of mind or body, peculiarly attractive. The Laplander is short and thick made, he has a broad large face, very prominent cheek bones, his mouth and lips very thick, and his head is large. In winter he lives in a house; in the summer, in tents made of skins of beasts. The Laplanders amuse themselves with telling stories and singing, when they meet at each others tents; they are of a very peaceable disposition, and would rather quit their homes than engage in war. They have many superstitions; augury and witchcraft are much practised among them; and a black cat in each house, is reckoned a most valuable appendage; they talk to it as to a rational creature, and in hunting and fishing parties it is their usual attendant. To this animal the Danish Laplanders communicate their secrets; they consult it on all important occasions; such as whether this day should or should not be employed in hunting or fishing, and are governed by its accidental conduct. Among the Swedish Laplanders, a drum is kept in every family for the purpose of consulting the devil.”

“Of the rein-deer, you have heard: I need not give you a description of them; and yet, perhaps, you are not acquainted with all their utilities and properties. The rein-deer have been wisely reduced by the Laplander to a state of domestication and servitude; and in these creatures alone he finds most of his wants supplied; they feed and clothe him; with their skins he covers his tent and makes his bed; of their milk he makes cheese, and uses the whey for his drink. Every part of this valuable animal is converted into some

use or other. Their sinews make bow-strings, springs for catching birds, and threads for sewing; their horns are converted into glue, and their tongues which are accounted a great delicacy, are sent to the southern parts of Europe, and procure the Laplander toys and luxuries. The reindeer, yoked to a sledge, carries him in his journies; it is easily guided by a string fastened round his horns, and is encouraged to proceed by the voice of his driver, who sometimes urges it on by a goad. This animal will run between fifty and sixty miles without stopping, but this is an exertion beyond its strength, and often endangers the life of the animal. Thirty miles it can go without being much fatigued. The food which this faithful domestic animal lives upon is moss, and while the fields are clothed with this, the Laplander and his reindeer envy neither the fertility nor verdure of a more southern landscape.

“ Now, although,” continued the Doctor, “ it is very well to know all this, we need not see it, so we will retrace our steps towards Stockholm, and even embark at once for Abo. Of the sudden cold of these regions, the following is a melancholy proof. In the year 1719, seven thousand Swedes, part of an army of ten thousand, were frozen to death, on crossing the Lilbo mountains. When found, some were sitting up, some lying down, others on their kness, all stiff as stocks; and as Thompson emphatically says :

“ Stretch'd out and bleaching in the northern blast.”

EDWARD.—“ Poor creatures, what a terrible fate !”

DR. WALKER.—“ Even the sight of the beautiful lake of Niemi, and its fairy vapours, which the Laplanders term *Haltiers*, and which they deem guardian spirits of the mountains would not, I confess, tempt me to encounter such risks as Lapland presents. We will, therefore, quit this part of Sweden as soon as we can hear of a vessel that is destined for Abo, and from thence proceed to Petersburg, the capital of Russia. Before, however, we quit this part of the world, let us review its geography, and now let me see, Edward, what is the result of your observations as to the climate, soil, and so forth of Sweden.”

EDWARD.—“ The north of Sweden is nearly full of rocks, hills, and chains of mountains; the south is level, and interspersed with many large lakes and rivers. In this country, as well as in Denmark and Norway, the cold in the winter

is excessive; in summer, the air is generally serene, and the heat almost insupportable: the transitions in the seasons are so sudden, that summer bursts from winter, and dreary wilds are quickly succeeded by landscapes decorated with flowers, ripe fruit and grain; of the last, in favourable seasons, the inhabitants raise nearly sufficient for their consumption, though but about one-third of the kingdom is susceptible of cultivation.

“ Along the lake Wener, the flat forest lands, so characteristic of Sweden, are varied by the bold promontories of a rocky shore, and by the upland sweep of the mountains Halleberg and Hunneberg. The former of these, on the north-west side, which faces the lake, assumes a basaltic appearance, bearing some rude resemblance to pillars. But what makes Halleberg most remarkable is, that it was once the holy mountain of Westro-Gothland, and many memorials of its sanctity remain. In the defile at its base, which separates it from Hunneberg, there remains a Celtic cemetery, which Dr. Clarke says is considered still as the “burial-place of giants.” The situation of these antiquities is exceedingly striking. Under a fearful precipice, which rears its black cliffs behind a thick grove of aged trees, there is a circular range of large upright stones, like what is in this country called a Druidical circle; and just before the precipice, a small, round pool of water. Beyond the pool is a circular range of monumental stones, consisting of seven upright pillars, that still preserve their natural forms, being fragments detached from the basalt of the mountain.

“ The tradition of the inhabitants concerning this place maintains, that the giants of old, who inhabited this country, when they wished to hasten their departure for *Valhall*, (that future state of happiness, where all the northern nations expected to carouse full goblets of ale with the gods,) or when any of them were seized with a *tedium vitæ*, used to repair, in complete armour, to the brink of the precipice, whence, leaping down, they were dashed to pieces, and immediately made partakers of Elysium. The same tradition also adds, that the bodies of the giants were washed after their fall within the circular pool of water, previously to the ceremony of their funeral, which was conducted with great public solemnity; the body being burned, and the ashes placed in an urn and buried.

“ Besides the product of the copper, silver, and iron

mines, Sweden abounds with quicksilver, sulphur, marble limestone, granite, freestone, slate, coal, and about 360 mineral springs."

DR. WALKER.—“ I am pleased with your attention, this is travelling to some purpose. I trust when we return to England, we shall be able to give a good account of ourselves. But you have forgotten one circumstance in your description; you should have expatiated upon the badness of the roads; the hardness of the beds; the coarseness of your fare, and so forth; but, however, as you have given so good an account so far, proceed, I am all attention.”

“ EDWARD.—“ You are laughing at me, Sir; but I will go on.

“ Sweden exports iron, copper, stone, pitch, tar, rosin, furs, pine timber, bark, pot-ash, hides, fish, and cordage; and it imports tin, some hardware, bullion, tobacco, flax, hemp, wine, brandy, coarse woollens, salt, coal, East and West India produce, and when the season is unfavourable, about 300,000 tons of corn.”

“ DR. WALKER.—“ The great forests, both here and in Norway, consist chiefly of pine or Scotch fir, and spruce fir; the former called the *red*, the latter the *white* wood of commerce. The annual exports of iron are estimated at 400,000lbs. of timber 315,000*l.* The annual imports of corn 300,000 tons, raw flax 1750*l.*; spun flax 3500*l.*; hemp 22,750*l.*; tobacco, a million pounds. The value of her exports is estimated at 1,368,392*l.*; her imports at 1,008,392*l.*; balance in favour of Sweden, 360,000*l.*”

“ Now for the principal towns.

EDWARD.—“ Gottenburg is regularly fortified, flourishing and rich; its situation is eligible for foreign trade.

“ Carlscoon is the Portsmouth of Sweden; its harbour is deep, large, and very commodious.

“ Malmoe has a large harbour, and is now the most populous town in Schonen.

“ Fahlun and Danemora we have visited: they receive importance from the mines in their neighbourhood.

“ Halmstadt has an incommodious port, but enjoys a good salmon fishery, and is noted for its manufacture of cloth.

“ Helsinburg is a manufacturing town, and a thoroughfare between Denmark and Sweden: its port is indifferent.

“ Carlsham is also a manufacturing town, and exports great

quantities of iron: in the adjacent parts tobacco is cultivated."

DR. WALKER.—“ You must not omit Tornea; because here the French astronomers measured a degree of the meridian, and by comparing the result with a degree measured in South America, the earth is found to be more convex at the equator than at the poles.

“ On a branch of the river Tornea, near Kingis, there is a dreadful cataract. The masses of ice and foam precipitated with astonishing violence down a tremendous precipice, the edges of which appeared like crystal, forms a most noble spectacle. By the bye I have heard much of the Falls of the Dahl in this neighbourhood;” continued the Doctor, “ and, if not very much out of our way, we will take a view of them.”

EDWARD.—“ I should like it very much;” and Colin, continued the youth, as the Highlander entered the room, may perhaps not dislike to make comparisons between his favourite fall of Glomma, and that of the Dahl.”

SECTION IX.

THE FALLS OF THE DAHL.

THE Dahl rises in Norwegian Lapland, and after passing through a vast extent of country, empties itself into the sea, dividing the provinces of Upland and Gesticia. It is about half a mile broad, between the beautiful island of Elfcarr End, and the Falls; but at the cataracts its banks being much narrower, it runs with vast impetuosity. A small island, or rather rock of half a quarter of a mile in circumference, divides the river at this place. In the winter, when one of the cataracts is frozen over, the island is accessible: but at other times it would be impossible to reach it alive. The eye takes in both Falls at once from either bank. The depth of each is about forty feet; but one is abrupt and perpendicular, the other oblique and shelving. The breadth is about eighty or ninety yards. The tremendous roar of these cataracts, which, when close, is superior far to the loudest thunder; the vapour which rises incessantly from them, and

even partially obscures the view of the rustling waters; the agitation of the river below for many hundred yards, before it resumes its former tranquillity; and while

“ The scarcely waving pine, which crowns its rocky banks and
Fills the brown shade with a religious awe.”

form one of the most picturesque and astonishing scenes that can be possibly imagined.”

“ It was only nine days ago,” said the Guide, “ as our travellers gazed with speechless astonishment at the romantic view before them, “ that six unhappy fishermen were carried down by the rapidity of the current and hurried over the precipice, and were instantly dashed to pieces against the rocks. Four of their bodies were found; but they were so disfigured, that they could not be recognised.”

EDWARD.—“ I am very much surprised that any one should venture so near the edge as to be drawn within the power of the current.”

GUIDE.—“ A sudden gust of wind, or the smallest additional strength of the current, and it is occasionally a little irregular, is sufficient to impel them on beyond the power of resistance. A light breeze suddenly arose, and before these poor creatures, I have just mentioned, could tack, or lower their little sail, they were suddenly within the force of the current, and all hope instantly vanished. One of my countrymen, who was on a neighbouring rock, heard their cries; he instantly hurried down to the river; but before he reached the Fall, the boat had disappeared and its unhappy crew.”

EDWARD.—“ I think it is a pity they should ever attempt to fish in this river at all.”

DR. WALKER.—“ Men familiarise themselves to certain objects of danger, till they become perfectly insensible to them. You might just as well say, it is a pity the lower parts of Mount Etna, or Vesuvius, should be cultivated, and even inhabited; and yet an eruption of either of these mountains is no sooner over, than the peasantry eagerly return to their foot to plant their vines and corn. I knew a lady who was ordered to Lisbon for her health, she consented to make the journey with the greatest reluctance, declaring that the salubrity of the air would be more than counterbalanced by the effect of her fears, lest there should be an earthquake. In her first letter to her friends, she mentioned the subject

of her fears ; but until they enquired of her, when she had been there about two months, if she still suffered as much as ever from her apprehensions respecting an earthquake, she declared that during the last month she had never thought of such a thing. Every body had expressed so much astonishment at her fears, had even smiled at them, laughed at them, and even treated them with such perfect contempt, that she candidly confessed she already began to be amused herself at their recollection.

“ Danger, at a distance, is always exaggerated ; bring it but near to us, and it often from a giant bulk, shrinks to a pigmy dwarf ; besides, man, in general, is mostly inclined to hope that *he* should be so fortunate as to escape in any great calamity. If there had been an earthquake at Lisbon last year, why those who were fortunate enough to avoid its fatal effects, would return to the same spot, naturally concluding that it was not very likely it should happen there again, at least not for some years to come ; and fortunate it is for us, that our past dangers, pains and sufferings do not make so strong an impression upon us, as to embitter the enjoyment of the present. There are, it is true, gloomy souls, who without any past troubles to revert to, embitter the present, by anticipating evils in futurity, which may never take place ; but these discontented creatures are, happily for society, but thinly scattered in the wide world.”

From the Falls of the Dahl they continued their route to Upsal, where they took up their quarters for the night, and on the following day, they made enquiries respecting a vessel to carry them to Abo. Very fortunately they heard of one that was to sail in a day or two, and our travellers returned to their inn, and prepared for their departure.

CHAPTER X.

RUSSIA.

SECTION I

JOURNEY TO RUSSIA.

THEY were extremely amused on their voyage in the Baltic by the picturesque isles which they repeatedly passed, upon

one of which they landed, and took their breakest in a fisherman's cottage, beautifully situated in a thick grove, where they were hospitably entertained by the mother and wife of the owner: this family, (there were five children,) formed the whole of the inhabitants of this little spot. It was rich in vegetation, and its produce appeared to be perfectly adequate to the support of the peasant and his family. Upon arriving at Abo, they were greatly disappointed at its mean appearance. In short so little did they find in this town worthy of notice, that although a little fatigued, they gave orders for their departure, and in the evening they entered their carriage, and arrived at Helsingfors, after passing through a country not deficient in culture or barren in soil. From thence they proceeded to Borgo, where they made no stay, but continued their journey with very little intermission, until they reached the Kymen, the boundary between the Russian and Swedish dominions, and over which is a wooden bridge, that is kept in repair by both nations. Their road now lay through a gloomy forest, and after a dreary ride of some hours, our travellers were not a little delighted at seeing the town of Fredericshamn in the distance. The plan of this town is singular, as well as beautiful, all the streets going off like radii from a centre, in which is a handsome hotel de ville. The country between Fredericshamn and Wybourg is barren and sterile to a great degree. Wyburg is the capital of Finnish Lapland, seated on the Lake of Ladoga; it is a fortified trading town, and the commerce of its province is chiefly carried on here.

“Russia,” said Dr. Walker, is one of the most extensive countries in Europe, and the dominions of the emperor Alexander are larger than those of any other potentate whatever. Sit down, Edward; the evening is gloomy, and we will therefore amuse ourselves with a comfortable *tête à tête*, not by the fire-side, for that is a luxury we must not expect to meet with in Russia, the houses being chiefly warmed by flues; but citizens of the world can be comfortable any where. But to commence my description of Russia. This empire, the largest in extent, and the most powerful in the world, extends from the Baltic and Sweden on the west, to Kamtschatka and the Eastern Ocean; and from the Arctic Sea on the north, to the boundaries of Turkey, the Euxine and Caspian Seas, Eastern and Western Tartary, and other unknown regions of Asia on the south. It is about 9,200 miles in length, and 2,400 in breadth.”

EDWARD.—“ What an extent of empire !”

DR. WALKER.—“ Russia contains the following governments, named after those towns in which courts of judicature are established, as they stood in 1803.

- | | | |
|-------------------|-------------------|--------------------|
| 1. Moskva | 19. Toblosk | 36. Cherson (Niko- |
| 2. St. Petersburg | 20. Tomsk | layef) |
| 3. Novogorod | 21. Irkutsk | 37. Poltowa |
| 4. Olenetz | 22. Orenburg | 38. Tschernigof |
| 5. Archangel | 23. Simbirsk | 39. Kief |
| 6. Pokove | 24. Penza | 40. Podolia |
| 7. Smolensk | 25. Saratof | 41. Volhynia |
| 8. Tula | 26. Astracan | 42. Grodno |
| 9. Twer | 27. Caucasus | 43. Vilna |
| 10. Kaluga | 28. Voronish | 44. Vitebsk |
| 11. Jaroslaf | 29. Tambof | 45. Mogilef |
| 12. Kostroma | 30. Rázan | 46. Minsk |
| 13. Vludimir | 31. Kursk | 47. Courland |
| 14. Vologda | 32. Orel | 48. Livonia |
| 15. Nisneygorod | 33. The Slobodish | 49. Esthonia |
| 16. Wiutka | Ukrain | 50. Finland |
| 17. Kasan | 34. Ekaterinaslaf | 51. Grusia. |
| 18. Prem | 35. Tauria | |

“ The population of European Russia was formerly estimated at thirty-three millions, and that of Asiatic Russia at three millions ; but its entire population is now nearly fifty millions, part of whom are mere barbarians.

“ By the unprincipled partition of Poland in 1772, 1793, and 1815, Russia joined to its ancient territory three-fourths of that fine country, and about ten millions of subjects were added to its original population, By a peace with Persia in 1814, Russia acquired the whole of the extensive regions which nearly surround the Caspian Sea, together with their population. The governments of Petersburg, Wyburg, Revel, Riga (the Carella, Esthonia, and Livonia of history,) were wrested from Sweden by Peter the Great. The large division of Finland was recently ceded by Sweden, which was indemnified by Denmark’s reluctantly yielding up to it the kingdom of Norway.”

EDWARD.—“ I would rather be king of England than emperor of Russia, although the dominions of the latter are so vastly superior to those of the former. Neither should I like very much to be a subject of Russia. I should not like

a journey to Siberia, nor should I at all fancy the punishment of the knout."

DR. WALKER.—“ Did you never feel any antipathy to the mode of execution in your own country, Edward. One would almost suppose you had made up your mind to merit punishment. Laws and punishments are made for the guilty only. Now in Russia there are no penal laws, therefore you would have less to fear there than in England.”

“ EDWARD.—“ No; it is very true, there are no penal laws; but many die under the punishment of the double knout; and as for exile in the desert plains near Kamschatka, my blood runs cold at the thoughts of it; there is that in banishment, and to such a place that would ever prevent my feeling a moment's peace.”

DR. WALKER.—“ ‘ All places that the eye of heaven visits
Are to a wise man ports and happy havens.’ ”

EDWARD.—“ Ah, but my dear Sir, what was Bolingbroke's answer to the imaginary pleasures pointed out by his father, opposed to the bitter realities of banishment?”

DR. WALKER.—“ Let us have it, I pray you.”

EDWARD.—“ But you know it, Sir.”

DR. WALLER.—“ True; but Shakspeare never tires, for
‘ he's always changing and for ever new.’ ”

EDWARD.—“ Oh who can hold a fire in his hand
By thinking on the frosty Caucasus?
Or cloy the hungry edge of appetite,
By bare imagination of a feast?
Or wallow in December snow,
By thinking on fantastic summer's heat?
Oh, no, the apprehension of the good
Gives but the greater feeling to the worse:
Fell Sorrow's tooth doth never rankle more,
Than when it bites, but cancereth not the sore.”

DR. WALKER.—“ So now there is an end of my argument; for with such an authority I must, I suppose, give up the contest; but your triumph is not quite complete, for the same master of poesy, in Cymbeline says

‘ Now my co-mates and brothers in exile.’

You know the rest I am sure; and so a truce to our poetic flights; for we must descend from our Pegasus, and light on

your favourite Russian soil, which is by no means so unworthy of your partiality as you seem to think. Of the mountains of this country there is a chain between the Baltic and the White Sea; another in the south of Tau; a ridge on the road between Petersburg and Moscow; and the great Altarian chain, which separates Siberia from independent and Chinese Tartary. In the south of European Russia are many extensive plains, some of which are more than 400 English miles in length; on these great flocks of sheep are kept. The northern parts are woody and marshy; and the southern provinces are, in general, very fertile, but badly cultivated. The former yield hemp, flax, tobacco, wheat, and barley: the latter produce these, together with rice, millet, and olives. Besides the quadrupeds common to Norway and Sweden, it has the sable, lynx, and camel. The iron and copper mines are principally in the Altarian mountains. On the isle of Taman, in the district of Perecop, is a spring of naphtha.

“But come, Edward, what are the Russian exports and imports?”

EDWARD.—“From the White Sea, potash, tallow, wax, hides, grain, hemp. From the Baltic, besides the above, timber, tobacco, honey, furs, coarse linen, linseed oil, pitch, tar, feathers, hogs’ bristles, red leather, caviare. From the Black Sea, furs, salt, beef, butter, cordage, sail-cloth, caviare, grain, iron. From the Caspian, European manufactures. The Russians carry Siberian furs to China.

“The annual exports are estimated at 17,000*l.* for grain; 1,575,000*l.* for hemp, flax, and articles made of them; 175,000*l.* for timber and potashes; 157,500*l.* for wax; 42,449 cwt. of tobacco. From Petersburg, in 1781, 144,160*lbs.* of isinglass; 428,521*lbs.* of caviare; and 475,111 furs. Black cattle, sheep, horses, swine are exported in great numbers. The annual imports are paper to the amount of 2,500*l.*; hops to 21,874*l.*; iron, copper, salt, in great quantities.

“Russia imports into the Baltic, paper, hardware, tin, lead, woollen cloth, wine, brandy, West India produce. Into the Black Sea, wine, fruit, coffee, silk, rice. Into the Caspian, raw silk, dried fruits, saffron, spices, sulphur, naphtha, gold, and precious stones. Russia receives tea, silk and porcelain, from China. And its chief ports are Petersburg, Wyburg, Revel, Riga, Archangel, Cherson, Oczakow, Astracan.”

DR. WALKER.—“ Bravo, Edward, when you return to England, you will have become so expert a connoisseur in the different branches of political as well as natural geography, that I shall expect you will be aiming at the important situation of chancellor of the exchequer. We will say nothing of the principal Russian towns, as we shall visit some of them; but of the rivers and canals we will take some notice.

“ The Beresina, will be famous in history from the retreat of Napoleon from Moscow.

“ The Niester, rising in the Carpathian Mountains, forms the present boundary between Turkey and Russia, and, passing by Bender, falls into the Euxine at Akerman: its course is 600 miles.

“ The Dnieper, the ancient Boristhenes, rises at Viesma in Russia, passes Smolensk, Rogatchov, Kiow, Catharinoslav, Alexandrowskaia, and falls into the Black Sea at Cherson, after a course of 1000 miles.

“ The Don rises to the south of Moscow, and falls into the sea of Azof, after a course of 800 miles.

“ The Wolga may be reckoned the prince of European rivers: it derives its source from several lakes between Moscow and Petersburg: it is navigable from Twer, and passes by Mologa, Kostroma, Nisney, Novogorod, Kasan, Simbirsk, Samara; whence to Tzaritzin, it is the boundary between Europe and Asia: it then runs south-east, and falls into the Caspian Sea at Astracan: its comparative course may be estimated at 700 miles. This noble river having no cataracts, and few shoals, is navigable even to Twer. The Dwina rises in Ustiaga; and falls into the Gulf of Archangel, after a course of about 500 miles.

“ The inland navigation of Russia is very extensive. An intercourse is formed between the Caspian Sea and the Baltic, a distance of nearly 2,400 miles, by means of the canal of Vetni Volotchok, uniting the Twertza, which runs into the Wolga, with the Shlina, which communicates with the Baltic.

“ The canal of Ladoga passes along the lake of that name, and extends from the river Volk to the Neva, a space of 67 miles, and communicates with the former canal. Another canal leads from Moscow to the river Don, forming a communication with the Euxine. Peter the Great intended to unite the Don and the Wolga, and thus to form an intercourse between the Caspian and Euxine Sea and the Baltic.

“ And now as we are upon the subject, I will briefly mention the chief canals in the world,

“ In Sweden an attempt has been made to unite Stockholm with Gottenburg, by the canal styled Kal Trolkattan, conducted along the river Gotha; but the attempt has failed.

“ The chief inland navigation of Denmark, is the canal of Kiel, which we have seen; it unites the Baltic and the river Eyder, which flows into the German Sea. Its length is about 21 miles; the breadth 100 feet at top, and 54 at bottom: the least depth about 10 feet, so as to admit vessels of 120 tons.

“ A canal is made in the Prussian dominions to unite the Elbe with the Oder: its length is nearly 60 miles.

“ Holland is intersected with innumerable canals, which, for number and size, may be compared to our public highways. By them a great inland trade is carried on with France and Germany. In summer they are constantly crowded with boats of pleasure or of traffic; and in winter, when they are frozen over, the inhabitants travel on them with skates, and perform long journies in a very short time.

“ In France the canal of Briare, otherwise styled the canal of Burgundy, unites the Loire and the Seine. From Briare, upon the Loire, it passes by Montargis and falls into the Seine near Fontainbleau.

“ A canal from Orleans joins the last mentioned canal at Montargis.

“ The canal of Picardy extends from the Somme to the Oise, beginning at St. Quintin.

“ But the chief canal of France is the celebrated one of Languedoc, which forms a junction between the Mediterranean and the Bay of Biscay. This noble canal begins at Cette, in the Bay of Languedoc, and joins the Garonne, below Toulouse. The breadth, including the towing paths, is 144 feet, the depth six feet, and the length 180 miles.

“ The canals of China have long excited the wonder of other nations. There is a large canal in every province, with branches to most of the towns and villages.

“ The imperial canal runs north and south, beginning at Lin-sin-choo, where it joins the river Euho, and extends to Han-choo-foo, in an irregular line of about 500 miles.

“ The river Kan-Kian facilitates the navigation of the southern provinces; and all kinds of merchandize entering Canton, can be conveyed directly to Peking, a distance of 825 miles.

“ In Hindostan, the river Ganges is uninterruptedly na-

vigable for the distance of 500 miles from the sea; its medium breadth is three quarters of a mile, and the depth of its channel 30 feet.

“ The Indus admits of an uninterrupted navigation from the Gulf of Cutch to Lahore, for vessels of 200 tons, a distance of nearly 800 miles.

“ No country can boast of superior means for inland navigation than the United States. An extensive sea coast with many large bays, on the east; Lakes Superior, Michigan, and Huron, forming one large sea, on the north; and the river Mississippi, into which the Ohio runs, on the west. The internal parts of the country are also intersected with the noblest rivers, many of which are navigable for some hundreds of miles; and very little assistance is wanting from canals to render this country the most convenient, for commerce and inland navigation, of any on the globe.

“ By means of the Lake Nicaragua, whose length is 170 miles and which has a great outlet, the river of St. Juan flowing into the Gulf of Mexico, an easy passage might be made from the Atlantic into the Pacific, and in the most direct course that could be desired. Were any enterprising nation, instead of Spain, in possession of this part of America, this improvement would probably soon be made.”

EDWARD.—“ Are not the rivers of America longer than those of the Old World?”

DR. WALKER.—“ Of this you shall yourself judge; for I have here a comparative view of the length of the principal rivers in the world, which I will shew you.

EUROPEAN RIVERS.

Thames, as the standard		Danube.....	9
of unity.....	1	Wolga.....	12
Rhine	4 $\frac{1}{4}$		

ASIATIC RIVERS.

Indus	7	Enissei	10
Euphrates	6	Obe	13
Ganges.....	10	Amour	13
Irrawaddy	8 $\frac{1}{2}$	Hoan-ho.....	14
Burrampoot.....	10	Kian-ku.....	15

AFRICAN RIVER.

Nile			14
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AMERICAN RIVERS.

Mississippi, reckoning its length to the most remote branch of the Missouri.....14	Amazons16 Rio de la Plata.....11
--	---

“ By this standard you will perceive that the river of the Amazons is the longest river in the world, and that our boasted Thames is but a streamlet compared to the more majestic rivers described in this list.”

EDWARD.—“ Indeed it is as you say, but a streamlet compared to those stupendous rivers you have named; but it is of no small importance, nevertheless, and few excel it in beauty. The views of it at Henley-upon-Thames, and Richmond, present a matchless scene of pastoral beauty; and as for imposing sights, none I am very sure excel that of the Thames at London Bridge. The quays crowded with merchant vessels from all parts of the world; their masts presenting the appearance of a leafless forest.”

DR. WALKER.—“ You shall travel, Edward, wherever you please, since you have so much of the *amor patriæ* in your composition as to look to England as the close and summit of all your hopes and wanderings, I shall not fear that like the fop described in the fable of the cameleon, you will deserve the title of “ the travelled fool.”

“ Letters from England,” said Colin, who at this moment opened the door; “ and they are most welcome” replied the Doctor, as he unfolded a large packet, “ there, Edward, is yours.”

When Edward had perused his epistle, he exclaimed, “ I have lots of commissions, Sir, from my sisters.”

“ Not pardons from Rome, I suppose,” said the Doctor.

“ No,” replied his pupil; “ but I am desired to collect all sorts of curiosities, and ship them off for England.”

DR. WALKER.—“ Suppose then you send them a frozen pig or an ox, one of those we saw in the market this morning, standing bolt upright, looking at a distance like a company of soldiers in red and white uniforms.”

EDWARD.—“ Rather clumsily shaped for soldiers, Sir, not like our guards at home.”

DR. WALKER.—“ Why, no, certainly not; but we are such notorious gossips, that if we do not separate, the morn-

ing will surprise us before we are aware of it ; so good night : To-morrow we start for Petersburg."

EDWARD.—“ How far distant is Petersburg from Wyburg ? ”

DR. WALKER.—“ Why, as near as I can guess, about one hundred and ten English miles.”

SECTION II.

JOURNEY CONTINUED.—PETERSBURG, &c.

EARLY on the following day our travellers resumed their journey ; and without meeting with any adventure, arrived on the evening of the next day, at the capital of the Russian empire. Upon entering this fine city, which but a century ago consisted of a few huts only, the traveller is struck with astonishment at the mighty genius of the extraordinary Peter, who caused the present city to spring from a morass, and transformed into men. his uncultivated subjects, who were little better than savages,

EDWARD.—“ What a mind must Peter have had ! ”

DR. WALKER.—“ Yes. Antiquity may boast of her Solon, her Lycurgus, her Romulus, and all her heroes ; but none of them, in a *political* point of view, equalled the wonderful Peter. At his private vices, and even his political severity, we must not glance : that part of his character will not bear examination. Petersburg stands on an immense extent of ground : the houses are principally of wood, and it contains a profusion of churches, which are ornamented with copper domes gilt ; these have a brilliant effect when the sun shines. The places of worship are exceedingly and gaudily adorned within ; with grotesque paintings of the Virgin and child, which are mostly attired with gold or silver head-dresses, stuck close to the wall, and in some cases the figures are cloathed with complete habits ; but the present Emperor Alexander has wonderfully contributed to abolish many barbarous remains of their ancient customs ; and Petersburg, from the improvements which are daily making, bids fair to rival the finest capitals of Europe. The streets in general are broad and spacious, and three of the principal ones

which meet in a point at the admiralty, are at least two miles in length. We have no street like this in London, Edward," observed the Doctor. "Oxford-street is the longest in the English metropolis, and that is only one mile and a quarter long. Our new street may indeed rival it for beauty in architectural design; but I very much doubt whether some of our national vanity will not receive a check from our foreign excursions."

EDWARD--(*Smiling,*) "Prince Blucher said there was but one London in the world, Sir."

DR. WALKER.--"You are incorrigible, Edward, and you will, I am sure, say as a friend of mine said when he returned from a continental tour. Upon being asked if he had not received much pleasure and amusement from his travels, he replied: 'Oh, yes, undoubtedly, it is all mighty fine; but I feel just as I do when I return from a crowded theatre, extremely delighted to have seen the shew; but heartily glad to be at home again!'"

"Some few of the streets in Petersburg are floored with planks, and in several parts of this metropolis, wooden houses, little better than cottages, stand close to some of the public buildings. The houses of the nobility are very splendid, and are fitted up very like those in London or Paris. The views upon the banks of the Neva, exhibit the grandest and most lively scenes imaginable. This river is broad, deep, clear and rapid, and its shores richly ornamented with superb buildings on either side. On the north are the fortress and academy of sciences, and an academy of the arts; and on the opposite side are the imperial palace, admiralty, many private (but grand) mansions, and a row of houses called the English line, which is principally occupied by the merchants of Great Britain. In the front of these buildings is the quay. The opposite divisions of this city are connected by means of a bridge on platoons, which on account of the large masses of ice driven down the stream from the lake Ladoga, is usually removed when the frost first makes its appearance, and until the ice is hard enough to bear a carriage, which generally happens in the course of a few days, all communication between the opposite parts of the town are suspended. Now that we are on the subject of ice, its extreme hardness may be learned from the following anecdote. During the severe winter of 1740, a palace of ice, 52 feet long, 16 wide, and 20 high, was built at Petersburg, according to

the most elegant rules of architecture. The river Neva afforded the ice, which was from two to three feet thick, blocks of which were cut and embellished with various ornaments. When built, the different parts were coloured by sprinkling them over with water of various tints. Six cannons, made of, and mounted on ice, with wheels of the same material, were placed before the palace; and an hempen bullet was driven by one of them, (in the presence of the whole court,) through a board two inches thick, at the distance of sixty paces."

EDWARD.—“Cowper, I believe, wrote the following beautiful lines upon this subject.”

————— “No forest fell,
Imperial mistress of the fur-clad Russ
When thou would'st build; no quarry sent its stores
To enrich thy walls; but thou didst hew the floods,
And make thy marble of the glassy wave,
Silently as a dream the fabric rose;
Ice upon ice, the well adjusted parts
Were soon conjoin'd; nor other cement ask'd
Than water interfused to make them one.
Lamps gracefully dispos'd, and of all hues,
Illumin'd every side. Long wavy wreaths
Of flowers, that fear'd no enemy but warmth,
Blush'd on the pannels, which were once a stream,
And soon to slide into a stream again.”

DR. WALKER.—“Very correct, my young friend; and now what think you of that statue of Peter I.?” said the Doctor to his pupil—as they viewed this monument of gratitude and veneration erected to the memory of the founder of Russia's greatness; if not of the Russian empire.

EDWARD.—“That it is exquisitely beautiful. What a grand idea it was to place him on that huge rock instead of a pedestal; how finely the artist has given all the effect of eager toil to the spirited animal who bears the mighty Peter on his back!”

DR. WALKER.—“Yes; and observe how judiciously he has chosen that simple habit for Peter, which is not characteristic of any country, and therefore can never become otherwise than pleasing. Look at his eye, pointedly directed to some distant object, (the citadel, I suppose,) while on his countenance sits “deliberation and public care.” His left hand holds the bridle; his right is extended, as Mr. Falco-

nette, the artist, expressively describes it "*En pere et en maître.*"

EDWARD.—"The great Catherine, as she is called, caused this statue to be erected; did she not, Sir?"

"DR. WALKER.—"Yes; you see that simple inscription, *Petro primo—Catherina secunda.* The statue confers on her as much honour as it does on Peter."

The cold setting in very intensely, Dr. Walker was glad to procure for himself and Edward fur pelisses, boots, and bonnets, which came down over their ears. In one of their rambles in the environs of the city, they met a peasant rubbing his face with snow in order to thaw it; for his nose was in danger of freezing; the other parts of his body were pretty well secured by his sheep-skin garment, the wool of which was turned inward, and bound round his waist by a girdle; his trowsers were of thick linen, and his legs were wound round with flannel instead of stockings. This being the general dress of the Russian peasantry. The costume of the common women is not inelegant; it is composed of a petticoat, and a gay coloured tunic with white sleeves; and when a smart young Russian milk-woman has placed her ashen bow across her shoulders, to the end of which is suspended little jars, covered with matted birch bark, she presents a picture of graceful ease, that a painter might feel proud to copy. The Russians are generally well-formed, and are remarkable for fine teeth.

As they were making some few purchases in a jeweller's shop, the mistress of the house made her appearance in her visiting dress; she was very gaily attired. On the top of her cap was a large rich silk-handkerchief, which fell in folds behind upon the neck and shoulders; and before she quitted her house, she drew round her a comfortable and warm fur-pelisse.

"The buildings of the Russian villages strongly recal the earliest ages of architecture," said Doctor Walker, "they are formed of beams placed at certain distances, the spaces between which are fitted up with flax and moss. With the orders of architecture you are well acquainted, Edward; but perhaps you would never think of discovering in that rude building before us, the origin of the Doric order: and yet, upon a slight glance, you will there find the first rude traces of every Doric ornament, except two, I mean the plinth and the abacus, which I do not observe in these Russian cottages.

The art of making bricks or tiles is supposed to have been a very early discovery of man; and as the poles which were erected for the support of the walls, might, in the course of time, be much injured from being saturated with rain and dews, the idea of placing a brick or tile as a foundation for these poles to rest upon, appears but natural. This tile furnishes the *plinth* (for the ancient Doric had no base,) and as uniformity is in some degree to be found in most of the productions of man, the tile placed at top of the pole or shaft, by way of ornament, gives us the *abacus*. The spaces between these shafts being filled up with moss and clay, completing the walls; the roof became the next consideration. This we may at first suppose to have been flat, and formed by laying timbers across the top, (having the interstices filled up in the same way as those which composed the walls. You, of course, understand that in order to support these cross timbers, it would be necessary to lay a plank along the top of the four walls. The building in this state was found to be extremely damp, from the lodgment of the rain water on its top, hence arose the sloping roof, and that being erected, we shall see with ease all the different parts of the Doric order.

“ First, the *plinth*, in the tile at the bottom; then the *shaft*, in the rude pole, or trunks of trees, which formed the support of the walls.

“ Then the *abacus*, in the corresponding tile at the top.

“ Then the *architrave*, in the beam which crosses these shafts, in order the better to support the roof.

“ The spaces between the ends of the cross poles which form the flat roof being filled up, give us the *frieze*.

“ The ends of these cross timbers, ornamented with deep cut lines, by way of ornament, forms the *triglyphs*, while the spaces between them being afterwards ornamented by the Grecians with bulls heads, were called *metopes*. The Romans generally enriched their metopes with Roman orders.

“ Above the *frieze* comes the *cornice*.

“ An upper beam, crossing the frieze, answering to that forming the architrave, being surmounted by the *ends* of the *rafters*, which composed the sloping roof, and which in architecture form that ornament called *denticles*, gives us the whole of the orders. The stately oak is first an acorn, and the Nile, at its source, is but a small rippling stream. It is thus in the progress of arts and sciences! The origin of the Doric

order we have traced ; that of the Corinthian ornament arose from a basket of vegetables thrown carelessly down, from which Callimachus formed this beautiful Grecian capital ; and you remember Sancho would say, ‘ Rome was not built in one day.’ So much for this subject ; and now let us enter one of those sledges, and see whether the movement is as agreeable as that of an English *hackney-coach*.”

When they first started, they were not quite exempt from fears ; for the rapidity with which they traverse the frozen snow, is hardly to be conceived but by those who have themselves travelled in this way. The drivers are, however, extremely skilful ; but to a nervous person the number of these vehicles which are moving with such velocity in every direction, and a concussion against which appears almost inevitable, presents incessant causes of alarm.

There is one amusement which appears to form the principal delight of the Russians, that of singing. The hours of labour, as well as those devoted to recreation, are invariably enlivened by the song. As their airs are melodious though they possess but little variety, and their voices are in general musical, it is pleasing to hear on all sides this hum of cheerful voices. Slavery still prevails in Russia ; but the present Emperor Alexander has enfranchised many of the royal serfs in various parts of his dominions. At all times the slaves belonging to the crown have been in much easier circumstances than those depending upon private individuals. The former paid annually five roubles a year as their abrock or rent ; but the rent of those depending on the nobles is regulated by their ability to get money ; besides which each slave is obliged to work three days in the week for his proprietor.

SECTION III.

RUSSIAN NOBLES.

“ HAVING visited the cottage of the peasant, we will take a glance, Edward,” said Dr. Walker, “ at one of the Russian palaces at least, and that shall be the palace of

Peterhoff, which was begun by Peter I. and which has been enlarged and beautified by subsequent sovereigns.

“ Peterhoff is situated at a short distance from Petersburg, on the Gulf of Finland, in the midst of beautiful and extensive gardens. There is a large canal in the front of the palace, which communicates with the Gulf, and which supplies three *jets d'eau*, which are always playing. The apartments are very splendid, and in the drawing-room are five beautiful portraits of the sovereigns of Russia.

“ They are full length portraits, and that of Peter first strikes the spectator: opposite to him is Catherine, his wife and successor. The empresses Anne and Elizabeth, and Catherine Second, complete the groupe. The latter is habited in a Russian uniform, and sits in the attitude of a man upon her horse. In her hat is the oaken bough, and her hair floats in a loose dishevelled state upon her shoulders. “ Now for another trophy of Russian greatness,” said Doctor Walker, “ and then we must think of directing our steps towards Moscow. I mean the column erected by the present emperor to perpetuate the expulsion of the French from Russia in the year 1813. It is composed of pieces of ordnance taken from Buonaparte in his disastrous retreat from Moscow. The largest cannon are placed at the bottom, and they gradually diminish in size as they approach to the top, which is surmounted by a howitzer, the smallest piece of ordnance that is made. This is a trophy of which a nation may be proud as it records deeds performed in one of the most just of all causes, that of the defence of one’s country against an ambitious and unjust invader.”

“ We must not return to England without seeing the fortress, Sir,” said Edward. “ No,” replied his tutor, “ that would indeed be an omission, for there we shall see the tomb of Peter the Great, his empress Catherine, of Alexis his unfortunate son, the empress Anne and Elizabeth, Peter the Third, Catherine the Second, and Paul, father of the present emperor. The spire of the church is remarkable for its height, which is two hundred and forty feet, and gilt with ducat gold. The inside possesses no object worthy of inspection, except the tombs of the sovereigns of Russia. These are of stone, arranged in lines on the right of the shrine, and covered with velvet richly embroidered in gold. Banners of war, truncheons, keys of cities and arms taken in battle, curiously diversified, adorn the walls of the chapel on either

side. On mounting the belfry our travellers were astonished even to silence, at the magnificent prospect before them. The range of palaces and superb houses extended nearly six miles. From this height they could also distinguish, what indeed formed a less agreeable prospect, many of the prison yards in the fortress, and the gratings of numerous dungeons. In a distant part of the citadel, the prison was pointed out to them in which a young *princess* was immured, and there perished.

The man who shewed this object, asked if they knew her story. Upon receiving an answer in the negative, he told them that “after the battle of Tischerne, a young and beautiful Russian lady having settled at Leghorn, her society was extremely courted, from the elegance and sweetness of her manners. She was always accompanied by an elderly lady, and her appearance and deportment excited a considerable degree of interest; more particularly as there was a degree of mystery about her, which never fails to throw a sort of charm around all and every thing it envelopes. At length, in an unguarded moment, she declared to some of her intimate friends that she was the daughter of the empress Elizabeth, by a private marriage, and that she was in fact the rightful heiress to the empire of Russia. This intelligence quickly reached the ears of Catherine, and Count Orloff undertook to secure the person of the indiscreet young lady. By means of one of his creatures, whom he sent to Leghorn, he induced her to come to Pisa; he himself arrived in Italy, a short time afterwards; upon being introduced to her, he appeared much struck by her beauty, and at length timidly and basely avowed the most ardent passion for her. She listened to his proposals, and dazzled at the glittering prospect he drew of their mounting the throne of Russia together, she consented to wed him. Three or four days after the marriage was completed, she embarked on board a vessel destined, as she supposed, for a pleasurable excursion, in honour of her nuptials, when to her terror and surprise, she no sooner entered the cabin, than Orloff threw off the mask. He called her a base impostor, and rudely seizing her hands, he ordered them to be confined.”

“Oh, what a wretch!” exclaimed Edward.

“She was,” continued their informer, “immediately conveyed on board a vessel bound for Cronstadt, from whence she was removed in a covered barge to this fortress, and was never

heard of more ; indeed she is supposed to have been drowned in her dungeon by the overflowing of the Neva."

" Was this circumstance known in Orloff's life-time ?" enquired Edward indignantly ; " if so, I am sure he ought to have been hooted out of society. I hate deceit at all times, and I shall never hear Orloff's name again but my blood will boil."

" Edward," said Doctor Walker, " I admire your spirit ; it is that of a *preux chevalier*. The conduct of Orloff must excite the utmost indignation in every generous breast. Whether *her* story were true or false, *his* conduct was equally reprehensible. It was unmanly, ungenerous."

EDWARD.—" Oh ! 'twas base and treacherous, and I loathe his very name."

SECTION IV.

VISION, THE EYE ; ITS PROPERTIES.

ABOUT the middle of February our travellers resumed their peregrinations, and after a tolerable journey to Novgorod, one of the principal towns of Russia, proceeded along the heights of Valda, where they amused themselves with inspecting some of those tumuli, or sepulchral mountains, which are so profusely scattered in this neighbourhood ; and which have not yet excited that spirit of enquiry, they seem to merit. The road now became extremely rough, and their journey tedious ; and Dr. Walker was, therefore, not a little delighted when they arrived at Vyshnoy-Volotshok, a place of considerable importance, and intimately connected with the metropolis in a commercial point of view. Here they again witnessed the splendour of an Aurora Borealis.

" I have often thought, Sir, that of all our senses, *sight* is the most precious," said Edward, as his eyes wandered with delight over the beauties of the brilliant changing scene before him.

DR. WALKER.—" Sight is undoubtedly one of the most precious and extensive of heaven's blessings, but our ears are capable of receiving almost as much pleasure as our eyes. Nay, I have often observed, that blind people are more

cheerful than those who are deaf. Now this could not be the case unless we suppose that the sense of hearing imparts more general pleasure than that of sight; but I know not whether, if I had my choice, I should not prefer deafness to blindness; for the other day, when I broke my spectacles, although deprived of them but for about twelve hours, I never felt how much my happiness depended upon two small bits of crystal. How pathetically does Milton, in his address to light, lament the loss of sight.

“ Thee I revisit safe,
And *feel* thy sovereign vital lamp; but thou
Revisit'st not these eyes, that roll in vain,
To find thy piercing ray, and find no dawn,
So thick a drop serene hath quenched their orbs,
Or dim suffusion veil'd.”

“ And again,

“ Thus with the year
Seasons return; but not to me returns
Day, or the sweet approach of ev'n or morn,
Or sight of vernal bloom, or summer's rose,
Or flocks, or herds, or human face divine;
But clouds instead, and ever during dark
Surrounds me, from the cheerful ways of men
Cut off, and for the book of knowledge fair
Presented, with a universal blank
Of Nature's works to me expung'd and ras'd,
And wisdom at one entrance quite shut out.”

EDWARD.—“ Those beautiful lines make one quite melancholy. Pray, Sir, can you explain to me the nature and properties of the eye?”

DR. WALKER.—“ Some few of its properties I can. Had you asked its anatomical formation, I could not have satisfied you; that is a subject which requires intense study, and has occupied the attention and lives of many learned men who have devoted themselves wholly to this particular study. What knowledge I have acquired relating to it, I will detail for your benefit; and small though it be, it is sufficient to excite sensations of the deepest astonishment, as well as those of the most heartfelt gratitude for the blessings it confers.

“ In the first place the eye can see only a very small part of an object distinctly, for the collateral parts of an object are not represented distinctly in the eye; and therefore the eye is forced to turn itself successively to the several parts of

the object it wants to view, that they may fall near the axis of the eye, where alone distinct vision is performed.

“ When any point of an object is seen distinctly with both eyes, the axes of both eyes are directed to that point, and meet there; and then the object appears single, though looked at with both eyes; for the optic nerves are so framed, that the correspondent parts in both eyes, lead to the same place in the brain, and give but one sensation; and the image will be twice as bright with both eyes as with one. But if the axes of both eyes be not directed to the object, that object will appear double, as the pictures in the two eyes do not fall upon correspondent or similar parts of the retina.

“ The best eye can hardly distinguish any object which at the eye subtends an angle less than half a minute; and very few can distinguish an object when it subtends a minute. If the distance of two stars in the heavens be not greater than this, they will appear as one.

“ Though men may see distinctly at different distances, by altering the position and figure of the crystalline, yet they can only see distinctly within certain limits, and nearer than that, objects appear confused. But these limits are not the same in different people. A good eye can see distinctly when the rays fall parallel upon it; and then the principal focus is at the bottom of the eye.

“ A man can judge at a small distance with one eye, by frequently observing how much variation is made in the eye to make the object distinct; and from this a habit of judging is acquired. But this cannot be done at great distances, because, though the distance be varied, the change in the eye becomes then insensible.

“ But a man can judge of greater distances with both eyes, than he can with one; for the eyes being at a distance from one another, as long as that distance has a sensible proportion to the distance of the object, he gets a habit of judging, by the position of the axes of the eyes, which are always directed to that point; and different distances require different positions of the axes, which depends on the motions of the eyes, and which we feel; but in very great distances, no judgment can be made from the motion of the eyes, or their internal parts. Therefore we can only guess at the distances from the magnitude, colour, and the position of interjacent bodies.

“ Whatever light falls upon that part of the retina, whence

the optic nerve springs, makes no impression ; and therefore, if the picture of an object falls thereon, it is not perceived, and that object is invisible. This will appear by placing a small bright object before you, and looking at it with one eye : then moving one eye laterally towards the contrary side (towards the left, if it be the right eye), the object will disappear, and seem to be lost ; and moving it still farther, it will re-appear. This place is not however at the bottom of the eye, but nearer the nose in both of them ; so that no rays, either parallel or diverging, that come from any object, can fall upon that place in both the eyes ; so that any object we direct the eyes to, will always be visible, at least to one eye. But the same bright object may be made to disappear to both eyes, by directing the axes of both eyes to a point a little beyond the nose, to be found by trials.

“ Dimness of sight generally attends old people, and it may arise from either of these two causes :

“ By the eyes growing flat, and not uniting the rays at the retina, which causes indistinctness of vision ; or,

“ By the opacity of the humours of the eye, which, in time, lose their transparency in some degree ; from whence it follows, that a great deal of the light that enters the eye, is stopt and lost ; and every object appears faint and dim.

“ As the rays of light flowing from an object, and painting its image upon the retina, are the immediate cause of seeing ; so where there is no light, there can be no vision : consequently without light, the eye becomes a machine utterly useless ; as it can give us no manner of information of the existence of bodies at a distance from us.

“ People’s different length of sight is owing to a more or less convexity of the cornea and crystalline humour of the eye : the rounder these are, the nearer will be focus or point of the meeting rays, and so much the nearer must an object be brought to see it well. The case of short-sighted people is only an over-roundness of the eye, which makes a very near focus ; and that of old people is a sinking or flattening of the eye, whereby the focus is thrown to a great distance ; hence the former may properly be called eyes of too short, and the latter eyes of too long, a focus. The remedy for the last is a convex glass, to supply the want of convexity in the eye itself, and bring the rays to a shorter focus ; but the first require a concave glass, to scatter the rays, and prevent them coming to a point too soon.

“ Nothing is more common, than to observe old people holding objects which they would examine, at a great distance from them, for the reason above-mentioned ; and every one knows, that short-sighted people cannot distinguish an object without bringing it very near to their eyes. Both extremes are very inconvenient ; but those whose eyes are flat by age, should remember with satisfaction, that they have enjoyed the pleasure of them for many years ; and the short-sighted may comfort themselves, that they can distinguish much smaller objects than long-sighted people ; for the object is magnified in proportion to the roundness of the eye and the nearness of the focus, and consequently appears four times as big to an eye whose focus is but four inches off, as it does to one whose focal distance is at eight inches. Short-sighted people have also this farther advantage, that age improves their eyes, by the same means that it impairs other people's, that is, by making them more flat.

“ The nearer any object can be brought to the eye, the the larger will the angle under which it appears, and the more it will be magnified.

“ Now that distance from the naked eye, where the generality of people are supposed to see small objects best, is about six inches ; consequently, when such objects are brought nearer than this measure, they will become less distinct ; and if they are brought to four or three inches, they will scarce be seen at all. But by the help of convex glasses, we are enabled to view things clearly at much shorter distances than these ; for it is the nature of a convex lens, to render an object distinctly visible to the eye, at the distance of its focus ; wherefore, the smaller a lens is, and the more its convexity, the nearer is its focus, and the more its magnifying power.

“ When glasses are put in frames for spectacles, these frames ought not to be straight, to place both eyes in the same plane, but they should be so bent in the middle, that the axes of both glasses may be directed to one point, at such a distance as you generally look with spectacles. By this means the eye will fall perpendicular upon both glasses, and make the object appear distinct : but if they fall obliquely upon the glasses, this obliquity will give a confused appearance to the objects to which the eyes are directed.”

EDWARD.—“ The best spectacles are made from the Brazilian pebble ; are they not ? ”

DR. WALKER.—“ Yes.

“ Thus much for the eye and its wonderful properties ; and now, Edward, to bed, where for a time that precious sense will, I hope, soon be soothed to a transitory state of insensibility. To-morrow you know we visit Twer.”

SECTION V.

TWER—MOSCOW.

UPON arriving at the elegant city of Twer, formerly the residence of the ancient dukes of Russia, they regaled themselves upon a delicious fish called Sterlets, which are caught in the river Wolga. After dinner they strolled through the town, which stands at the confluence of the Twerza and the Wolga, and which suffered by conflagration in 1763. It is rebuilt on a plan suggested by the empress, who advanced about 60,000*l.* ; in shares of about 300*l.* each, to those who erected brick houses : she had a little after generously remitted one half of the debt, and founded a school for the instruction of 200 pupils. Here is also a seminary that admits 600 students, and an academy for 120 of the nobility. This town is commercial, and is the thoroughfare for all the merchandize sent by water from Siberia and the southern provinces to Petersburg, and bids fair to rival the finest provincial cities of Europe. Provisions are extremely cheap here, and the inhabitants enjoy most of the luxuries of life in great profusion. It however contains nothing extraordinarily curious, to arrest a traveller's notice ; although it presents many allurements to those who are anxious to find a comfortable place of residence.

Dr. Walker, therefore, and his pupil, proceeded on the following day to Torshok, and from thence to Moscow.

“ Moscow is like a phoenix,” said the Doctor, as they entered the city, “ it is rising from its ashes.”

EDWARD.—“ Was it not strange, Sir, that the ancients should give such implicit credence to the fable of the Phoenix ?”

DR. WALKER.—“ Yes. But that it was formerly believed by them, we have the authority of Herodotus. You recollect what he says upon the subject ?”

EDWARD.—“ Yes, Sir. He says that there was never but one at the same time, and that he was brought forth in Arabia; that he lived five or six hundred years, and was of the size of an eagle. His head was adorned with a shining crest, the feathers of the neck were of a beautiful gold colour, and the rest of his body was purple; his tail was white intermixed with red, and his eyes sparkling like stars. When he was old, and found his end approaching, he built a nest with wood and aromatic spices, and then died. Of his bones and marrow, a worm was produced, out of which another Phœnix is formed. His first care was to solemnize his parents obsequies, for which purpose he made up a ball, in the shape of an egg, with abundance of perfumes of myrrh, as heavy as he could carry, which he often essayed beforehand; then he made a hole in it, in which he deposited his parent's body, closing it carefully up with myrrh and other perfumes. After this he took up the precious load on his shoulders, and flying to the altar of the sun, at Heliopolis, he there burnt it.”

On the following morning Dr. Walker, and his young friend visited the Foundling-Hospital, which was founded by the empress Catherine II. and is supported by voluntary contributions, legacies, and other charitable endowments. It is an immense quadrangular building, and is calculated to accommodate upwards of 8000 foundlings. These children are well brought up, and at the age of fourteen, they are permitted to chuse a trade, and at twenty they leave the hospital, and have the peculiar privilege of setting up in business in any part of Russia, a sum of money being given them for that purpose.

The Kremlin is one of the most extensive palaces in the world. It contains a palace, a cathedral with nine towers covered with copper doubly gilt, five convents, four parish churches, their spires richly gilt, an arsenal, and several other public buildings. The Russians are passionately fond of bells; and few actions indicate so much piety as the gift of a stupendous bell. “ The English, you know, Edward, are as celebrated for their love of bells as the Russians; but the difference between the two partialities is this, the size of the bell constitutes its beauty and merit in the dominions of Alexander, while in England it is its *musical* property, which enhances its value. The English are said to have reduced bell-ringing to a science.” The Moskwa, from which Moscow takes its name, is a small stream, navigable in the

summer for boats only. The style in which Moscow is rebuilding, is very much in its former style. Large and small houses stand side by side, and present a motley appearance of poverty and splendour. When Buonaparte and his destructive army entered Moscow, after having stripped the principal houses, they battered the shells down with cannon, and even broke open the tombs of the dead to find treasure. The rage of the French emperor when he found the inhabitants had set fire to their houses, thus vented itself upon the possessions of those whose property had escaped that all devouring element."

Upon passing through some of the suburbs of the city, our travellers were surprised at the paucity of the population in this immense town; upon mentioning this circumstance to their host, he smiled, and bade them take such a direction, and they would find people enough. They immediately directed their steps to the quarter he pointed out, and were amply gratified with the curious and novel spectacle which presented itself to their observation. Greeks, Turks, Poles, Cossacks, Chinese, French, Italians, Germans, in short inhabitants from every part of Europe and Asia were here assembled, all habited in their respective costumes. "This is a perfect masquerade," observed Doctor Walker, as they forced their way through the busy crowd, "where, if each of the different characters could divest himself of his interested pursuits, so far as to be able to comment upon those who surround him, what various remarks we should hear. Look at those Kirgissians with their bald heads covered with conical embroidered caps, and their sheep skins as garments; observe those Chinese, and those wild Bucharians; to them we appear equally extraordinary as they do to us, and their contempt of our smart broad-cloth, had they leisure to express it, would perhaps excite our *risibility*, not our *indignation*. There we have the advantage over them. We have seen too much of mankind, and traversed too many different countries to feel hurt at the observations of those who are not like us *citizens of the world*. But come, Edward, let us take a view of the amusements of these good people. I see a crowd assembled a short distance from this exchange, who are engaged with no less zeal in the pursuit of pleasure, than those who surround us, where business gives an air of such importance to every countenance. I fear we must be but spectators, not actors in this animated scene," continued the

Doctor, as they approached one of the ice-hills, down which numbers of persons were, with astonishing rapidity, gliding in sledges, very like a butcher's tray.

EDWARD.—“ How are these hills formed, Sir ; they appear perfectly smooth ; if they are artificial, they are very ingeniously contrived.”

DR. WALKER.—“ A scaffolding, which is generally thirty feet high, being erected upon the frozen river, boards or planks, four yards broad, are laid in an inclined position from the top, their ends resting on the ice. Pieces of ice, about four inches square, are then laid close together upon these planks being sprinkled with water they become quickly one solid mass.

“ It requires no small agility and skill to steer those sledges accurately ; and observe, Edward, how those boys skate down there upon one leg,” continued the Doctor ; “ thus you see what creatures of habit and education, we are, place either of us upon the top of that scaffolding, and we should, I fear, not have resolution even to enter the sledge : put that boy in the whiskey, and tell him to drive a spirited horse, he would express the same fears and ignorance as we do about the sledge. Many a brave man, who has faced the enemy with dauntless brow in the field of battle, has never been able to conquer his fears of the water, so far as to enter a boat ; while the sailor, on the other hand, who has often dared the storm, may tremble at his own shadow in the dark, so inconsistent an animal is man ! Peter the Great had an extraordinary antipathy to the water. I have heard that his fears were accounted for by the following circumstance : when he was quite a child, he was travelling with his mother, and during their journey they either passed near, or, I believe, crossed a bridge over a tremendous cataract. The rush of the water, and its tremendous noise, made such an astonishing impression on his childish imagination, that he was from that moment always seized with a violent trembling whenever he approached a river, or even the smallest streamlet. As, however he advanced to manhood, the consideration of the great disadvantage this antipathy would be to the prosecution of his future plans, which were yet but dawning on his mind, he was in the habit of expressing much uneasiness upon the subject ; being, therefore, one day by the side of a river, one of his courtiers plunged in, crossed it, and then returned to his master. Peter watched his progress with mingled sensations of terror and envy ; but at length

after a considerable degree of agitation, he so far subdued his fears, that he followed the directions of his friend, he also plunged into the water, and from that moment not a trace of his former apprehensions remained. I believe we have now seen all that is to be seen in this rising city, and, therefore, to-morrow, agreeably to the plan we have marked out, we will proceed to Smolensko, on our way to Konigsberg. I protest there is our Highland laddie skaiting," continued the Doctor, "he appears to afford more amusement than he receives; those people, by their gestures, seem inclined to persuade him to mount the scaffold; but I hope Colin, though he appears a little merry, has not so far lost his good understanding as to make such an attempt."

At this moment the Highlander espied his master, and brushing through the surrounding crowd, he soon reached them.

"Colin maun gang hame with ye," said he, as he doffed his cap, "for the Russians are too fond of liquor for him. I ken but little how much I have drank. Their heads are strong as well as their liquor."

"The intense cold, Colin, habituates them to the use of strong liquors," replied the Doctor, "and they can drink a large quantity before they feel any ill effects from it; but to-morrow we leave Moscow, Colin."

"I'm right glad on't; and where are we going then?"

DR. WALKER.—"To Smolensko, and from thence to Prussia; so Colin, follow us home, and prepare for to-morrow's journey. This city is of great importance, Edward; it is the centre of the inland trade of Russia, and communicates by water with Petersburg, with Asoph, and with Astracan."

SECTION VI.

CHIEF TOWNS—THEIR TRAFFIC—FORESTS.

"DR. WALKER.—"And now, by the bye, we will, if you please, just take a slight glance at the principal towns in the Russian dominions, and I will begin with Revel, a rich town, in whose harbour part of the Russian fleet is laid up. Here are good houses, fine gardens, and a college with four pro-

fessors. It has annually two fairs, which are well attended by English and Dutch merchants.

“Pawlow, on the Oka, is the Birmingham of Russia.

“Wologda has also a considerable trade; the country is marshy, and abounds with forests, lakes and rivers; the wool in these parts is of a good quality.

“Archangel, the emporium of the north of Russia, exports timber, tallow, bristles, hemp, flax, mats, linseed, rye, wheat, iron, train oil, tar, and pitch. In winter the weather is intensely cold, but serene; in summer it is remarkably hot. Near the rivers the country is fertile.

“Odessa is situated on an extensive bay of the Black Sea. So great is the traffic carried on at this place, that in the year 1803, before the first of May, 502 ships arrived. Grain is the chief export.

“The port of Toganrog is of great consequence to Russia. The environs are fertile, and trade considerable, though in the winter months it is interrupted by ice.

“The country, from Asoph to the Donetz, is rich, and inhabited by industrious Tartars. Pit coal is found almost on the surface; limestone and clay are plentiful.

“Cronstadt, on the island of Retusari in the Gulf of Finland, is the chief arsenal of Russia.

“Riga, 250 miles S. E. by E. of Stockholm, is very opulent, and the most commercial port in Russia, Petersburg excepted. It is situated about five miles up the Duno, over which is a floating bridge. The environs are deep and barren sands. Its principal exports are hemp, flax, timber, pitch, tar and potash.

“Caffa or Theodosia, has an excellent harbour, a productive vicinity, and a mild climate.

“Cherson, the chief mart of the south of Russia, is so unhealthy in the months of July and August, that the opulent retire up the country. It was here that the humane Howard ended his days, and his memory is held in the highest veneration.

“Jaroslawl is a well-built trading town, on the Wolga. Its manufactures of red-leather, woollen and linen are in great estimation.

“Astracan is situated about 50 miles from the Caspian, on an island of the Wolga, and is surrounded by a strong wall: it has a good harbour, and enjoys an extensive commerce with Persia and India. The fish here are excellent;

and the salt met with in these parts, is a considerable article of trade.

“ Tobolsk is situated on a high hill of great extent. The inhabitants are chiefly Mahometan Tartars and Russian exiles : their commerce with China is very considerable. To the S. E. between the rivers Irtysh and Oby, are very productive silver mines.

“ Irkutsk contains about 2000 wooden houses. The government of this name is the largest, but least peopled part of the empire.”

Soon after our travellers quitted Moscow, they entered the vast forest of Volonski. Here as they traversed roads which were at this season of the year almost impassable, they were repeatedly in great danger. Sometimes their progress was interrupted by drifted snow, and sometimes by the trunks of trees, which had fallen across the road. More than once they were obliged to quit their vehicle, and assist in removing the obstacles which impeded their progress. The strength of their faithful Highlander was at these times of incalculable service to them. One night they passed in their carriage, and with difficulty the next day they reached Viasma.

“ What an immense forest is that of Volonski we have just traversed,” said Edward, as they entered Viasma ; “ Why how long do you think it is, Sir ?”

DR. WALKER.—“ Nearly one hundred and fifty miles ; and from this forest, which begins at Viasma, and reaches, as you perceive, almost close to the gates of Moscow, the greater part of the navies of Europe are supplied with masts. It is principally composed of the fir, the larch, the Scotch pine, and the yew-leaved fir ; but Russia produces also the elm, the lime, from the inner bark of which the Russian mats are made, and from whose blossoms the immense swarms of wild bees collect their honey ; the elegant birch, the alder, the trembling aspin, and the Sycamore contribute also to adorn and enrich this extensive country. On the pastoral banks of the Don and the Dnieper. On the shores of the Black Sea, and in the deep recesses of the Taurida, the stately oak, the black and white poplars, the horn beam, the nettle tree, and the magnificent beech, grow in wild and rich luxuriance. Many of our English fruit trees blossom and thrive in different parts of this vast empire ; besides which it

boasts of the olive and pomegranate, not to mention peaches, apricots, vines, &c.

Two days they remained at Viasma; for Doctor Walker felt rather indisposed. The journey through the forest of Volonski had exhausted him extremely; but on the morning of the third day after their arrival, they again set forth, and after a less fatiguing journey they arrived at Smolensko, the capital of the government of the same name. The approach to this city is particularly picturesque. Smolensko is built on two mountains, and on the valley between them. The alternate rising and sinking of the walls, from the inequality of the ground, their Gothic architecture, and grotesque towers, the steeples rising above the trees, which in general conceal the houses; the gardens, meadows, and corn-fields, which are all mingled together within the city walls, form the most agreeable and most extraordinary sight imaginable.

Smolensko carries on some trade with Dantzic, Riga and the Ukraine, in linen, hemp, honey, wax, furs, timber and iron; yet it contains no object of particular interest; and Dr. Walker and his young friend, therefore, did but sleep there one night.



SECTION VII.

RUSSIAN CUSTOMS AND AMUSEMENTS.

MINCHI, in Russian Lithuania, was the next town they stopped at, celebrated for its honey; and from thence they proceeded to Wilna, rendered immortal by the council of war which Buonaparte held with his officers in his retreat from Moscow, in the year 1813. At this place he took leave of his army, and returned to France overwhelmed by defeats and misfortune. Wilna is a large city containing an university, and upwards of forty churches, most of which belong to the Roman Catholics. Its situation is very picturesque, being seated in a mountainous country on several little eminences.

At an entertainment given at Wilna, by a Polish nobleman, Edward was extremely surprised at one custom in particular, which Doctor Walker assured him upon their re-

turn home, was very general throughout Poland, and which the nobility never relinquish when they settle in foreign climes, of which the present instance was an example. The nobleman, seated at the head of the table, gave his servant part of the meat from his plate, and presented him with his own cup to drink out of. "Do you not," continued the Doctor, "trace the origin of this custom to a very distant period?"

EDWARD.—"It must be from the ancient custom of having a cup-bearer, who always tasted the wine before they presented it to their lord, lest the liquor should be poisoned."

"Just so," replied the Doctor, "most of those national peculiarities may be traced to the most remote times. Even the origin of that silly custom of making April Fools has been accounted for by antiquarians, as originating in the commemoration of Noah's disappointment when the raven returned disconsolately to him. Can you not imagine that the raven owes its title of *ill-omened* to this very circumstance? Are not the olive branch and the dove emblems of peace; and the application they must owe to the return of the dove with the olive branch, a proof that the waters had subsided from off the face of the earth. This pastime, if such it may be called, is kept up to a great extent in many parts of India, where the chief men, even princes themselves, are not ashamed to send their ministers on April fool's errands, even to a considerable inconvenience. All these nations retain some idea of the flood of Noah, (who is said to be the *Odin** of the Scandinavians and other ancient nations,) to whom, under different names, they pay some sort of adoration.

"When the nations were dispersed at the confusion of tongues, they spread in every direction, and in the course of time peopled the whole earth. The Chinese affirm that Noah settled in China. The descendants of Ham peopled

* Vallancy supposes the *Budha* of the Indians, and the *Woden*, or *Odin* of the North are the same. He also imagines that the *Tant* of the Phœnicians, and the *Hermes* of Upper Egypt, are only the varied appellation of some distinguished character, the immediate descendant of Noah. The Indian *Boodah War*, or *dies Boodh*, is the fourth day of the week, which answers to the Greek and Roman application of that day to *Mercury*, all of which answer to our *Woden dies*, by corruption called *Wednesday*.

Africa, who was worshipped under the title of Jupiter Ammon.*

“ Japhet peopled Europe. That a resemblance should therefore be traced between some of the old fashioned customs of people so far distant as India and Britain, is not so very astonishing, since all are descended from one common stock. Our *May Day* festivities are also kept up in several parts of Hindostan with dances, songs and garlands of flowers. The sports begin at a certain signal given by a priest, who announces the happy approach of summer by the entrance of the sun into Aries. But this subject would lead us into a maze, through which it would require the guidance of a skilful antiquary; and they even are often obliged to content themselves with simple conjecture. The studies of an antiquary are, however, bewitching; and if I could have followed the bent of my own inclinations exactly and entirely, I should have been as earnest in collecting and inspecting mouldering statues, antique vases, and ancient and obsolete customs as any antiquary living; but, I believe, Edward, from the stillness that pervades the inn, all are retired to rest, and we will follow their example: so good night.”

On quitting Wilna they visited the celebrated town of Tilsit, where Buonaparte gave law to the emperor Alexander, and William king of Prussia. At the treaty of Tilsit, Prussia was reduced one-half, and the titles of Jerome, Joseph, and Louis Buonaparte to the kingdoms of Holland, Naples and Westphalia, were acknowledged and accepted by the two sovereigns of the North. This town is in Prussian Lithuania, and situated on the river Memel. It contains about six hundred houses, and seven thousand inhabitants; and consists of two long streets principally, and a suburb called the *liberty*. The country round it is amazingly fertile.

On the following day as they were passing through the streets, they met the nobleman they had dined with in a magnificent and princely equipage, shortly after which his wife, who was about fourteen only, drove by them in a coach

* The scite of the celebrated temple of Jupiter Ammon has been lately ascertained by Mr. Browne, and afterwards confirmed by Mr. Horneman, at Siwah; which they suppose to be the Oasis of the ancients. Siwah is the only fertile spot to be found for many miles in the great desert west of Egypt, and it is about 252 miles from Cairo.

and six, with a number of servants. The equipages of this Pole were magnificent and princely to a great degree. She was also attended by an old gentleman usher, an old gentlewoman as her governante, and a dwarf of each sex to hold up her train; when she visited at night, her presence was announced by a profusion of flambeaux. This is the usual style kept up by the superior Poles; but there are many of them who are very poor; these are kept as appendages in the families of those who are more wealthy than themselves, and who give them an asylum in their houses, and treat them but a little better than superior servants, although they allow them one distinction; they are occasionally permitted to sit uncovered at the same table with his benefactor, with a peasant boy behind their chair as an attendant.

EDWARD.—“What a degrading system, and how inconsistent with the usual pride and hauteur of the Polish nobility. I think the Polish dress, Sir, the most elegant I ever saw.”

DR. WALKER.—“It is indeed peculiarly so. It is said that Charles II. had some idea of introducing the cloak and its appendages at the English court. But he met with no encouragement; and as he had sense enough to suppose that neither the cut of a coat, nor the hanging of a cloak made a gentleman, he relinquished his plan altogether.”

CHAPTER XI.

P R U S S I A.

SECTION I.

GENERAL VIEW OF PRUSSIA.

UPON arriving at Königsberg, Dr. Walker enquired if they could sail from thence to Dantzic, and having received an answer in the affirmative, they made arrangements for this excursion; previous to which they visited the palace, a magnificent building, containing a hall 274 feet long and 59

broad, without any pillars to support it, as well as the town-hall and the cathedral, which are fine structures. From the top of the castle to which there is an ascent of 284 steps, there is an extensive and magnificent prospect. Königsberg is a place of great trade, but no ships drawing more than seven feet water, can pass the bar; so that Pillau, a town on the Baltic, is in fact the port where all vessels bound for the former place are obliged to unlade, and the merchandize destined for Königsberg, is conveyed to that town in small craft. The principal exports of Prussia from Memel, Königsberg, Elbing, Thorn, Dantzic, and Stettin, are a variety of naval stores, amber, linseed, hempseed, tallow, and a considerable quantity of grain. The imports of Prussia are East and West Indian produce, wine, &c.

In the neighbourhood of Pillau, on a neck of land formed by the Frisch Noeff, large quantities of amber are found at the depth of about one hundred feet, in lumps of various sizes, reposing on wad coal. It is sometimes found in pieces weighing five pounds, and it is not unfrequently picked up on the shore after a tempest. Silesia is the only part of the Prussian dominions which produces any thing like minerals, and those are copper and lead, agates, jaspers, and rock crystals are also found in this part of the country.

The general course of the Prussian rivers is northward. The Vistula passes Warsaw, Plotsk, Thorn, Culm, Neuburg, Marienburg; its eastern branch visits Elbing and Pillau, its western joins the sea at Dantzic. The Pregel meets the Vistula below Königsburg. The Niemen joins the sea below Memel. Prussia is much varied with woods, rivers, and small lakes.

After a very pleasant sail they arrived at Dantzic, the granary of the North. "I could almost wish," said Edward, we were going to Thorn by water: at any rate, I hope we shall have a road that is decidedly land or water; not a mixture of both." "True," replied the Doctor, "I heartily second your hopes, if that would do any good; but having encountered the perils of the forest of Viasma, we have, I think, nothing to fear, and but little to anticipate. As for jolting and jumbling about, if we meet with it, we must ev'n take it, for, to complain, as Sir John Carr says, 'would but endanger the repining tongue to be severed by the teeth.'"

"Dantzic," continued Dr. Walker, "was anciently a place of considerable celebrity. It was considered the

the first city in the Hanseatic league, and was besides the place of residence of many of the Teutonic knights, who greatly adorned and embellished it. It is now the grand mart for corn, which is brought thither from Poland, and the southern parts of the Russian dominions.

“To-morrow we shall visit Thorn, the birth place of the celebrated astronomer Copernicus; and there too, Edward, you may lay in a stock of gingerbread and soap, which form two of its principal articles of trade. You may smile, but I assure you, that gingerbread is one of the regular exports, as the fairs many miles round can testify.”

Their journey to Thorn was uninterrupted, and in the evening of the same day on which they quitted Dantzic they arrived in safety, and took up their quarters at one of the principal inns.

Their route from Thorn to Poyнау lay through a part of Great Poland. “How lamentable is it,” said Dr. Walker, “that so fine a country as this, should be reduced to a mere nominal territory among the great kingdoms of Europe. The public mind was so absorbed by the terrific scenes of the French revolution, that the partition of Poland, and its annihilation as a kingdom, appear to have passed unnoticed. Russia, Prussia, and Germany, settled the matter very quietly; and the haughty and independent Poles, overwhelmed by so formidable a coalition from without, and divided by faction and jealousy within, fell an easy prey to the rapacity of their foreign invaders. Nations and empires have their rising and their setting sun. Nought on this side the grave is stationary. And when a kingdom, nation, or people have reached the meridian of their glory, a gradual and progressive decline naturally ensues. That it has always been so, we have only to open the historic page. The Assyrian, Babylonian, Grecian, Roman, and Western empires, all have disappeared. Italy, Spain, and Germany, no longer hold that high and conspicuous character in which they formerly stood. Poland is annihilated; while Russia, emerging from darkness, begins to hold a most important and powerful situation in the theatre of Europe. Denmark and Sweden, the seat of the ancient Scandinavians, are now but secondary States. France, lately so triumphant and powerful, is again reduced to her former level, and your own favourite and beloved country is now in her meridian.”

EDWARD.—“Oh! don't say so, Sir.”

DR. WALKER.—“ Why not: do you suppose, dearly as I love my native land, that I flatter myself it will be exempt from the fate of all sublunary things. No, but while she still holds fast those virtues which give her strength and power, and energy, which make her sons beloved and honoured at home; feared, envied, yet trusted abroad, we may hope, and that without presumption, her fall will be deferred. But I am growing grave; let us resume the subject which led to this long digression.

“ The northern parts of Poland abound in huge forests, while the southern, particularly in Podolia, are rich and fertile to the greatest degree. It also contains mines of silver, copper, iron, coals, black agate, red granite, and salt: but the most curious of its subterraneous productions are the immense quantities of marine petrifications, which are found in various places. There is a bituminous fountain near Cracow, which encreases and decreases with the moon; if a torch is applied to it, it immediately takes fire, but without heating the water, although it dances along its surface. If unextinguished, it communicates itself by subterraneous conduits to the roots of trees in a neighbouring wood, which it consumes. About seventy years ago, the flames are said to have lasted three years. I am sorry we could not visit Hungary, but we really shall not have time. It contains many natural curiosities, among which a cavern in the neighbourhood of Sizelitze, in Upper Hungary, is very conspicuous. The country around it is extremely picturesque, adorned with woods and hills; and the air, speaking generally, sharp and cold. The entrance to this cave fronts the south; it is eighteen fathoms high, and eight broad, so that when the south-wind blows violently, it rushes into the interior of the cave, making occasionally the most piteous moaning, while at others it howls along the winding passage leading to the south (and the extent of which by the bye has never yet been ascertained) with almost a terrific noise.— But the great curiosity of the cave is this: when the neighbouring country is covered with frost and snow, the air within it is warm and agreeable; and when, on the contrary, it is summer without, the interior presents the appearance of an Iceland winter.

“ When the heat of the sun is intense on its surface, masses of ice, the size of large casks, are suspended to the roof, forming grotesque figures from the curious ramifications

issuing from them on all sides. This ice is particularly useful in the dog-days, and the inhabitants resort to this cave as to a general and public ice-house, for cooling their wine, and so forth. When the snow on the surface melts in the spring, the inside of the cave, as far as it is exposed to the south sun, emits a pellucid water, which immediately congeals as it drops, and forms the grotesque figures I mentioned, and the water which drops from these unfrozen, upon touching the ground, becomes hard like crystal. In autumn, the cold begins to abate ; the ice gradually dissolves till, in the depth of winter, swarms of gnats, flies, bats, hares, and foxes, take up their warm and comfortable quarters till the approach of spring is again announced by the encreasing cold, and these animals then quit their retreat to inhale the purer breezes of the mountains."

EDWARD.—“ It appears very strange, Sir, and unaccountable? Did you ever see it ?”

DR. WALKER.—“ No : I give you the account of it as described to me by a friend. There is Paizan in the distance, we shall not stop there, except to change horses; but continue our journey to Franck, and from thence to Berlin. As the season was advancing, the Polish peasantry appeared in their summer dress, consisting simply of a shirt and drawers, with round caps or hats only. The women wore a wrapper of white linen round their heads, under which their hair was braided, and hung down their backs in two long plaits. Some of them had a piece over their head, and hanging down on each side of their face so long as to reach below their knees. These had a curious appearance, and looked as if they belonged to some monastic institution, and were doing penance. There is a marked distinction between the Polish and Russian peasantry ; the former, like their countrymen of superior rank, wear whiskers, and shave their head, except a small circular crown they leave on the top. The Russians, on the contrary, let their hair grow, till it meets their eye-brows, and cut it only in the pole ; besides which they allow their beard to grow to a great length, and this custom arises from the great protection it gives to their throat in the piercing cold, to which they are subject.”

SECTION II.

BERLIN.

UPON arriving at Frankfort, on the Oder, they were delighted to find they were just in time to partake of the festivities of one of the annual fairs. There were play-houses, concert rooms, and public dancing booths; the neighbouring walks were crowded with the votaries of pleasure, while the more sober part of the community were engrossed in the disposal or purchase of various goods with which the stalls were absolutely loaded. From Frankfort they resumed their route to Berlin, the capital of his Prussian majesty's dominions. Berlin is a very beautiful city: the houses are built of fine white free-stone from two to three stories high. But the largest houses, and those too of a magnificent outward appearance, are sometimes inhabited by persons of various ranks and professions. The cobbler and the taylor, the hatter and the hosier, all at times display the different articles of their trades from various windows in the same house, while to crown the heterogeneous show, a washerwoman will unfurl from above her snowy banners fastened to long poles.

The citizens and superior class of manufacturers in Berlin, seldom aim at mixing with or aping any rank better than their own. Society in Berlin is more confined than in any other capital in Europe. The government is very arbitrary and military, and formerly the Prussian officers, although they received no absolute interdiction to visit foreigners of distinction, yet they received those sort of hints, which clearly proved it was for their own comfort, that they should refrain from this indulgence.

Upon enquiring one day of a farmer in the neighbourhood what a particular badge meant which his three younger sons wore, he replied with a sigh, that it was to shew they were destined for soldiers. "But why does not your eldest son wear this distinction," said Edward, "as well as his brothers." "You would not," replied the farmer, "that I should be left quite alone. He is allowed to follow my profession, 'tis the privilege of an elder son." In the hedges which they passed by in their walk about the premises of this farmer, they observed that tobacco grew as a weed alongside of

them, and even in the furrows of a ploughed field. Traces of Buonaparte's despotism were still visible, and in many places thorns and thistles had sprung up, where formerly corn and grass had displayed a rich luxuriance. Indeed in their present tour, they had repeatedly witnessed the effects of the predatory system of war pursued by Napoleon, when in the zenith of his power.

Having seen what little they deemed worthy their inspection at Berlin, they resolved on visiting Dresden.

Early on the following morning, Colin entered the breakfast room, with a very long face. "What is the matter, Colin," said Dr. Walker kindly to him. "I hope nothing has occurred to distress you?" "Naething has happened yet," replied the Highlander, "but I ken muckle well that we'll not all get safe to Dresden, for I couldna sleep all night for the dead watch."

"Why, Colin, you are not superstitious, said Edward?"

DR. WALKER.—"Come, my good Colin, set your heart at rest, and I will explain to you the cause of your alarm.—This is the precise time of the year towards the conclusion of the spring or beginning of summer, that the little insect called the *death watch*, is mostly heard. This insect is of a dark brown colour, and so nearly resembles dried and decayed wood, that you may look long before you distinctly discover it. It is about a quarter of an inch in length, and of a proportionate thickness. The noise is not produced by the voice of the insect, but by its striking any hard substance with the shield or fore part of its head. I dare say you have observed, that it strikes from seven to nine, or eleven strokes distinctly, and this regularity of number has perhaps given rise to much of the terror it inspires. It always haunts old houses, and this inn, Colin, is very old, and may be heard at all hours of the day. Now listen attentively, I dare say we shall hear its formidable and portentous noise; the weather is very warm for the time of the year, and that is another reason why we should hear it.

"There," resumed the Doctor, "I hear it now, 'tis just like the noise one makes by tapping upon the table with one's nail. I have heard they may be induced to repeat the strokes by imitating them. Let us try."

Edward tapped nine times on the table, and in a short minute, the sound was returned by the insect. "There now, Colin, pack up our goods and chattels," said Edward, "but

leave your fears behind you." The Highlander was almost, not quite convinced, his apprehensions were groundless ; but he retired deeply impressed with a high idea of the Doctor's knowledge, who was always ready to explain the most marvellous circumstances.

CHAPTER XII.

GERMANY.

SECTION I.

DRESDEN.

"WELL, Colin," said Doctor Walker, "here we are safely landed at Dresden, in despite of your woeful forbodings, and the death watch ; and you will confess that the latter part of our journey, has been through so beautiful a country, that we had no apprehensions caused by the roads ; you have now travelled enough in this part of the world, to have no fears respecting the skill or honesty of your drivers. Then you will in future set the death watch at defiance." Colin did not very much relish this speech, as to him it seemed to point at something like cowardice. He had however, too much respect for his master to give vent to his feelings, and he retired in silence. "Saxony," resumed the Doctor, as the Highlander shut the door, "is one of the most fertile divisions of Germany. It produces all kinds of grain and vegetables, with hops, flax, hemp, tobacco, saffron, madder, and so forth ; besides which it is rich in mineral productions. Silver, tin, bismuth, manganese, cobalt (from which the blue pigment, called smalt, is made) iron, lead, and tin, the latter of which, though not very abundant, is excellent, are all found in Saxony. Yet, fuller's earth, marble, slate, serpentine agates, jasper, coal, and a beautiful porcelain clay, abound in various parts. You have seen specimens of the Dresden china, to-morrow we will visit some of the great-manufactories in this city, to-day we will inspect the Museum."

The first room gave them exquisite delight, for it contain-

ed brass models of all the best and most famous statues, ancient as well as modern, now extant. In this apartment they remained a long time, for although they were informed that there were six others yet from the description they received of them, they felt convinced that they should receive but an inferior pleasure from the inspection of their contents, when compared to that confirmed by the contemplation of the Venus de Medici, the Apóllo Belvidere, the Laocoon, the dying Gladiator, &c. &c. The second room contains specimens of curious workmanship in ivory, and the third in silver; the fourth contains a large collection of gold and silver plate; in the fifth is a magnificent display of precious stones; in the sixth are deposited the arms of all the Saxon States, and the imperial regalia of the former kings of Poland; and the seventh displays a profusion of jewels.

Dresden was a great sufferer during the late war; indeed it is scarcely possible to travel from one German city to another, without recalling the former position of hostile armies.

At a table d'Hôte * where our travellers dined, they met an Austrian gentleman who was inclined to be particularly sociable. He was amused with the ingenuous remarks made by Edward upon the scene before him; and when they separated, he entreated he might be permitted to call upon them. Dr. Walker readily assented, and on the following day the stranger paid his respects to them, and offered to accompany them to Prague, and even to Vienna, if it were agreeable. "As however," continued he, "I am aware that a stranger should have some introduction, permit me to refer you for enquiries as to who I am, to the chief banker in this city, with whom I know you have connection."

The society of this gentleman was a considerable advantage to our travellers; and he advised them by all means, to pursue their journey to Prague by water. "The views on each side the Elbe between this and Meissen are, I do assure you," said he, "quite beautiful." Upon embarking just by the bridge, which divides the city into the old and new town, they were struck with its peculiar beauty. It is built of stone, and is six hundred and eighty-five paces long, and

* Table d'Hôte; so called, because the host presides and carves. The name is often retained when the host does not appear, and it then simply means, a table where a mixed society dine.

seventeen broad, consisting of eighteen arches. "This part of Saxony," said M. M——, "is called the Italy of Germany from its wondrous fertility, and the luxuriance of its woods and hills. You observe that beautiful bridge in the distance, it is that of Merseim; the piers are composed of stone, but the upper part is wood, and its great curiosity is this, the middle arch, which is seventy-five paces wide, is kept together by one single wooden peg."

Having inspected the manufactures of porcelain and of cloth, both of which are very flourishing in this town, they again embarked on the Elbe, and continued their aquatic excursion until they reached Milnick, which is seated at the confluence of the rivers Elbe and Moldau. It was late when they took up their quarters at the principal inn, and an interesting conversation took place between the accommodating and happy trio of which we shall give a brief sketch.

M. M.—"You have never, I think you say been in Hungary, nor indeed farther in the interior of Russia than Moscow. You have not then visited the most beautiful part of that country, for in the south it is rich and fertile, although there is much want of culture. I have made several excursions to the Crimea, and as I made use both of my eyes and understanding, perhaps a short sketch of the most remarkable scenes I met with, may amuse that young gentleman."

Edward assured him he should be greatly obliged by his communication, and the stranger proceeded, as follows:

M. M.—"I shall then describe to you some of those singular and beautiful scenes with which the Crimea abounds. The promontory of Parthenium, lying between the cities Chersonesus and Eupatorium, is an object that has excited much speculative opinion. Ancient historians mention, that in the city of Chersonesus, there was a temple erected to a virgin dæmon, upon which was her fane and image. Some persons place this temple on the perpendicular rock bearing the name of the Promontory of Parthenium, while others imagine it stood on a very remarkable black rock, which stretches itself into the sea and upon the top of which are the remains of a building of an oblong form. The extraordinary and magnificent appearance of this rock, from the sea is beyond description. Its natural and lofty arch forms a dark and gloomy cave, under which fishing boats can pass. The whole of this coast is particularly grand; a little

farther to the south is the monastery of St. George, placed among sloping rocks, so as to appear almost inaccessible, overlooks a lovely bay. The monks have here formed their little gardens on terraces, one above the other, and the whole presents a scene so wild, so grand, and so beautiful, as scarcely to be imagined.

“ Having staid some time in this enchanting neighbourhood, I visited the valley of Balaclava. The wild gigantic landscape which surrounds the southern extremity of the town; its mountains, its ruins, and its harbour, possess every requisite for exercising the pencil of a Salvator Rosa; while its houses, covered by vines and flowers, and overshadowed by the thick foliage of mulberry and walnut trees, present a most enchanting and lovely view. The port of Balaclava is one of the most remarkable of the Crimea. From the town it resembles some of the northern lakes, but the entrance to it is so narrow, that it has the appearance of being completely surrounded by precipitous mountains. It requires some skill to navigate the vessels through this confined channel, but when this is accomplished, the largest ships may find sufficient depth of water, and ample shelter from the dreadful storms of the Black sea within its harbour.

“ The inhabitants of this town are principally Greeks, a set of corsairs, to whom the Empress Catharine assigned it as a reward for their services during her war with the Turks. The variety of nations, or rather, I should say, of people, living in the Crimea, forms one of its most amusing and prominent features. Tartars and Turks, Jews and Greeks, Anatolians and Armenians, Nagoys, Gypsies, and Calmucks, inhabit different parts of it. Each living according to the fashion of his own country, without intermixing with each other more than they are compelled from absolute necessity.

“ The mountains which surround the port are of red and white marble, full of cracks and fissures; but calculated for ample quarries, if worked beyond the surface. The shore is in some parts covered with fine glittering sand, the particles of which consist wholly of gold coloured mica, in a state of extreme division; making the most beautiful writing sand that can be imagined; and as it may be obtained in any quantity, would answer very well, I should think, as an article of commerce. There has been nothing yet sold by

stationers, to be compared to the sand of Balaclava; for when scattered over fresh writing it produces an effect as if the ink had been covered with minute scales of polished gold, which it will retain for any number of years."

"I am surprised," said Dr. Walker, "that when the Genoese had possession of the fortress of Mankoop, that they should not have profited by this as an article of trade. Did you visit the remains of this celebrated fortress?"

M. M.—"Yes, I did; and a very extraordinary object it is. It may, indeed, be described as towering above the clouds, but you shall have more than a general description of it; for I was so delighted with my excursion to its summit, that upon arriving at the cottage where I had taken up my abode, I wrote an account of it while it was fresh in my memory, and I this morning put it in my pocket.

[*He reads.*] "The fortress of Mankoop is of a very extraordinary magnitude, and may be described as literally in the clouds. It covers the summit of a semicircular insulated mountain; this from its frightful aspect, its altitude, and craggy perpendicular sides, independent of every other consideration than as a surprising work of nature, fills the mind with wonder upon entering the defile leading to it. In this singular situation, where there were no visible means of ascent towards any of the heights, much less for conveying the materials for the astonishing work they completed, did the Genoese construct a citadel, perhaps, without a parallel in the world; the result of their wealth, address, and enterprise.

"History does not mention for what especial purpose those works were carried on by the Greeks or Genoese in the interior of the country, at such a distance from the coast: but it is natural to conjecture their use, in curbing the hostile spirit of the natives towards the maritime colonial possessions. The last persons who held Mankoop were Jews. Ruined tombs of marble and stone were lying beneath the trees in the cemetery of their colony, which we passed in our ascent. The whole of our passage up the mountain was steep and difficult, nor was it rendered more practicable by the amazing labours of its former possessors, whose dilapidated works rather served to impede than facilitate our progress. The ascent had once been paved the whole way, and stairs formed, the remains of which were still in some parts visible.

“ When we reached the summit we found it entirely covered with ruins of the citadel, caverns and gloomy galleries perforated in the rock, whose original uses are now unknown, present on every side their gloomy apertures. On the most elevated part of this extraordinary eminence, is a beautiful plain, covered with fine turf, among which we found the rose pygmæ of Pallas, blooming in great beauty. This plain is partly fenced in by the mouldering wall of the fortress, but otherwise open to the surrounding precipices. All the other mountains, may be discerned from this spot as well as every wood, village, or hill in the Crimea. While with dismay and caution we crept upon our hands and knees, to look over the brink of these fearful heights, a half-clad Tartar, wild as the winds of the north, mounted, without any saddle or bridle, except the twisted stem of a wild vine, on a colt equally wild as himself, galloped to the very edge of the precipice, and there while his horse pranced and curveted, he with the utmost composure, amused himself in pointing out to us the different places in the extensive scene before us. We entered one of the excavated chambers, it was a small square apartment, leading to another on our right hand, while the left conducted us along a narrow passage, which opened to a balcony formed in the solid rock, and defended by a parapet. From this, as it was in the very face of one of the principal precipices, we contemplated in security the vast depth below. Vultures gliding over the vallies appeared no larger than sparrows, while the villages, woods, and undulating hills beneath them, were seen at such a vast distance, that our heads grew giddy, and with a chilling sensation, bordering almost upon faintness, we turned from the dizzy height. We afterwards found the remains of churches, and other public buildings among the ruins, and in a more perfect state than might have been expected in the Russian empire.

“ At length, being conducted to the north eastern point of the crescent, which is the shape of the summit on which the fortress of Mankoop was constructed, and descending a few stone steps neatly hewn in the rock, we entered by a square door into a cavern, called by the Tartars, the *cape of the winds*; it has been chiselled like the rest, out of the solid stone, but it is open on four sides. From the amazing prospect here commanded of all the surrounding country, it probably served as a military post of observation. The

apertures, or windows, are large arched chasms in the rock ; through these a most extensive range of scenery, over distant mountains and rolling clouds, forms a sublime spectacle. There is nothing in any part of Europe that can surpass the tremendous grandeur of this place. Below the cavern is another chamber, leading to the several cells on its different sides ; these have all been cut out of the same rock.

“ We pursued a different road in descending ; passing beneath an old arched gateway of the citadel, once its principal entrance. This road flanks the northern side of the mountain ; and the fall into the valley is so bold and profound, that it seems, as if a single false step would precipitate both horse and rider into the abyss below. We therefore alighted from our horses, chusing rather to trust to ourselves than to the mercy of our prancing steeds, whose insensibility to their dangerous situation, greatly increased our fears. It was dark when we reached the bottom, and we had some difficulty in regaining the principal road which leads to the defile, owing principally to the trees which project across all the lanes in the vicinity of the Tartar villages, which even at mid-day scarcely admit the sunbeams. In certain seasons of the year this defile is very dangerous, from the immense masses of limestone which occasionally detach themselves from the rock, and roll headlong down the sides of the precipices, carrying all before them.

“ Not very far from this wonderful spot, near the village of Shuln, there are many excavations, exhibiting the retreats of the ancient Christians, in cells and grottoes. One of these chambers is not less than eighty paces in length, with a proportionate breadth, and its roof is supported by pillars hewn in the rock ; the stone, from the softness of its nature, did not oppose the difficulty encountered in similar works, which are seen in other parts of the Crimea.

“ Such,” said M. M., “ is my account of the fortress of Mankoop, and I can only say, that all language must fall short of the magnificence and variety of this wonderful place.”

SECTION II.

JOURNEY FROM PRAGUE TO VIENNA.

DR. WALKER and Edward expressed their thanks for this description of Mankoop, shortly after which they separated for the night, and on the next morning recommenced their route to Prague, the second city of importance in the Austrian dominions. It is divided into three towns, distinguished by the name of the *Old*, the *New*, and the *Little Town*.

The *New Town* surrounds the *Old*, and in the middle of the *Little Town*, which was originally built in a forest, there is a single poplar tree standing, which the inhabitants affirm to have grown there for the last thousand years. The houses of Prague are all built of stone, and seldom above three stories high, but the streets are close and narrow. There is a fine stone bridge over the Moldau, consisting of eighteen arches; it is 1770 feet in length, and is so numerously adorned on each side with statues of Saints of every description, that they stand like a file of soldiers in formidable array. Every corner of the streets, every public building is ornamented with crucifixes, images of the virgin, or of saints of some kind, before which the people prostrate themselves at all times and seasons. The vehemence and fervour with which the inhabitants entreat the protection of these saints, is so great that they fall flat on the ground and kiss the earth before them, as if it were hallowed by the shadow only of the images.

“ You should,” said Dr. Walker, to Edward, “ take your sisters a garnet necklace; Bohemia is famous for garnets. They are found principally at Meronitz, in the mountains of Stiefelberg, in clay mixed with mica. The women wash the clay in which they are found, after which they are sifted and arranged according to their size, and sold by the pound weight, from about three to ten shillings. Many workmen are employed in cutting and piercing them, for necklaces and other ornaments; they are polished in facets with emery on a piece of free-stone, and pierced with a small diamond.”

EDWARD.—“ What are facets, Sir?”

DR. WALKER.—“ Any superficies cut into several angles. This branch of commerce is of great antiquity at Carlsbad, and at Walkirk in Suabia, where twenty-eight mills are occupied in this article only.”

Among the variety of elegant trinkets which attracted Edward's attention, was an opal of particular beauty.

“ That mineral,” observed the Doctor, “ is peculiar to Hungary, and is literally found in no other part of the globe. This gem is esteemed beyond all others by the oriental nations, and among the ancients it was almost without price, so highly was it valued by them, particularly the Romans. The opal mines are situated at Czerweniza, not far from Kaschaw, and nearly in the same latitude as Cremnitz, where there are gold mines. The hill in which it is found consists of decomposed porphyry, and it only occurs at the distance of a few fathoms from the surface; of various qualities, from the opaque, white, or semi opal, which is found elsewhere, in Cornwall for instance, to that utmost effulgence of irridiscent colours which distinguishes the noble gem which has so struck your fancy.”

Upon returning to their inn, where they were but indifferently accommodated, they met their Austrian friend, and with him they again resumed their journey, and upon arriving at Vienna their postillion drove immediately to the Custom House, where their small portion of luggage underwent a very severe scrutiny. They dined with their Austrian friend at a Table d'Hote, where tortoises, frogs, and snails formed a part of the fare; a dish of goose's liver was quickly dispatched, as a peculiar rarity, but our travellers were better pleased to partake of the more substantial dishes. Venison and game, besides many small birds which are rejected by us, were served up in profusion. At this table were several families, consisting of the children as well as the fathers and mothers. The suburbs of Vienna are as large as the town itself, of a circular and irregular form, between them and the town there is a broad plain of verdure, which is at the same time useful, agreeable, and salubrious. Dr. Moore says in his travels, that “ although Vienna may never be again exposed to a siege, yet measures have been taken, in that case, to prevent the necessity of destroying the suburbs.” He little thought that a private individual, against whom his brave son was to enter the

field of battle, in Spain, was suddenly to obtain imperial power, and appear thrice within the walls of the Austrian capital as a conqueror!

On the following day their Austrian friend took them to the top of Mount Calenberg in the vicinity of the city. Having entered a carriage of a peculiar construction, which is made on purpose for the accommodation of travellers who wish to ascend the summit, they arrived safely on the top of the mountain, from whence they had an almost boundless prospect. The city of Vienna, with the Danube winding through a luxuriant and pastoral country, was stretched at their feet on the one side, while in the opposite direction the scene was composed of wild and romantic mountains. They paid a visit to the monastery and were hospitably entertained by the monks, who presented them with some very fine fruit, and politely begged they would honour them by spending the night within their walls, as the weather had suddenly changed, and heavy drops of rain began to fall. Our travellers could not refuse so agreeable an invitation, and accordingly they were shewn into the refectory, where they passed the evening in pleasant and rational conversation, till the vesper bell called the monks to prayers. M. M. followed the fathers to their devotion, and Dr. Walker and his pupil were left alone.

“Do you think, Sir,” said Edward, “that M. M. will accompany us any farther on our tour.”

Dr. WALKER.—“I fear not, he has business of importance in Hungary, and as our route is already fixed, and our time in some degree limited, we must not deviate from it. He is a pleasant intelligent man, and I shall regret his departure very much, and I cannot help wishing, although wishes are fruitless, that we could take a peep at the Carpathian mountains, in the neighbourhood of which, he tells me, his business lies. They must have a magnificent and grand appearance, for their base is covered with wood, which encreases in size as you ascend for some distance. This woody and gloomy region is succeeded by one ornamented with brush wood only, and above this the mountains rise in wild and terrific majesty, presenting horrid crags and frightful precipices, covered with snow, yet interspersed with lakes of the utmost transparency. The Carpathian mountains contain copper mines, which are supposed to have

been worked eleven hundred years, and are, some of them, ten, twelve, and fifteen miles in length, and employ 4,000 men."

"Listen, Sir," said Edward.

"'Tis the vesper hymn," replied the Doctor, "had I not feared the fathers would have thought us actuated by motives of impertinent curiosity, I should have wished to have joined their evening service, but you will have opportunities, when we are in Italy, of witnessing every part of the Roman Catholic service, without appearing intrusive, as we should on the present occasion. But let us change the subject of conversation, for I hear M. M's voice."

A frugal supper of fruits, bread, and eggs, was placed before our travellers, who partook cheerfully and thankfully of the friendly entertainment prepared for them by their hosts. After some further conversation they retired to rest, and early on the following morning they left the monastery and returned to Vienna, where they visited the University in company with their Austrian friend.

This University was founded A.D. 1237; but it does not appear to enjoy much scientific reputation. The palace of Shoenbrun, where Buonaparte took up his residence more than once, is about five miles from the city, and is a magnificent building.

SECTION III.

AUSTRIAN CUSTOMS AND MANNERS.

THERE were several shews of combats of wild beasts and bulls, during their stay at Vienna, which is a favourite amusement among the people, but they had no wish to be present at them. They attended several concerts, and went two or three times to the theatre. There are no particular manufactories in Vienna, and although from its situation on the Danube it is extremely well situated for trade, it has no appearance of that bustle of business which is naturally expected in the capital of a great empire.

M. M. having introduced Dr. Walker and his young friend to the house of an Austrian nobleman, he gave them

a polite invitation to dinner for the following day. There is much similarity in the style of dinners throughout Germany; and it has some points of peculiar excellence. The table is generally round or oval, so that each guest has the means of intercourse with the whole party even when it is large. It is covered, for the greater part, with a tasteful display of sweets or fruits; two places only being left near the middle, for the more substantial dishes. Each person is provided with a black bottle of light wine, and every cover (even at a *table d'hôte*) is furnished with a napkin and silver forks. The first dishes which occupy the vacant spaces are always soups; they are quickly removed to the side tables, and distributed by the servants. In the mean time, the next dish is placed upon the table, taken off, carved, and carried round to the guests in precisely the same manner; and so on, till every thing has been served. The plates are carefully changed; but the knives and forks very generally remain through the greater part of the dinner, or, at best, are only wiped and returned. The dishes are so numerous, and the variety so great, that, as every body eats a little of every thing, they seldom take twice of the same. The succession of luxuries is not exactly the same as with us. An Englishman is somewhat surprised to see a joint of meat followed by a fish, or a savoury dish usurp the place of one that was sweet. To conclude the ceremony, each servant takes one of the sweetmeat ornaments of the table and carries it to all the guests.

While the sweetmeats are served, a few glasses of superior wine are handed round, and then the whole company rise and adjourn to another apartment, where coffee is served. As the owner of the mansion intended passing the evening at home, many of the guests remained, among whom were Dr. Walker, and his pupil, and M. M.

Various were the amusements of the evening; some of them struck Edward with astonishment, particularly that called, acting riddles, which is performed in the following manner. A certain portion of the company retire into an adjoining room, where they concert together how best to represent by action the different syllables which compose a word, and then the meaning of the whole word. They presently return, and, carrying on their preconcerted action, require the company to resolve their riddle. Thus, for instance, on one occasion the word which was determined

upon was *Jumeaux*. Some of the actors coming from their retirement, began to squeeze a lemon into a glass, calling the attention of the company very particularly to it by their action, thus representing *Ju*. Others came forwards imitating the various maladies and misfortunes of life, thus acting the syllable *meaux*. Then, finally tottered into the circle two Prussian generals, neither less than six feet in height, dressed in sheets and leading strings, as an emblem of *Jumeaux*.

This, perhaps, was not the most ridiculous amusement, plays were performed by children, while the grown up ladies and gentlemen played cross questions and crooked answers, or stood in a circle, and holding a cord in their hands, passed a ring from one to another, imposing it on some one of the party to discover in whose possession it was to be found.

M. M. was so very anxious that our travellers should accompany him into Hungary, and pressed the subject so much, that the Doctor's objections vanished at his and Edwards entreaties, and leaving Colin at Vienna, they set off for a short tour in that country.

SECTION IV.

HUNGARY.

THE appearance of Hungary and the peasants, as our travellers entered it from Presburg, was far from prepossessing. The plain is unenlivened by trees, unintersected by hedges, and but very thinly inhabited, a waste of arable land badly cultivated, and yielding indifferent crops to proprietors, who are scarcely conscious of the extent of property they possess. Their appearance bespeaks no fostering care from the superior, no independent respect, yielded with free satisfaction from the inferior. It is easy to perceive that a stimulus is wanting to invention, and that stimulus is, liberty. No one peasant has proceeded in the arts of life and civilization a step further than his neighbour. When they had seen one, they had seen all. From the same little hat, covered with oil, falls the same matted long black hair, negligently plaited, or tied in knots; and over the same dirty

jacket and trowsers, is wrapped on each a cloak of coarse woollen cloth, or sheep-skin still retaining its wool. For whether it be winter or summer, week-day or Sabbath, the Slavonian of this district never lays aside his cloak, or is seen but in heavy boots. Their instruments of agriculture are throughout the same; and in all their habitations is observed a perfect uniformity of design. A wide muddy road separates two rows of cottages, which constitute a village. From amongst them there is no possibility of selecting the best or the worst; they are absolutely uniform. In some villages the cottages present their ends; in others, their sides to the road; but there is seldom this variety in the same village. The interior of the cottage is, in general, divided into three small rooms on the ground floor, and a little space in the roof destined for lumber. The roof is commonly covered with a very thick thatch, the walls are whitewashed, and pierced towards the road by two small windows. The cottages are usually placed a few yards distant from each other. The intervening space, defended by a rail and gate, or a hedge of wicker-work towards the road, forms the farm-yard, which runs back some way, and contains a shed or out-house, for the cattle. Such is the outward appearance of the peasant and his habitation.

Being curious to examine the interior of their houses, they were gratified by their friend. They were surprised to find, that men, so negligent of their personal appearance, should enjoy in their houses so much comfort and good order. The door opens in the side of the house into the middle room, or kitchen, in which is an oven, constructed of clay, well calculated for baking bread, and various implements for household purposes, which generally occupy this apartment fully. On each side of the room is a door, communicating on one hand with the family dormitory, in which are the two windows that look into the road. This chamber is usually small, but well arranged; the beds in good order, piled upon each other, to be spread out on the floor at night, and the walls covered with a multiplicity of pictures and images of our Saviour, together with dishes, plates, and vessels of coarse earthen ware. The other door from the kitchen leads to the store-room, the repository of the greater part of the peasant's riches, consisting of bags of grain of various kinds, both for consumption and for seed; bladders of tallow, sausages, and other articles of

provision, in quantities which it would astonish us to find in an English cottage. We must, however, keep in mind, that the harvest of the Hungarian peasant anticipates the income of the whole year; and, from the circumstances in which he is placed, he should rather be compared with our farmer than our labourer. The yards or folds between the houses are usually much neglected, and are the dirty receptacles of a thousand uncleanly objects. Light carts and ploughs, with which the owner performs his stated labour, his meagre cattle, a loose rudely formed heap of hay, and half a dozen ragged children, stand there in mixed confusion; over which three or four noble dogs, of a peculiar breed, resembling in some degree the Newfoundland dog, keep faithful watch.

From Urmeny the trio proceeded to the gold and silver mines at Schemnitz and Kremnitz, where they noticed the various docimastic processes employed to obtain the metals from their ores. The prevalent rock is a tender claystone porphyry, in some places passing into grunstein; the summits of the hills being all composed of this grunstein. The district productive of the precious metals, is about five or six square miles in extent, and contains five great parallel veins, running east and west, and dipping at an angle of eighty degrees. In these veins, consisting chiefly of felspar, varying from sixty to one hundred and twenty feet in thickness, and connected with each other by small and irregular branches, is found the metallic ore, forming veins from ten to four inches in thickness, and druses lined with crystals of the metal, quartz, and calcareous spar. The great vein of stephani-schacht is remarkable, as diminishing in width as it approaches the surface, which is considered by the miners as an exception to the general rule.

There are twelve great mines in this district, all of which find an outlet for their water at a depth of twelve hundred feet, by one adit, the length of which is estimated at twelve miles. The veins have, however, been wrought to the depth of eighteen hundred feet; and from these deeper galleries the water is raised by a most ingenious machine, invented by Höll, the chief engineer of the imperial mines. A stream of water, procured from reservoirs in the high valleys, falls through a perpendicular iron pipe, two hundred and seventy feet in length, which, being then bent at a right angle, conducts it into the lower extremity of a large cylinder, in which there is an air-tight piston. The water entering the

cylinder, raises the piston to the top, and escapes by a valve which then opens; while, at the same time, the communication between the cylinder and the vertical pipe is interrupted. The piston redescends by its own weight; the water is again allowed to enter the cylinder, and an alternate motion is thus established. To the piston rod are attached two beams bearing the rods of pumps, which raise the water by successive stages from the deepest parts of the mine. There are three of these machines, each of which raises 1790 cubic feet of water, from a depth of six hundred feet, in an hour. The water employed in working the machine makes its escape by the same adit with that which it has raised.

Upon passing one day an encampment of gypsies, Dr. Walker was led to make some enquiries of M. M. respecting them.

M. M.—“Of the origin of this singular race of beings, whose manners and varied history have attracted so much attention all over Europe, various have been the opinions. They are, perhaps, more common in Hungary than in any other country, where they are denominated *cygani*, *czygani*, or *tzygany*, and exhibit the same general features, physical and moral, by which they are characterized in England. Their essential identity seems to be distinctly ascertained under various modifications and names in several of the countries of Europe—the *Gitanos* of Spain, the *Bohemians* of France, the *Zingari* or *Cingari* of Italy, the *Zigueners* of Transylvania, the *Tinklers* of Scotland, &c. It is apparently more constituted by the mode of living, kind of employments, peculiarities of complexion, countenance and form, dispositions, propensities, and habits, than by the language used by them. But this latter is, in some respects, a more decided evidence of their derivation from one origin.

“The identity of this people, in the different countries of Europe, is so obvious, from a comparison of their manners, that on this alone we might rest our conviction of their common origin. Their peculiar cast of countenance, their complexion, their gay and cheerful turn of mind, their bodily agility, are all distinctly marked, and specifically mentioned by different travellers who have met with them in distant regions. But the great confirmation and completion of the argument lies in the similarity of their lan-

guage. That a race of beings, in the lowest degree of civilization, who, for four centuries, have been wandering about in every part of Europe, acquiring the language of every country which they frequented, and claiming no country of their own, should have lost their original language altogether, would not be a matter of astonishment. That they should have retained their peculiar language, would have been little less than miraculous; if, therefore, we can trace but a few words, common to the whole race in every country, and which have no affinity to the language of any nation inhabited by them at present, we are led irresistibly to the conclusion, that they are derived from a common source. This fact has been established by former writers, and the result of my inquiries can only be considered as an additional evidence in its favour. According to their own account, when they made their first appearance in Italy in the fifteenth century, they represented themselves as Egyptians, driven from their own country by the Saracens. But this assertion is now considered to have been false, and they are supposed to be of the Hindoo race, and this supposition is founded on the great similarity which is met with in their language to that of the Hindoos."

The next object of our travellers attention was the capital, Buda, the residence of the Palatine, and the seat of government. It contains upwards of thirty thousand inhabitants; while, on the opposite bank of the Danube, and connected with it by a bridge of boats, lies the city of Pesth, already of nearly equal magnitude, and rapidly increasing. Its chief ornaments are the National Museum, dedicated to the Natural History of Hungary, with an extensive library, open to the public, and an observatory, recently erected upon a hill rising from the river: great attention has been paid to procure the instruments from Munich, and to render their supports independent of the building. The University, which has a library of fifty thousand volumes, is attended by seven hundred students; amongst them are to be found Jews, as well as Christians of all denominations, complete toleration being allowed throughout the kingdom.

The King of Hungary, who is also Emperor of Austria, has at his disposal a standing army of 60,000 men, which is maintained by the peasantry and free towns: with the consent of the Diet he can also call forth the insurrection

of the nobles, who on some of these occasions, have brought 40,000 men into the field. The most curious part of the military establishment is the militia, intended as a barrier against the Turks, which occupies the Croatian frontiers. Every father of a family holds a certain portion of land from the Government, for which he pays a small land-tax, furnishes his quota to the public magazines, and is bound to take the field when required. While in the field he is maintained, and the land-tax remitted in proportion to his military service. The land descends to the eldest son; and, if there are no male heirs, reverts to the crown. Sixty or more of these landholders unite into a family, under a patriarch of their own choice, to whom they yield implicit obedience. All the labour and gains of this family are in common: and no one can quit it without being punished as a deserter. Several of these families united, form a company, under the orders of a captain; and several companies constitute a regiment, commanded by a colonel. The whole economy of this extensive district is military; the agricultural labours are directed by corporals; the courts of justice are composed of commissioned officers; and the whole is subject to the Council of War at Vienna. The force which can be called out is estimated at 80,000 men; and the line which they are intended to protect, at 600 miles.

The revenue derived by Austria from Hungary is calculated at three millions sterling. Perhaps there are few countries which excite such strong feelings of indignation in the breast of an Englishman as Hungary. The absolute slavery of that class of people which in his own country enjoy in every respect, the same protection from the laws, as the first peer in the realm, renders the contrast both striking and painful.

The manner in which land is possessed in Hungary, is very singular. No man can possess lands who is not a noble of Hungary. But as all the family of a nobleman are also noble, it is supposed that, in every twenty-one individuals in the nation, one is of this class. The lands descend either entire and undivided to the eldest son, or are equally divided amongst the sons, or, in some cases, amongst the sons and daughters: so that many of the nobles become by these divisions, extremely poor, and are often obliged to discharge all the duties of the meanest peasant. If any of

these nobles wish to sell an estate to a stranger, however high in rank, even to a noble of the Austrian empire, application must first be made to the surrounding proprietors, to learn whether they wish to purchase at the stipulated price; if they decline, the stranger may purchase it for a period of thirty years; at the end of which time, any branch of the family which sold it, however distantly related, may oblige the stranger to surrender his bargain. This goes so far, that, in many cases, though the purchaser be an Hungarian noble, the family of the former possessor can reclaim it after thirty years, on payment of the original price, together with expenses incurred in the buildings, and improvements which have been made during that period. The litigation, ill-will, and evils of every kind to which such laws give rise, are beyond calculation.

The peasants on these estates were formerly bound to perform indefinite services, on account of supposed grants and privileges likewise little understood. Maria Theresa put the whole under certain regulations, which left less arbitrary power in the hands of the lord. She fixed the quantity of land upon each estate which was to remain irrevocably in the possession of the peasantry, giving to each peasant his portion, called a *Session*, and describing the services which should be required of him by his lord in return. The only points determined, however, were, first, the whole quantity of land assigned to the peasants; secondly, the relation between the quantity of land and the quantity of labour the lord should require for it. The individual peasants are not fixed to the soil, but may always be dismissed when the superior finds cause; nor is it of necessity that the son succeeds to his father, though usually the case. The peasant has no absolute claim to a whole session:—if the lord please, he may give but half a session, or a third; but, in this case, he cannot require more than one-half or one-third of the labour. The quantity of land allotted to a whole session is fixed for each *comitatus* or county. In the county of Neutra, where Urmeny is situated, it varies, according to the quality of the soil, from twenty to thirty ioch, each equal to 1.46 acres, or nearly $1\frac{1}{2}$ English statute acre; and of these, sixteen or twenty must be arable, the rest meadow. The services required of the father of the family for the whole session, are one hundred and four days of labour during the year, if he work without cattle; or

fifty-two days if he bring two horses or oxen, or four if necessary, with ploughs and carts. In this work he may either employ himself, or, if he prefer and can afford it, may send a servant. Besides this, he must give four fowls, and twelve eggs, and one pfund and a half of butter; and every thirty peasants must give one calf yearly. He must also pay a florin for his house; must cut and bring home a klaster of wood; must spin in his family six pfund of wool or hemp, provided by the landlord: and, among four peasants, the proprietor claims what is called a long journey, that is, they must transport twenty centners, each one hundred French pounds weight, the distance of two days' journey out and home; and, besides all this, they must pay one-tenth of all their products to the church, and one-ninth to the lord. Such are the services owed by the peasant; and happy would he be were he subject to no other claims. Unfortunately, however, the peasant of Hungary has scarcely any political rights, and is considered by the government, much more than by the landlord, in the light of a slave. By an unlimited extension of the aristocratical privilege, the noble is free from every burthen; and the whole is accumulated upon the peasant. The noble pays no tribute, and goes freely through the country, subject to neither tolls nor duties: but the peasant is subject to pay tribute; and although there may be some nominal restriction to the services due from him to government, it can safely be said that there is no limit, in point of fact, to the services which he is compelled to perform. Whatever public work is to be executed, not only when a road is to be repaired, but when new roads are to be made, or bridges built, the county meeting gives the order, and the peasant dares not refuse to execute it. All soldiers passing through the country are quartered exclusively upon the peasantry. They must provide them, without recompense, with bread, and furnish their horses with corn; and whenever called upon, by an order termed a "*forespann order*," they must provide the person bringing it with horses and means of conveyance. Such an order is always employed by the officers of government; and whoever can in any way plead public business as the cause of his journey, takes care to provide himself with it. In all levies of soldiers, the whole falls upon the peasant; and the choice is left to the arbitrary discretion of the lord and his servants.

In addition to these grievances, which are intolerable, the Hungarian peasant is subject to stripes and imprisonment, and the feelings of our travellers had been repeatedly shocked in approaching the castles of the nobility, at seeing peasants working in irons. The first palace they visited their ears were assailed upon entering the court-yard, with the clanking of chains, and Edward ejaculated, "I thought Sir, we were going to see a palace, this is a prison, I hear the prisoners' chains!"

"'Tis the prisoners in the dungeons belonging to the castle," replied M. M. "we shall see the interior, I have an order for that purpose."

Edward could see nothing but the dungeon walls, nor hear aught but the prisoners chains. With a beating heart he followed the keeper, who led them through a door well barred and bolted. As they entered the dungeon, seventeen figures, all in the long Hungarian cloak, rose from the ground on which they were sitting. Beside themselves, the room, which was not above twelve feet square, presented no one object: no table, bed, or chair. It was ventilated and lighted by several small grated windows, high up in the side of the walls. The prisoners were most of them young men, some had been tried, others had not; and some had been confined seven or eight years. Their crimes were very different; but no difference was made in the mode of treating them, excepting as to the number of lashes they were to receive at stated times, or the number of years they were to be imprisoned. Such was their residence during the day-time, when they did not go out to work. Our travellers next proceeded to the dungeon in which the prisoners are confined during the night, the jailor taking the precaution to disguise unpleasant smells, by carrying a fumigating pot before them. On opening an inner door, they entered a small room in the corner of which lay two women on beds of straw. In the middle of the floor was an iron grate. This being opened by their guide, he descended first, by means of a ladder, with a lamp in his hand, by the light of which our travellers perceived that they were in a small antichamber, or cell, from which a door opened into the dungeon, the usual sleeping place of all the male prisoners. It was a small oblong vaulted cave, in which, the only furniture was two straw mattresses. A few ragged articles of dress lay near the place where each prisoner was accustomed to rest upon the naked floor. In one

corner of the room was a large strong chain; and, at about a foot and a half from the ground, round the whole vault, were rings let into the wall. The prisoners, at night, having laid themselves upon the ground, the chain is put through the irons which confine the ancles of three of them, and is passed into a ring in the wall; it is then attached to three more, and is passed through a second ring, and continued in this way till the complete circuit of the room is made. The ends of the chain are fastened together by a padlock, by which the whole is secured.

“Let us return to Vienna soon, Sir,” said Edward, as they quitted the dungeon, “Every noble I see I shall consider tyrant, and shall never look at a peasant without thinking of the prison of Kesythely.”

“Nor I,” said the Doctor, whose feelings were in unison with those of his pupil, “We will quit it immediately; but all the nobility are not alike, though few are the exceptions. The Count Festitis has enfranchised his vassals.

“Having purchased an estate in the Murakos, a tract of country between the Muhr and the Drave, he granted lands to the peasants at a fixed annual rent, a few only remaining on the common tenure of service. In these free villages, the value of land has risen to such a degree, that the owner of four acres is esteemed wealthy, and the population has increased from fifty families to six hundred. Although still subject to the government duties, and suffering from the effects of two bad seasons, and an inundation of the Drave, these peasants were, in 1814, striving cheerfully with the difficulties of their situation; while their neighbours, on the common footing, although each family possessed thirty acres, were reduced to subsist on the bounty of their lord. These free villages also afford an exception to the general dishonesty of the Hungarian peasantry; their household furniture is often exposed on the outside of the cottages, and does not even require the protection of the large dogs common in the rest of the country. As, however, on hereditary property, no arrangement made by the lord is binding on his successor, this amelioration cannot become general without an act of the Legislature.”

“What a country to live in!” exclaimed Edward. “Dear England,” continued the youth, “and its laws, its juries, its *habeas corpus*, and all its comforts. I am not tired of travelling, but *home* and England, will sometimes cross me. I

should like of all things at this moment, to be peeping into a farmer's hall, where his labourers are assembled at a harvest home, drinking 'a health to our good Maister, the founder of the feast.' Should you not, Sir?" The Doctor smiled—"Why, yes, perhaps I should. But our Austrian friend, you forget him."

M. M. who had been greatly amused at Edward's remarks, begged he might be forgotten. "I have no wish to interrupt my young friend's remarks, which do honour to his country, as well as his own heart. But do you really intend to quit Hungary? if so, we must part, for I cannot return to Vienna just yet. But as I am going to the north, where the country is not so beautiful as in the south, I do not urge you to make any farther stay in a country which appears to have disturbed the peace of Edward."

With regret our travellers took leave of M. M.———, and directing their steps towards Gratz on their way to Vienna, they arrived safely in that city to the great delight of Edward. Colin too expressed much pleasure at their return, and after staying one day in the Austrian capital, in order to make some arrangements with their banker, and to settle various little affairs which were postponed by their sudden excursion into Hungary, they resumed their journey, and following the course of the Danube, on the south side of that river, they at length arrived at Swrach, where they remained one night.

SECTION V.

CAVES AND FOSSIL REMAINS.

"OF all the natural curiosities of Germany," said Dr. Walker, "the immense number of fossil bones found in the mountains of the Hartz is most astonishing. That fossil on the chimney-piece, recalls them to my recollection. The Hartz mountains form an irregular chain from the Weser, not far from its rise, to the vallies of the Oder. At one extremity of this long chain are Beaumon's cave and Schorfel's; and at the other are the caves in Hungary, which have been known from time immemorial. Between these two extremes, are the caves in Franconia, near Bayreuth; the one called

Gayleureuth, is particularly rich in fossil remains. These caverns are of great extent ; they are lined with stalactal concretions ; and in these concretions near the bottom, and in the floor many bones are found. The bones are all nearly in the same state, detached, shattered, and broken ; a little lighter and less solid than bones in a natural state : they are very little decomposed, containing much gelatinous matter, and not at all petrified. There are about eleven or twelve of these caverns at Gayleureuth, all issuing from one another, the inner one is twenty-eight feet high, and about three and forty feet long. Here the prodigious quantity of animal earth, and of bones of every description, presents an apt image of a temple of death. The stalactites, from their icy touch and heavy groups, combine to give it an air of gloom which chills the human frame ; and I do assure you, Edward, I was glad again to lay down and creep through an aperture only three feet wide and two high, in order to retrace my steps through these dismal caves of death."

EDWARD.—“ I have no wish to see them. It makes one shudder to hear of them. I am quite satisfied with your description of them. Pray, Sir, what animals have these bones belonged to ?”

DR WALKER.—“ Three-fourths of them are said to have belonged to two species of bears, which no longer exist. About half the remainder to the hyæna, some few to the tyger, or the lion ; others to the wolf or dog, the fox, the pole-cat, or to some species nearly allied to them. These caves do not contain the bones of any *marine* animal whatever, nor any thing that marks the presence of the sea. It cannot be doubted, therefore, that the animals to which they belonged, lived and died in the caverns where their bones remain, for there is no appearance of any sudden overflowing of the waters of the ocean, by which they might have been driven to these caverns, and there perished. Carnivorous animals are solitary, both from inclination and necessity ; there is therefore no reason to suppose that any vast herds of them would be collected in these caves, unless compelled by some extraordinary change in the face of the country which they inhabited. May we not suppose that at some remote period, when the vast forests of Germany were gradually destroyed, either by fire or other means, that these animals might seek protection in the caverns of the Hartz mountains, and there prey upon each other till they became extinct. I

do not however presume to account for what has occupied the attention of so many of the curious; but this is one of those speculative subjects upon which we may be allowed, without presumption, to give an opinion."

A fire happening in the night of their arrival at Sivrach, not far distant from the inn where our travellers lodged, Dr. Walker observed, when it was extinguished, "that affairs would have been conducted in a very different manner, had this melancholy event taken place at Pesth in Hungary.—When these frightful accidents take place in that town, certain citizens are appointed, who open the houses in which the public fire-engines are kept, and others who are to superintend the conducting them to the place. The barriers of the town are closed, and no stranger, or suspected person, is allowed to escape. The surgeons and priests are ordered to be at hand. No one but the Palatine and the Brigade-General is suffered to approach the spot on horseback. The Stadtrichter and the Stadthaupman are distinguished by red and white hat-bands; every magistrate wears a white one, and the commissioner of fires one of red and yellow. Every householder in the neighbourhood, and the streets leading to it, is forced, under a penalty of 25 florins, to light up his house with lanterns, or with candles on the inside. The glaziers and the sculptors have to pay attention to this. The brewers, the millers, the coach-masters, and the hackney-coachmen, are bound to afford means of conveyance. The management of the fire-engines is committed to the copper-smiths, metal-founders, gun-makers, knife-grinders, and watch-makers. The supply of water, and the labour of the engines is entrusted to the locksmiths, braziers, wheelwrights, potters, coopers, butchers, hatters, farriers, and nail-smiths. For pumping water out of the Danube, the tanners, fishermen, millers, and boatmen; for lifting water out of the wells, the well-sinkers, bakers, gardeners, and starch-makers, are summoned. The brush-makers, glovers, basket-makers, furriers, weavers, nailers, harness-makers, taylors, buckle-makers, and shoe-makers, are to form the ranks for passing water in cans and buckets. Brewers, labourers, joiners, and rope-makers, are to bring the ladders and fire-hooks. But, above all, the chimney inspectors, the bricklayers, stone-masons, tilers, and carpenters, are called upon, under very heavy penalties, to attend and give assistance at all fires.—The approval of the Stadtrichter, who is always accompanied

with an official mason and carpenter, is requisite before any of the neighbouring houses are pulled down, to prevent the extension of the flames. No one is permitted to shut his doors, or refuse free access to the water in his house on such occasions, nor can he forbid any necessary communication from being opened through his walls or fences. The sick, the infirm, and children, are entrusted to the care of the apothecaries, surgeons, and shopkeepers. The preservation of furniture and valuables is committed to book-binders, chocolate-makers, sieve-makers, goldsmiths, map-stainers, engravers, painters, snuff-makers, watch-makers, paper-hangers, and sugar-bakers. The preservation of cattle is given to the swine and cattle-dealers, cow-keepers, &c. And, lastly, the masters of coffee-houses and inns, and the barbers, are quietly to look about the whole city for thieves and pick-pockets. No man is suffered to stand by at a fire idle, but, whatever be his situation, is called upon to render assistance. And thus the busy picture is complete. How much more efficacious is the plan and labour of the firemen in London."

"I agree with you, Sir," said Edward, "*they manage these things better in England.*"

SECTION VI.

THE MINERALS, RIVERS, AND MOUNTAINS.

BESIDES the productions, of her own immediate territory, Austria is particularly rich in those of Bohemia, Hungary, and part of Poland. In minerals, for instance.

"At Schmelnitz and Herrengrund, antimony; at Roienau, salt-petre, coal, salt, and alum, in different parts, natron or soda, in a lake near Kismanig, towards the frontier of Transylvania. Mineral springs are very numerous. Petroleum is likewise met with in Hungary. In Transylvania are the grey gold ore, the white gold ore, silver and copper. The streams both of this country and Hungary afford small quantities of gold; and Bohemia produces silver, gold, tin, copper, and lead.

"The mines at Kremnitz and Schennitz, in Hungary, are probably the most remarkable in Europe. The former for gold, the latter for silver and other metals. The academy at Schennitz, instituted for the study of mineralogy, is only rivalled by that of Freyburg in Saxony. It is remarkable that the rocks in these parts are of the same kind as

those opposite to many of the Western Isles of Scotland.—May not these contain similar minerals?

“ The rivers of Germany are both large and numerous. The Danube stands first upon the list, which, after rising in Swabia, passes by Ulm, Ingolstadt, Ratisbon, Passau, Vienna, Presburg, Buda, in the Austrian dominions; and Petervaradin, Belgrade, and Widin, in Turkey; after a passage of 1,300 miles, it falls into the Black Sea, near Ismael. The Danube, in some places, is 760 yards in breadth.

“ The Inn rises in Switzerland, passes by Inspruck, and joins the Danube at Passau.

“ The Oder rising in the mountains of Moravia, and passing by Breslaw, Glogau, and Francfurth on the Oder, disembogues itself into the Baltic below Stettin.

“ The Elbe rising in the Sudetic Mountains of Silesia, runs by Prague, Dresden, Wittenburg, Magdeburg, and Hamburg, and, after a course of more than 500 miles, enters the sea near Cuxhaven.

“ The Weser, formed by the junction of the Wurra and Fulda near Munden, runs into the sea at Bremen, 270 miles from its source.

“ The river Ems flows by Munster and Embden.

“ The Rhine rises in Switzerland, flows through Lake Constance, runs by Basle, whence it forms the boundary between France and Germany; then running by Strasburg, Spire, Manheim, Mentz, Coblentz, Cologne, and Nimeguen, it enters the United Provinces, and divides itself into four different branches; the only one of which that retains the name of Rhine falls into the German Ocean at Leyden. The course of the Rhine may be computed at 600 miles. The principal rivers which contribute their waters to the Rhine are the Neckar and Mayne from the east, and the Mozelle from the west.”

“ And now, Edward, as this town of Sivrach presents nothing very interesting, to engage our attention, let us before we proceed any further on our travels, take a survey of the extensive country denominated Germany; and first of all, let us speak of its surface and climate.

“ Though Germany is in general a level country, and has many plains of great extent, yet in every circle are single mountains or small ranges of hills. Of mountains the principal are Erzgeberg, between Upper Saxony and Bohemia; the Hartz, in Lower Saxony; Hessia, in the Upper Rhine; Vogesian, between the Rhine and Moselle; the Carpathian Mountains, between Moravia and Hungary; Giant Mountains, in Silesia; Fichtelberg, in Franconia. The Alpine chain pervades and confines the south of Swabia, Bavaria, and Austria: the most elevated part of Germany is along the parallel of 49°.

“ The chief lakes are Constance, south of Swabia; Chiemsee, south of Bavaria; and Ozernick, south east of Austria. The southern part of Germany is mountainous, woody, and almost throughout fruitful and well cultivated; the northern part is more level; towards the sea many parts are very low, it has also large barren wastes interspersed with forests, and yet many very fertile districts. The air is temperate and

in general healthy. As for its zoology, to the domestic and wild animals of England and Holland, we may add the uron or bison, the bear, wolf, lynx, and chamoise. The surface yields excellent grain and vegetables, also hops, flax, hemp, tobacco, saffron, madder, olive oil, and timber.

“ Upper Saxony is particularly rich in mineral productions ; besides silver, copper, tin, lead, manganese, cobalt, bismuth, wolfran, which are chiefly met with in the gneis rock, we may add granite, basalt, trapp, jet, hornblend, limestone, pitchstone, marble, coal, with micaceous and siliceous schistus ; serpentine, jasper, agates, porcelain-clay, fullers' earth, and the celebrated topaz rock, which is said to be unique in its kind. The valley of Plauden, in the neighbourhood of Dresden, abounds with petrefactions. In the south west of Lower Saxony, are boracite and staurolite. In Swabia are excellent marble, silver, and copper. The south of Bavaria is rich in salt springs, and Austria in Mercury ; the alpine minerals are gold, silver, copper, lead ; granite, with argillaceous substances, and accidentally, large pieces of grass green quartz, studded with red transparent garnets. The mines of Idra, in the south east of Austria, are said to yield more than 300,000 pounds avoirdupoise of mercury annually ; the common oar is cinnabar, but sometimes pure quicksilver runs through the crevices. The principal of the above mines are situated in porphyry and sienite.”

SECTION VII.

THE MINES OF IDRIA.

“ THE quicksilver mines at Idria, a town of Carniola, were discovered in the year 1499, by accident, in the following manner. A peasant having filled a cask with water from a spring in the immediate neighbourhood, and left it there, it was so heavy the next day, he could scarcely remove it ; upon inspecting the cause of this extraordinary weight, he discovered a quantity of this valuable mineral, which had settled at the bottom of it. I have been in this mine, and although the entrance is now considerably improved, yet when I visited it, it was indeed so frightfully gloomy, as almost to deter me from entering. Imagine to yourself a gloomy looking aperture of about five yards broad, at the entrance of which was a basket ; in this I placed myself, and was let down more than 100 fathoms. The mine widened as I descended, and I was glad to find myself once more on *terra firma*, if I may use the expression, in a mine of quick-

silver. I must confess, that I never before experienced such a combination of feelings. The ground which appeared hollow, echoed back my steps with a thundering sound. The light produced by a few solitary lamps suspended here and there (to enable the wretched inhabitants to move from one part of these awful and gloomy regions to another) was so feeble, that I could scarcely discern my guide, and as I passed through this scene of horrors, (for such it literally was) I shuddered on recalling to my imagination, the fate of an Austrian nobleman, and the lady to whom he was married, as related by a Mr. Everard.

“ Mr. Everard was travelling in Germany, and made a point of seeing every thing curious and celebrated that fell in his way. Being near Idria, he resolved to descend into these mines. On arriving at the bottom, he was struck with the gloom that surrounded him, and paused a few moments as he contemplated the solitary sickly looking wretches that surrounded him; he was roused from his reverie by hearing himself addressed by one of them, ‘ Do you not know me Mr. Everard?’ said a tall thin looking person. Mr. Everard started, and fixing his eyes on the unhappy object before him, he exclaimed, ‘ Impossible! I must be deceived. It cannot be the Count Alberti?’ His surprise was encreased on perceiving a young woman approach Alberti (for it was indeed he) who, notwithstanding her present wretched situation, possessed a certain elegance of manner which plainly shewed the mines of Idria had not been always her place of residence. Having cordially received his unfortunate friend, he begged he would inform him of the circumstances which had reduced him to this melancholy situation. ‘ I have myself to blame originally, said Alberti. Having received what I conceived an unpardonable insult from an Austrian officer, I resolved to follow the natural impetuosity of my disposition; and in defiance of the commands of the Emperor, I challenged my enemy; we fought, and I left him, as I thought, dead. I then fled to the forests of Istria, where I unfortunately was surprised by banditti, who made me prisoner, and carried me to their haunts, but afterwards allowed me my liberty. Their retreat being soon after discovered, we were carried to Vienna, and condemned to be broken upon the wheel. I was however recognised, and upon this discovery my fate was changed to that of a living death in these gloomy regions. This unfortunate companion of my woes,

voluntarily submitted to share my unhappy fate, after having in vain made every possible attempt to procure my pardon. We were engaged to be married in happier days, but she chose to unite herself to a wretch who had only misery to share with her. The unhappy victims in these mines, have at least one poor consolation, that of knowing their miserable existence is seldom prolonged beyond the space of two or three years. For which reason they are worked by criminals. Do I live to say it? And the wretched Alberti is one of them.'

"His fair companion endeavoured to soothe him by her kind attentions, and at length succeeded in composing his agitated spirits.

"The curiosity Mr. Everard had to see the process of extracting the quicksilver, was completely absorbed in the melancholy pleasure of conversing with, and consoling his once gay companion, with whom he remained as long as he was allowed. Alberti's feelings were again getting the better of his reason, at the prospect of being separated from his friend, who recalled him to himself by appealing to his affection for a wife who had sacrificed wealth, rank, and beauty, for the superior pleasure of solacing his griefs.—Ashamed of his weakness, he shook Mr. Everard by the hand, and turning to the amiable woman who stood by his side unsubdued by her fate, he gently drew her arm within his, waved his hand to Mr. Everard with a melancholy smile, and once more returned to the interior of his gloomy prison.

"The cheering light of the sun failed in its usual effect of reviving Mr. Everard's spirits. The unhappy fate of Alberti, once the gayest of the gay, at the court of Vienna, threw a gloom upon all around him, and so deeply was he affected, that he resolved to remain some little time in the neighbourhood of Idria, in order to pay him a second visit. He was received by Alberti and his wife, with delight, to whom this act of friendship was indeed a cordial. In the midst of an interesting conversation, they were surprised by a sound of strange voices, and upon the descent of the basket three persons got out, who eagerly inquired after the Count Alberti. Alberti started from Mr. Everard, the voice was familiar to him, and in an instant he was encircled in the arms of one of his earliest friends. His wife soon joined her husband, and was near falling to the ground, when she was caught by her brother, the third person was her cousin.

After some little preparation they informed the almost hopeless Alberti, that the officer whom he had wounded, was recovered ; that he had solicited his pardon of the emperor, and obtained it. They then shewed him the order for his release, and had the exquisite delight of conveying him to the pure regions of day. Before, however, he left the mine, he disposed of his working utensils to his late unfortunate companions ; to one he gave his mattock, to another his pick-axe, and so forth ; and then after bidding them an affectionate adieu, he left them, and joined his friends."

SECTION VIII.

PRINCIPAL TOWNS OF GERMANY.

DR. WALKER.—“COME, Edward, now tell me the chief towns, not only of Germany proper, but of Hungary and Bohemia, as forming part of the dominions of the house of Austria.”

EDWARD.—“I shall pass over those towns we have visited, and begin with the principal ports, and among these—

“Hamburg comes first ; it is situated in the west of Lower Saxony, and is the chief mart of the north of Germany, and trades extensively with all the maritime nations of Europe. The houses are high, and built of brick ; the streets spacious, with good canals, which admit the tide ; on the ramparts are fine public walks ; the exchange is handsome, and the other public buildings very respectable.

“The English factory here enjoys great privileges ; the members of it decide disputes among themselves by the majority of votes ; and if involved in any contest with natives of the town, they are likewise judges in their own cause, with the addition of two of the city magistrates.

“Lubec on the Baltic, in the north of Lower Saxony.—Bremen, in the west of Lower Saxony.—Finne and Trieste in the south of Austria.

“Trieste is situated on a declivity, its streets are narrow, its harbour has lately been much improved. Here is an annual fair, which continues twenty days from the first of August. Articles of commerce are salt, oil, almonds, iron, &c. but its commission trade is of the most importance. It has the largest sugar-house in the south of Germany, and also manufactures soap, porcelain, earthenware, leather, paint, velvet, silk, and thread.

“The most noted trading towns in the interior are Frankfort on the Mayn, Leipzig, Brunswick, Frankfort on the Oder, where there are

about 7,000 Jews, who are all confined to one street ; Nuremberg and Mentz. These have great fairs annually.

“ The German artists and handicraftsmen manufacture all the necessaries and luxuries of life ; and the demand for English and French goods, which was formerly very great, is now, I am sorry to say, upon the decrease. The arts and sciences are held in great estimation, and the world is indebted to the inquisitive spirit and persevering diligence of the Germans for many useful discoveries and inventions.

“ In the vicinity of Leipzig, was fought the great battle between Napoleon Buonaparte and the confederated powers of Europe. The battle terminated in favour of the allies, who marched to Paris, and Napoleon retired to the Island of Elba.

“ Brunswick, on the Ocker, in the south of Lower Saxony, is large and fortified. The country is fertile in corn, pasture, and has some mines of copper and lead.

“ In 1530, the first spinning-wheels were made at this place, by one Jürger, a stone-mason and statuary : its celebrated beer, called *mum*, so named after its inventor Christian Mummie, is exported, even to Asia, without spoiling.

“ Mentz is situated at the conflux of the Rhine, and the Mayn, is large and ancient, its public buildings and institutions are much the same as those of other large cities : its bridge of boats over the Danube is 2100 feet in length, resting on a double row of boats lashed together. Near the ramparts is a monument of Drusus. The wine of these parts is said to be the best in Germany.

“ Nuremberg is nearly in the centre of Germany. The houses are built of free-stone, a good size, and the whole city is remarkably neat ; it has twelve stone bridges. Its manufactures are in great estimation, the most prominent are musical and mathematical instruments, clocks, cutlery, and hardware ; also the toys which in England are known by the name of Dutch toys. The vicinity is sandy, but well cultivated.

“ You do not mean, Sir, I should mention all the great cities of Germany, do you ?”

DR. WALKER.—“ No ; you have mentioned all that are necessary ; except that we must not forget Baden, the metropolis of Hungary, which is connected with Pest by a bridge of boats over the Danube ; it has a stately palace of freestone. The adjacent country is noted for natural warm baths and vineyards.

“ We shall visit many of the other principal towns, so we will let them rest for the present.

“ Germany is said to contain more mineral waters than all Europe besides ; the following are well known for their medicinal virtues ; Spa, in the S. W. of Westphalia ; Aix-la-Chapelle, in the S. of Westphalia ; Pyrmont, in the E. of Westphalia ; Seltzer, S. E. of the Lower Rhine. We shall, I hope, visit some of these also.”

About eight o'clock the next morning, Colin, announced that all was ready, and after a very pleasant journey, they arrived at the beautiful and populous city of Munich, the capital of Bavaria, and the Athens of Germany. Shortly after their arrival, they began their peregrinations by visiting the cathedral, which contains twenty-five chapels, thirty altars, and two steeples. "This cathedral," said Dr. Walker, "does not answer the expectation raised by its description, and the only thing worth mentioning in its interior, is that black tomb, ornamented with bronze figures, erected to the memory of one of the emperors.

"Munich is populous and beautiful. The houses are high, the streets spacious, with canals in many of them; and it ranks amongst the finest towns in Germany. In 1759, an academy of sciences was founded here, the object of which is the cultivation of useful sciences and liberal arts, and the study of the history of Bavaria. The manufactures of Bavaria are silk, velvet, woollens, and tapestry."

On the following day they went to see a grand review, in the neighbourhood, of the Bavarian troops; the day was remarkably fine, and the scene brilliant and splendid. The troops exhibited great skill in the performance of their military evolutions, and proved they were no novices in the art of war.

"I think, Sir," said Edward, "that gunpowder was first discovered by Barthold Schwartz, or Barthold the *black*, a monk of Goslar, in Saxony, a profound alchemist."

DR. WALKER.—"So it is generally affirmed, particularly by Father Richer, who says that this monk, having made a mixture of nitre, sulphur, and charcoal, a spark accidentally falling upon these united ingredients, they blew up, and burnt the vessel which contained them with a dreadful explosion. Astonished at the effect, he made several experiments with the same materials, and finding the result invariably the same, he thereby ascertained the nature and composition of what we now call gunpowder. A. D. 1354.

"Pontanus, the Danish historian, mentions that his countrymen used *guns* in a naval engagement, in the year 1554, and that a chemist, called Scwartz, invented it.

"Polydore Virgil, who died in the year 1555, says it was discovered by an ignoble German, whose name is not known, and that he also invented an iron tube, and taught the Venetians the use of guns. A. D. 1380.

“ Yet an historian, who was living in the year 1366, says that the English gained the battle of Cressy by discharging upon the French red-hot iron bullets from cannon; and Mariana, in his history of Spain, relates that at the battle of Algeziras, A. D. 1343, where the Moors were besieged by the Spaniards, that the former did great harm to the Christians by iron balls which they shot, ‘and this,’ continues the same historian, ‘is the first time we find any mention of gunpowder and ball in our histories.’ It was the custom in those days of chivalry for Christian knights of the different countries of Europe to volunteer their services to the Spaniards against the Moors, and among those who distinguished themselves at the siege of Algeziras, were the earls of Derby and Salisbury; they were afterwards present at the battle of Cressy; and it is not improbable, that having witnessed the destruction caused among the Christians by the cannon at the siege of this celebrated place, they might, upon their return home communicate the intelligence to their countrymen, and employ gunpowder at Cressy. There is a cannon in the armoury of Arneberg, which is a little to the north of Ratisbon, upon which is the date 1303, and this is the first *certain* record, (for such it may be called,) of gunpowder being used in war. Roger Bacon, the learned monk, died at Oxford, A. D. 1292; and from many parts of his works it may be fairly inferred he knew the nature of gunpowder. In Plott’s History of Oxfordshire, it is stated that in a manuscript copy of Roger Bacon’s works, a union of salt-petre, sulphur and charcoal are there described as a composition that would burn at any distance. Lord Bacon places the discovery much earlier even than this. He says: ‘Certain it is, that ordnance was known in the city of the Oxidraes in India; and was that which the Macedonians called thunder and lightning and magic. And it is well known that the use of ordnance hath been in China above two thousand years.’

“ With such an authority I shall close my remarks upon this wonderful discovery which has been the means of changing the whole system of war, and of infinite utility to mankind in one respect, that of blowing up the rocks in mines.

“ There are other compositions which will explode with as much noise as gunpowder. Fulminating silver is one of them; and it is thus composed: dissolve fine silver in pale nitric acid, and precipitate the solution by lime water; de-

cant the fluid, mix the precipitate with liquid Ammonia, and stir it till it assumes a black colour; then decant the fluid again, and leave it in the open air to dry; this product is fulminating silver, which once obtained, cannot be touched without producing a violent explosion. It is the most dangerous preparation known, for the contact of fire is not necessary to make it detonate. It explodes by the mere touch; its preparation is so hazardous, that it ought not to be attempted without having a mask, and strong glass eyes upon the face. No more than a single grain should be tried as an experiment. Fulminating gold explodes by heat: but there is a detonating powder so powerful, and so refined, as to explode upon being exposed to light *only*."

EDWARD.—“What a dangerous discovery! You said, Sir, one day you would tell me how to make a silver tree.”

DR. WALKER.—“So I did; and so I will. The beautiful *Arbor Dianæ*, or silver tree, may thus be produced. Dissolve one part of silver in nitrous acid to saturation, then mix twenty parts of clean water with it, and pour upon this mixture two parts of mercury. When left standing quietly, the desired crystallization will take place, and the silver tree will appear to vegetate in a very beautiful manner.”

EDWARD.—“How very curious; I should like to make the experiment very much.”

DR. WALKER.—“Making the *Arbor Plumbi* is an easier process. Dissolve two drachms of sugar of lead in six ounces of distilled water; then pour the filtered solution into a cylindrical glass, and a thin roll of zinc being hung in it, the whole should be left standing at rest, the lead will then precipitate adhering to the zinc in metallic leaves in the form of a tree.

“An iron tree may also be produced by a very simple process.”

The country from Munich to Lindau, which is beautifully situated on a small island in the Lake of Constance, is diversified with luxuriant plains and large forests, abounding with game. Lindau has a magnificent abbey, and an ancient castle built by the Romans. There is also here a Roman wall, called *Heyden Maur*. The views from this town are extensive and grand beyond description; but as our travellers were anxious to get into Switzerland, they embarked on board a small vessel, and crossed the lake, intending to proceed direct for St. Gal.

CHAPTER XIII.

S W I T Z E R L A N D.

SECTION I.

THE CANTON OF ST. GALLEN, &C.

THE Canton of St. Gallen has been considerably enlarged of late: its capital St. Gal, is one of the most magnificent towns in Switzerland, and was in former times of much importance. The emperor Otho honoured it with the title of *Imperial City*, and bestowed the privilege of coining upon it.

“The abbots of St. Gal,” said Dr. Walker, “were princes of the empire, and upon a public occasion one of them appeared at Strasbourg with a retinue of a thousand horses, all richly caparisoned. The Benedictine order to which this monastery belonged, was one of the most wealthy, learned, and celebrated of all the monastic institutions. It was founded in the year 480, by St. Benet, a Roman senator, of a Patrician family, who stole away from his parents during the reign of the emperor Justinian, and retired into a desert called Sablac, where he led the life of a hermit. Some time afterwards he went to Mont Cassin, where he pulled down the ruins of an old temple of Apollo, and built on its site a monastery. His rule was rigid; he strictly enjoined silence, obedience, poverty, chastity and humility. The honours of the abbots of St. Gal are however now laid in the dust; for when after a long and severe contest between the catholics and protestants, the reformation was thoroughly established in this town, the last abbot left the place in disgust, and entirely abandoned it.”

“I think, Sir,” said Edward, “that the superb monastic buildings we have seen do not accord with the idea of poverty, which appears one of the necessary ingredients in the character of a monk.”

DR. WALKER.—“They reconcile this inconsistency by affirming, that although they are *collectively* rich, yet *individually* they are poor, possessing in fact nothing they can call their own. Among the *poor* individuals of this order who

have distinguished themselves, I have seen in an old table the following list, viz.

28 Popes.	200 Cardinals.
1600 Archbishops.	4000 Bishops.

“ Indeed so great was the reputation of these monks for learning of all kinds, that so early as the year 840, according to Tritemeus, not only divinity and philosophy, but mathematics, poetry, rhetoric, the Greek, Arabic, Hebrew and Latin languages were taught by them. Mathematics, I doubt myself, because I believe even now, there are objections made to that study. To besure the Inquisition, which is the supreme judge as to the fitness and propriety of every book, did not then exist: I do not, however, venture to contradict this assertion; but I may be permitted to doubt it. The abbey of Montcassin, a short time after its foundation possessed

4 Bishopricks	640 Villages
2 Dukedoms	306 Farms
20 Counties	23 Sea Ports.
36 Cities	33 Islands
200 Castles	200 Mills, and
300 Territories	1662 Churches.

“ Do not fancy, Edward, that these monks were useless members of society, they were not, for their monasteries were, as I said before, schools where every kind of learning was taught.”

Having directed their steps eastward, our travellers passed through a beautiful country till they came to the pretty town of Wallerstadt, situated on a lake of the same name, where, enchanted with the surrounding scenery, they remained four or five days, and then pursued their journey through the wild and romantic country of Toggenburg, which has lately been united to St. Gallen. At every turning of the road, a town, village, monastery, fortress, valley or picturesque ruin presented itself. Edward, whose young imagination contemplated with a thrilling delight the grand and imposing scenes before him, pointed out with all the energy of his character the different objects which particularly fixed his attention. The ascent of some of the mountains has been considered so impracticable, that bridges are thrown across from one summit to another. The river Thor assumes various characters as it traverses this mountainous country.

Sometimes it rushes precipitously down the sides of the rocks, forming beautiful cascades, while at others it winds silently along a neighbouring valley.

“ We must visit the baths at Preffers,” said Dr. Walker, as they wandered one evening along the banks of the beautiful lake of Wallenstadt, “ for they really are a great curiosity. They were discovered by chance, as most of these natural curiosities must be, unless there is some evident indication of their existence which tempts the curious to make researches. In the reign of the emperor Frederick II. (he lived in the thirteenth century,) one of his huntsmen was eagerly pursuing a chamois amongst these rocks, when his attention was attracted by the Tamiro, a bold rapid river, which rise in these mountains. So much was he struck by the beauty of the stream, that he resolved to trace it to its source, and accordingly he pursued his steps, deafened by the clamour of the waters in dashing over the broken points of the rocks. Being at length weary and exhausted, he stopped, and perceiving a small spring issuing out of one part of the rock, he stooped to refresh himself with the clear and limpid beverage, when to his great surprise he found it nearly boiling hot. Lost in contemplation at so extraordinary a circumstance, he forgot both the goat and the source of the river, and with difficulty found his way back to the abbey. Having communicated to the abbot the discovery he had made, the monk sent proper persons to examine its nature, who having given the most favourable accounts of its qualities, the abbot immediately ordered the spring to be enclosed, and caused a building to be erected near it for the accommodation of those invalids who might wish to benefit by its salubrious virtues. So wonderful were the cures effected by this water, that people flocked to it from all parts. I shall say nothing of its immediate situation, as I intend you shall see it.”

Having reached Sargans, situated on a rock that divides Toggenburg from the Grisons, they had a superb view of one part of the Alps, which here formed a grand outline to the scene. The day after their arrival, they hired a guide, and set off for the baths of Preffers.

The road to them was dangerous, it was made with great difficulty some little time ago; but it impends so much over the Tamiro, that few persons chuse to attempt it. Many still preferring being let down in a basket from one wild rock to another, the depth of a thousand feet. In the year

1601, the original building for the entertainment of travellers was burnt, when one more commodious was erected higher up the mountain; for the first was so overhung by the rocks on all sides, that at three o'clock the company were obliged to have candles. Edward would have preferred the road, but as Doctor Walker chose to go in the basket, his young friend gave up the point and accompanied him. The Doctor, however, indulged him one day with an excursion to this enchanting spot under the care of two experienced guides; and Colin, who began to think the scene almost equalled that of his native woods and wilds, was allowed to attend him. Upon their return Edward described his ramble in all the glowing colours of a lively imagination. Among the peculiar objects which he mentioned was the number of beautiful rainbows formed by the rays of the sun as they obliquely caught the silvery drops of the innumerable cascades of the Tamiro which precipitate themselves over rocks of granite and marble six or seven hundred feet deep.

The guides on these excursions generally go first with a rope in their hand, one end of which the traveller holds, as with a fearful admiration he treads the mazy path. Before they left the neighbourhood, they went to the abbey, which is about two hours walk from the baths; they were hospitably entertained by the abbot. The building is a magnificent structure, and contains a great many apartments, several of which are reserved for the accommodation of travellers. The steps and columns of the grand entrance are of marble, and the church is very splendidly decorated after the catholic manner. It is surrounded by a wall of black and white marble, and makes a most imposing and magnificent appearance.

From Preffers our travellers directed their steps in a north-west direction, and after a delightful and variegated journey, they at length arrived at Rapperschweil, a fine town standing on the confines of the Glaciers of Zurich. The southern part of the Lake of Zurich is bounded by the lofty mountains of Schweiz and Glarus; but on the north a richly cultivated and beautiful valley stretches as far as the eye can reach. The island of Asnow forms a conspicuous feature in the beauty of this mixed scenery; it is extremely woody; and the towers of a convent are seen rearing their venerable heads amidst its dark and luxuriant foliage. This island is

united to the town of Rapperschweil, by a bridge one thousand eight hundred and fifty feet long, and twelve wide.

From Rapperschweil the road to Zurich takes nearly every bending form of the indented lake. Their journey was most agreeable, for in addition to the beauties of the scenery, whenever they approached near a village, the sound of music caught their delighted ears. The inhabitants appear to be alive to the witchery of sound, and it is not uncommon to see the peasant people, when the labours of the day are done, enjoying themselves with their family, and forgetting their toils in the pleasures of the song. The decorum preserved in the churches at Zurich is very striking; and the fervour and devotion with which the whole congregation appear actuated, are such as to inspire indifferent people with sentiments of respect; and to use the words of Goldsmith:

“ Fools who came to scoff remain to pray.”

The hospitality of the inhabitants of Zurich is as conspicuous as their devotion.

Zurich is situated on the lake of the same name, on the declivity of a sloping bank, and is divided by the Limmon, over which there are two fine bridges; one of these is so large, that it serves as a market place, and the other which is covered, forms an agreeable promenade. The view from the first is very extensive; it commands the whole of the lake, in the form of an amphitheatre, with the towers and buildings rising gradually, and above these appear sloping banks enriched by gardens, villas, orchards, in short every object of picturesque and romantic beauty seem here combined. The most considerable and ancient of the buildings is the great church dedicated to St. Felix; on one of its towers, which are covered with copper, stands the statue of Charlemagne; on the other that of Rupert Duke of Suabia. When Zurich embraced the reformed religion, which it did at an early period, the revenues of the monastery were appropriated to the payment of professors of the learned languages and polite literature. In the old library are several very valuable manuscripts, among which a bible presented by Charlemagne, is highly valued. It is called *Ccdex Carolinus*.

Our travellers visited the arsenal, which is said to be the best furnished of any in Switzerland, more for the sake of seeing the statue of William Tell, the deliverer of his coun-

try, than to inspect the vast store of arms here deposited. He is habited in the ancient Swiss dress, and the arrow with which he hit the apple on his son's head, is not forgotten. At the end of the beautiful walk called *Leudenhoffen*, (Sycamore-court,) stands the ancient church of Tranen Munster, and attached to it is the *Abbaie Royale des Dames*, the ladies of which, at the Reformation, ceded their revenues, which were very considerable to the town, and they are now applied in the education of poor children. Zurich was the place of residence of the celebrated Gessner, of Lavater the physiognomist, and of Zuingle, the enlightened reformer.

Perhaps there are few things which more attract the attention of a traveller in Switzerland, than the variety of dress which meets his eye in every direction. The costume of every canton is different, though the women all seem to agree in one respect, viz. that of short petticoats, and smart bodices, generally laced across in the form of a stomacher. They are fond of gaudy colours, and it is not unusual to see a mixture of all the tints of the rainbow, yet arranged with so much taste, as not to offend the eye.

“ We have passed many pretty villages and towns,” Sir,” said Edward to the Doctor, the morning after they quitted Zurich; “ but I do not think any of importance; is there no other principal town in this canton?”

DR. WALKER.—“ Yes; but not many. Winterthur, which lies in the north, quite out of our track, is the next most ancient, as well as important town of this canton; carrying on a brisk trade in oil and vitriol. The Romans built a fortress in its neighbourhood, and called it *Vittorum*; and there are now the remains near the great church yard of an old Roman wall, where they encamped for winter quarters. The present town was, however, founded in the 13th century, by Henman 1st, count of Ryburg. There are two natural phenomena attached to Winterthur, which I shall mention to you. Some years ago the tower of the great church was supposed to be on fire, and the most dreadful apprehensions were entertained by the inhabitants as to the result. Some of the most courageous immediately mounted the walls with buckets of water, in order to extinguish it; but when they arrived at the top, they saw no appearance of fire, although the people below still fancied they saw the sparks flying in every direction. The same deception has since appeared, but without causing any alarm, and it is now

generally termed, the fire of St. Elam. Who St. Elam was I cannot inform you. I have one tale of wonder more, and then for the *present* I have done. In the barony of Wilfington, which is at a small distance from Winterthur, there is a considerable forest, in the centre of which are three trees, that differ greatly from all others which surround them, being from the commencement of summer of a pale red colour. The neighbouring peasantry resort to this spot on Sunday, to gather the branches to adorn their hats, for—in Switzerland, in most places, the men wear straw hats, in which very many of them place bunches of flowers on one side. The legendary tale attached to this spot is this: three brothers were slain close to them, and the people believe the counts of Ryburg, formerly the most powerful lords in Switzerland, were concerned in the murder. Many attempts have been made to propagate these trees in various parts of the country, but they all fail.”

EDWARD.—“ I am not superstitious enough to believe the story attached to these trees ; but it is very strange.”

DR. WALKER.—“ It is strange, and truly I cannot doubt the existence of these trees ; for they compose the armorial bearings of the neighbouring village.”

Their journey to Zug, the capital of a canton of the same name, was uninterrupted. This is built upon a declivity, a little to the east of the lake. Many years ago the old town was destroyed by an earthquake, the greater part being precipitated into the lake. Those persons who were not thus hurried into eternity, being alarmed at the uncommon noise and shock occasioned by this catastrophe, rushed to their doors and windows to ascertain the cause, when they beheld not only the floating wrecks of houses, but men, women and children struggling in the waves without the possibility of assisting them. The town contains many churches and convents, (for the Roman catholic faith is most religiously adhered to) ; it is surrounded by high mountains covered with thick forests. At the foot of one of these are the baths of Watersyl, most magnificently seated ; for the glaciers, towering above the dark and gloomy foliage which forms a midway boundary to the huge rocks, present one of those sublime scenes with which Switzerland so richly abounds. They embarked on the lake of Zug for Wakwil ; but it would be in vain to attempt a description of the picturesque beauty of

their sail; we shall, therefore, land our travellers safely, and carry them at once to Schweitz.

Schweitz is situated at a short distance from the lake of Lucerne, commanding a full view of its transparent waters. At the back of the town rise two lofty mountains of a spherical form, and in the front of it glides the Mutta, or the Muttera. This canton abounds with partridges, hares, pheasants, and woodcocks; eagles and vultures, and a bird somewhat like a wild-duck. The vultures are of a prodigious size; they feed on young colts and chamois, and they have been even known to carry off young children. Le père Lysat Juriste de Lecrores, who has written a long and correct account of the lakes of this country; says that himself and several other persons having ascended a mountain which had been deemed inaccessible; they found on its summit a nest in a great hollow tree, containing three young vultures. As they were looking attentively at these nestlings, the parent birds flew upon them with such violence, that they were only extricated from their claws by one of their company fortunately shooting the female bird. She measured from the tail to the beak seven feet, and from one wing to the other twelve.



SECTION II.

VALLEY OF MUTTA, &c.

DR. WALKER having resolved to make an excursion in the valley of Mutta; he procured a guide, and arming himself and Edward with long poles, in order to assist them in descending the precipices, and leaping the occasional fissures they might meet with, they set off on their pedestrian excursion; they directed their steps towards the ruinous spot where the valley of Aeth once stood, overlooked by the towering mountain of Rosenberg, 3516 feet high on one side, and on the other by that of Rigi, 4356 feet perpendicular. It was about nine miles long, and although surrounded by stupendous Alps, yet the most luxuriant vegetation, and the most delicious fruits greeted the travellers on every side as they entered this beautiful valley. "I saw the dreadful destruc-

tion of the valley of Aeth and the fall of Rosenberg," said their guide, as he led them towards the heap of ruins which occupied its former scite. "I shall never forget it. In the morning of the 2nd of September, 1806, a dreadful and convulsive noise was heard by the peasants who were on the top of Rosenberg, attending their flocks. About the middle of the day the lake of Lowetz was much agitated, and a blue flame was seen to rise from the water; at five all was still in the valley, at six not a vestige of a house or tree remained. The Rosenberg was rent in pieces from its summit to its base, and throwing up huge heaps of rock, buried beneath its ruins houses, trees, convents, and churches, while the lake of Lowetz was driven from its borders 2,200 feet. Thus in almost a shorter space of time than has been occupied in this relation, that spot which had been but a few hours before so beautiful, as to be denominated the *paradise of Switzerland*, presented a chaotic heap of rocks and mountains tumbled headlong the one upon the other. The noise produced by this dreadful concussion was beyond that of the loudest thunder I ever heard."

DR. WALKER.—"How was this sudden calamity accounted for?"

GUIDE.—"Some of our clever men supposed it was caused by the force of subterraneous waters, and it seems they were right; for some young shepherds having observed one morning a great excavation in the mountain, they threw stones into it, and found from the sound that they fell into water. Some days afterwards they observed other openings, though not so large as the former, and having thrown stones into them also, they fell in water likewise. The father of these lads tried to fathom these newly formed lakes, but could find no bottom; and being very curious he procured flambeaux, and fastening them to long poles, held them down the apertures, and distinctly observed a prodigious body of water. This circumstance being mentioned at Lucerne, some gentlemen fixed a day to examine its depth, but the sudden fall of Rosenberg prevented any such attempt."

The contemplation of this scene of devastation so completely engrossed the attention of Dr. Walker and his pupil, that they were insensible to the noise caused by an Avalanche which precipitated itself down the opposite mountain, and fell in the plain beneath. As it was of great magnitude, they were much amused when their guide pointed it out to

them ; but in general the fall of an avalanche is an object of terror. Innumerable are the instances upon record, of their terrible effects. A few years ago an avalanche from Mount Gemmi entirely buried the village of Luck ; it was however dug out. The fall of this vast body of snow was heard at the distance of twenty leagues. It is asserted by the natives of these grand but terrific regions, that the sudden flight of a large bird, the spring of a chamois from one precipice to another, are sufficient to produce these dreadful revolutions of nature. When the emperor Maximilian made war upon the Grisons, four hundred of his troops were suddenly buried in the snow : after much exertion however, they freed themselves from their encumbrance without having received any injury. The following year a body of Swiss, in the pay of France, were overturned by one of these avalanches, when 500 men perished ; and in the year 1695, the village of Mall Madia was completely swept away by an avalanche which fell from Mont Bernard. Thirty of the inhabitants lost their lives, but many were dug out of the ruins unhurt, among whom was a woman with two children in her arms.

Having retraced their steps, they again took up their abode at their little inn, and on the following day they hired a guide to conduct them to Mont St. Gothard. On their way to Altorf, they turned out of the road at a short distance from the town to visit the chapel of William Tell. In this chapel is preserved the bow with which he shot the German governor on his landing ; an event that laid the foundation of Swiss liberty. The situation of Altorf on the lake of Lucerne, or the lake of the four cantons, as it is sometimes called, is particularly striking. Behind it is a lofty summit covered with the dark and gloomy pine which forms a pleasing contrast with the lively verdure which nearly surrounds the town. The back ground of the picture is formed by a chain of immense glaciers, whose tops are covered with snow. The town was formerly fortified, but the battlements are now in ruins ; and few scenes surpass those presented by Altorf, whose antique towers, venerable from age, rise from amidst the remains of former strength and splendour, and proudly overlook the calm waters of the lake. Fragments of the wall which Adrian built to keep the inhabitants in awe, still border the lake. A manufactory in crystal has of late years been established, and promises

greatly to increase the wealth and importance of this place. From Altorf, the capital of Uri, they traversed a mountainous and wild country; and leaving Mount Furca to their right, they approached the celebrated Mont St. Gothard, which is about twelve miles from the capital. The rivers Reuss and Tessin have their sources in this mountain; the former very near its summit, from whence it wildly rolls over craggy rocks and perpendicular precipices. The Tessin which runs southward to the lake Maggiore, is no less rapid and perhaps upon the whole, more magnificent. After forming the most beautiful cascades as it descends the mountain, it frequently disappears under vast bodies of ice, from whence it emerges, and again precipitating itself from rock to rock, it is sometimes lost in vapour, and the deep gloom of overhanging woods. It was now the height of summer when our travellers began to ascend Mont St. Gothard, and they had therefore a better opportunity of viewing its prodigious precipices, profound chasms, and plains of ice. Across many of these chasms, bridges are thrown; and one called the *Pont du Diable*, is particularly curious: the peasants firmly believe that no human being could have constructed it; and they therefore conclude it was the devil's work. It is four hundred feet above the level of the river which here rushes and foams over blocks of white and black marble. Its foundation is firmly fixed in the rocks on either side, which are of a dark grey colour, and tower considerably above it. Nothing can be more wild, more terrible, or more grand than its appearance.

On the summit of this mountain stands a convent inhabited by two monks only, who in the winter ring a great bell to direct travellers to their friendly abode. The view from this mountain on a fine day is wonderfully extensive: Lombardy, the Grisons, great part of La Valais, Schwitz, Lucerne, and many other cantons are seen from its summit. St. Gothard itself contains seven lakes, besides which fourteen or fifteen in its environs may be plainly distinguished from its summit. Having pursued their romantic route for some time, not far from the course of the Reuss, they at length arrived at a bridge of ice, presenting perhaps one of the most terrific spectacles in nature. It is surrounded by precipitous mountains. The hollow sound of their footsteps reverberated from rock to rock, as they passed this trembling bridge; whilst the subterraneous rush of waters which they distinctly

heard, added to the shrieks of birds of prey, which constantly hover over these savage scenes, contributed not a little to add to the thrilling awe which always accompanies the contemplation of nature in her sublime and magnificent scenery.

“Do you know, Edward, that there is a very curious species of marble found in this mountain. It is elastic.”

“Elastic!” ejaculated Edward—

“Yes,” replied the Doctor, “and this marble is also found in some parts of Italy, particularly at Mondragone. The Abbé Fortis has given a curious account of five or six tables of this elastic marble, in the possession of the Prince Borghese. These slabs if placed endways bend backwards and forwards; when laid horizontally and raised at one end, they form a curve; if placed on a flat surface with a piece of wood laying in the middle of it, they fall also into a curve, the two ends resting on the table. This marble, of the Carranese kind, takes the finest polish but is liable to be broken if indiscreetly handled.”

SECTION III.

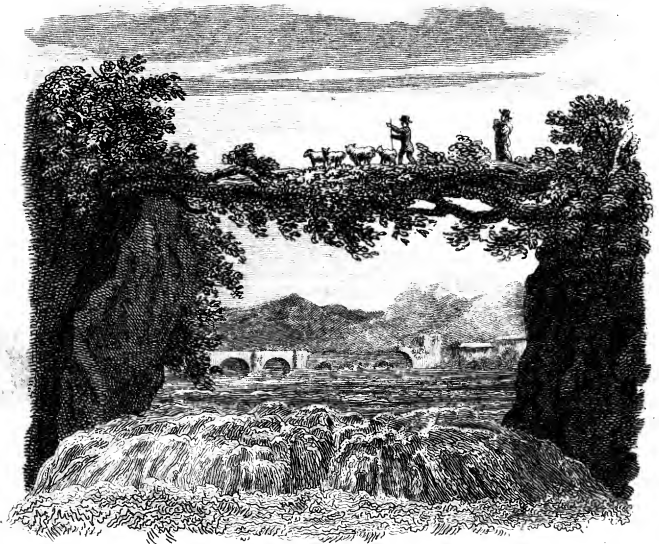
JOURNEY THROUGH SWITZERLAND.

IN the neighbourhood of St. Gothard are three petty villages, where there is so little wood, that the inhabitants use for fuel a wild rose wood, which grows thick and low upon the ground, and has an odoriferous smell. The cattle in this part of the country are very beautiful, and they are annually exported in large numbers to Italy and Germany. Great quantities of cheese, which is most delicious, are made in this canton, particularly in the vallies. They are sometimes half a yard thick, and not more in circumference. The simplicity of the inhabitants is very conspicuous; they are indeed a most inoffensive race, and never impose upon travellers. They read a great deal, have an uncommon share of curiosity about other countries, particularly England, in which they appear to take a peculiar interest.

From Mont St. Gothard, they crossed that prodigious chain of Alps, called the Furca, which divide the ancient La



Travelling in Iceland.



Disappearance of the Rhene.

Valais, now called the Simplon, from Uri. In these mountains the rapid Rhone rises, issuing from the foot of these glaciers; it rushes in the most sublime manner from steep to steep, till reaching the foot of the mountain, it rolls its majestic waves through a beautiful and extensive valley, from whence it proceeds to the lake of Geneva, where its stream is still distinguished by its impetuosity, from the calm waters of the lake.

A chain of lofty mountains, which divide the Simplon from Berne, forms a sublime boundary to the valley north of the Rhone.

Having followed the course of this majestic river as nearly as they could, they at length arrived at Monges, from whence a bridge of a single arch is thrown across the river. "I think, Sir," said Edward, "that the *Pont du Diable*, in the canton of Uri, must yield in grandeur and terrific effect to this. Why it is almost surrounded by rushing torrents."

"Not surrounded," interrupted the doctor—

"But," replied his pupil, "they really do descend from so many different quarters, that I cannot tell how to describe them."

DR. WALKER.—"Then let it alone, for a description, unless it is clear, is of all things the most incomprehensible."

The bridge as they crossed it, trembled beneath them, and Edward, after passing it, turned once more to view that scene which had so powerfully struck his imagination.—"Look, Sir, to the right. See how those rocks are piled one above the other."

DR. WALKER.—"I should have said to the north, because then I could discover them in the map; and now, Edward, look to the south, and observe the luxuriant scene of vegetation stretched before us. What a contrast!" Our travellers continued their journey along the southern banks of the Rhone, until they saw Saldes on the opposite side of the river. Here they crossed, and after one day's rest, they set off on their arduous task of passing Mount Gemmi, on their road to Berne. At the foot of this mountain there are particularly fine baths near the town of Luck, which was for a time buried beneath the snow, as before observed; these waters have performed surprising cures in nervous and rheumatic complaints. The mountains are so high in its neighbourhood, that it is dark at five o'clock at the bath-house.

The Gemmi is composed of granite; the lower part of which is adorned with larches and firs. In various parts huge trunks of trees have been placed to form the road; in other places steps wide enough to set the foot in safety are cut in the solid rock, on the very edge of precipices three, four, or five hundred feet deep. After a dangerous, but as far as scenery was concerned, beautiful journey, they arrived in the neighbourhood of Mount Wimmis, at the foot of which is a castle which overlooks the lake of Thaun. They took up their abode for one night in a cottage in its neighbourhood. The next day they ascended this beautiful mountain, and in the evening arrived at the cottage of Chaley; from this spot the scene became more wild and barren. Our travellers arose before the sun on the following morning, in order to witness its splendour in these lofty regions, when they had approached near its summit, such a scene of splendour burst upon them, as totally to defy all description.

Six beautiful lakes are seen from the tower, which is built on the top of Wimmis for the convenience of making observations, while the noble Aar, and its small tributary stream the Emme, wind through the vale below. On every side, at various distances, rise snow-capped mountains, presenting alternately gloomy woods, and barren rocks, while round their base fresh and blooming flowers, together with the richest verdure, present a scene of such variety as scarcely to be imagined. The effect of the rising sun on such a variety of objects can only be supplied by the warm colouring of an ardent imagination. When they had descended the mountain, they proceeded to Thun, and arrived at that festive season of the year when the vintage was beginning. Dr. Walker and his pupil enjoyed the scene particularly, as the peasant girls dressed in their gayest cloaths, were busily employed in plucking the juicy grape; they amused themselves with singing some of their favorite airs. Not the *Ranz des vaches*, for that is forbidden, the effect produced by that national air was so electric as to cause soldiers to desert if they heard it. At sun-set the girls return to their cottages, and the evening is generally concluded by a dance, in which both old and young partake to the sound of the "spirit stirring fife."

SECTION IV.

THE VINE—VINEYARDS.

EDWARD, light-hearted and gay, being invited by an old peasant to share their mirth, willingly accepted the offer, and was in a short time as merry and as brisk as any one of them. Colin himself could scarce resist the inclination to join them, and more than once he forgot himself, and gave them a specimen of a Highland fling. He was indeed so joyous at having reached a comfortable resting place, that when he heard they were to resume their journey on the morrow, he felt something like chagrin.

The earliest introduction of the vine into the western parts of Europe is stated to have been about the year 280, under the immediate sanction of Probus, the Roman Emperor, who, throughout his whole dominions, was a zealous encourager of agricultural pursuits. There can be no doubt that vines were anciently propagated in our own island for the purpose of wine, and that there were vineyards of considerable extent in Gloucestershire, Hampshire, and some other counties; but, as vines are principally found to flourish in inland countries, lying betwixt the thirtieth and fifty-first degrees of latitude, it is evident that there can be no part of Great Britain sufficiently adapted to their successful cultivation.

Any person who has seen a hop garden, may easily form an idea of the appearance of a vineyard. Vines are usually propagated by slips, cuttings, or offsets from the roots. These, when they have attained a sufficiency of roots, are transplanted from the nursery ground into the vineyard, the soil of which ought to be light and rich. They are placed in this ground in rows and at regular intervals, leaving space sufficient for the vine dressers, and the reapers to pass betwixt them; and as soon as the rooted plants are three years old, they begin to bear fruit. The season for pruning and dressing them is the early part of the year, before the sap begins to rise; and, about the time when the flowers appear, the plants are fastened to poles, for the purposes of supporting them, of preventing them from growing entangled with

each other, admitting a free circulation of air amongst them, and affording greater convenience for gathering the fruit.

The vintage, which is a season of mirth and delight to the whole country, commences in the early part of autumn. The villagers assemble in the respective vineyards under the direction of overseers. The reaping of the grapes is in general performed in three distinct gatherings. The first of these comprehends all the finest and ripest bunches, carefully clearing away from them every grape that appears green or decayed; the second is confined to the large and thick clusters which are not so ripe as the others; and those which are nearly green, withered or decayed, are gathered last.

To obtain the juice from the grapes they are thrown into large presses of somewhat similar construction to the cyder presses of our own country (the separate gatherings being still kept apart) and the juice is received into vessels fixed for that purpose. Afterwards it undergoes the necessary fermentation to convert it into wine. By the ancients, the juice was obtained by treading the grapes. This custom is still practised in many parts of the world. The ancients frequently kept their wines in skins, or leathern bags, well secured at the seams.

“Well now, Edward, having partaken of the mirth of the “vintage,” said Dr. Walker, as they quitted the festive scene, “let us discuss the nature and properties of the grapes, of vinous fermentation, and so forth.”

“If mucilaginous saccharine vegetable substances under a proper combination of water and heat (from 60 to 70 degrees Fahrenheit), be not entirely excluded from air, they experience in a very short time a striking change in their mixture. An internal commotion takes place, the mass grows turbid, a large quantity of air-bubbles is discharged from its inner part, which, on account of the toughness of the matter wherein they are inclosed, form a stratum on the surface of the fluid, known by the name of yeast. These air-bubbles consist of carbonic acid gas.

“After a time these appearances cease; the fermented liquor becomes clear and transparent, and no more gas is disengaged. The liquor now has lost its sweetness and viscosity, and has acquired the vinous taste and intoxicating quality.

“Wine is made in this manner from the juice of the grape; if the fermentation be checked when at its height, by excluding the air, the wine begins to ferment anew, and effervesce when again exposed to it. The sparkling wines, as Champaign, &c. are prepared in this manner, and hence should be considered as imperfect wines.

“ Not only the juice of the grape, but all mucilaginous substances, containing sugar, are capable of the vinous fermentation.

“ To prepare vinous liquors from grain or corn, they are converted into malt; by this process, the gluten which forms the germ is separated, and the fecula appears to be converted, into sugar by the germination of the seed. From malt, beer is made by extraction and fermentation.

“ If wine, beer, or any other fermented liquor, be distilled, a fluid is obtained which is colourless, of a strong heating taste, a penetrating odour, and an intoxicating property. This is alkohol, ardent spirit, or spirit of wine. In this state it contains a quantity of water. If this alkohol be re-distilled, and reduced to two-thirds, it is obtained very pure, and is called rectified alkohol. Alkohol is very inflammable and volatile; it dissolves resins, essential oils, camphor, sulphur, phosphorus, &c. It is composed of hydrogen, carbon, and a small quantity of oxygen.

“ Strong acids and alkohol have a considerable re-action on each other; and this produces ether, which is a very volatile, inflammable, odorous fluid. Nitric acid with alkohol, produces nitric ether, and sulphuric acid with alkohol, produces sulphuric ether.”

“ And now for the vine. Vines constitute a very important tribe of shrubs; to which we are indebted for all our foreign wines, raisins of every description, and the small currants of the grocers' shops. The most important however of the whole tribe of vines is the *vitis vinifera* of Linnæus.

“ The juice of unripe grapes has a harsh, sour, and rough taste. This, under the name of verjuice, was formerly much esteemed for culinary and other purposes. The young twigs of the vine, when dried, cut into small pieces, and moistened with water, afford an wholesome food for cattle and horses. The leaves and tendrils have an astringent taste, which it is probable they would impart to British made wines, and thus render them somewhat similar to foreign wines. The wood of the vine reduced to charcoal, is used by painters for drawing outlines; and from the seeds or stones a kind of oil is sometimes made, which can scarcely be distinguished from olive oil. These stones, when purified, moderately roasted, and ground to a coarse powder, form a tolerable substitute for chocolate.

“ In addition to the preceding uses of the vine, we have to add those of its fruit in a recent state, called grapes, as a delicious addition to our desserts; and of this fruit, in a dried state, under the appellation of raisins and currants.

“ Raisins are grapes which have been suffered to remain

on the trees until they have become perfectly ripe, and have been dried. This is sometimes done in ovens; sometimes the clusters, being tied several together, are dipped in a ley of the ashes of rosemary and vine branches, with a certain portion of slaked lime, and then dried by exposure to the sun. The best fruits of this description are the sun and jar-raisons; both of which are dried in the sun without any preparation. These are imported from the southern countries of Europe; and also from the Asiatic provinces of Turkey. They are principally used for desserts, whilst Malaga raisins and some other kinds are employed for culinary purposes, and the making of wine.

“The currants of commerce are a small kind of raisins, or dried grapes, which are produced in the Grecian Archipelago, and particularly in the islands of Zante and Cephalonia. The chief plantation of these grapes was anciently in the isthmus of Corinth, whence they obtained their name of “Corinths,” since corrupted to currants. Few, however, are now produced there, the vineyards having been neglected from the jealousy of the Turks, not allowing large vessels to enter the gulph for their exportation. These grapes have no stones, are usually either of a red or black colour, and, when recently gathered, are an extremely delicious fruit.

“The harvest commences in the month of August, and as soon as the grapes are plucked from the trees, they are spread to dry, upon a floor prepared for the purpose by stamping the earth quite hard. This floor is formed with a gentle rising in the middle, that the rain, in case any should fall, may run off, and not injure the fruit. When sufficiently dry, the currants are cleaned, and laid up in magazines, being poured into them through a hole, and stowed so closely that it is necessary to dig them out with an iron instrument. They are packed for exportation in large casks, and by persons who have their feet greased in order to tread them close.

“The principal consumption of currants is in England; but the inhabitants of the islands from whence they are brought know little of the use we make of them. They imagine that we employ them only in the dyeing of cloth, and are entirely ignorant of our luxury of Christmas pies, and plum puddings. A small but inferior kind of currants are grown in some parts of Spain.

“ So much for the grape which we shall see in greater perfection in France than in Switzerland.”

SECTION V.

JOURNEY TO BERNE.

ON the following day they resumed their journey, receiving additional proofs at every step of the frank and generous hospitality of the inhabitants of these Alpine regions. Brave, hardy, and independent, they traverse their mountainous country with an air of happiness that is not always to be met with in the countenances of the peasantry of more enlightened nations. Their agility and grace, as they bound from one precipice to another, with as much ease as their own wild chamois, forms one of the most striking features in their personal character. Oftentimes did our travellers start at seeing the hunters of the Alps in pursuit of their prey; venture to the very edge of the most frightful precipices, climbing up such perpendicular rocks as seemed almost inaccessible, or with the assistance of their long poles, gliding rapidly down such snowy steps as made them shudder even to look at them. There are many casualties to be met with in these Alpine regions, besides those which may overtake the unwary traveller from the fall of Avalanches, or the danger there is in leaping the fissures of the rocks. There are balsamic waters which are drank by the inhabitants for fevers, and various other complaints; but these same waters possess also most baneful qualities; for it is said, that persons laying down in their vicinity, are seized with numbness, and sinking apparently into a profound sleep, wake no more. The fatal effects of gathering flowers, Edward experienced the day after they set off from Thun. On passing one of the mountains, the Doctor being weary, they chose a recess in the rock, as a good resting place for him, till the heat of the day was gone by. Edward, however, wandered about in its vicinity, but his long stay at length alarmed his friend, and the guide set off in search of him and his companion Colin. He found them in a state of stupefaction. Edward was indeed, to all appearance, lifeless; the Highlander was not so

far gone as his young master, but in a very short time he would have been equally inanimate. The guide hallooed to a hunter he saw standing on a precipice, who quickly joined him. There were a great number of little blue flowers on this part of the mountain, and Edward and his Highland servant having plucked a good many, they sat down to rest. As they talked they began to pick them to pieces, when they felt, they said, rather drowsy, and they recollected no more.

The guide, when he saw them, knew what had reduced them to that state of insensibility, and immediately had taken the remainder of the flowers from them, and had dragged Edward from the spot when the hunter joined him, and assisted him in rousing Colin.

They met the Doctor at some distance from the cave, his fears having become too great to allow him to rest. "This beautiful little flower is more poisonous than the deadly night shade of England," said the Doctor; "but," continued he, turning to the guide, "you should have warned us of its effects."

The distance from Thun to Berne is just fifteen miles, and the road is one of the finest in Europe. It is bordered on each side by fruit trees, except where it is interrupted by dark forests of fir, that occasionally vary the scene. The Axer winds beautifully through the surrounding meadows, which are interspersed with luxuriant corn-fields and vineyards. Berne is strongly fortified; it is surrounded by a moat and ramparts, which seem impregnable. The buildings are composed of free-stone, and wood only being burnt in this town, they preserve their whiteness for a number of years. The houses are ornamented with balconies even to the third and fourth stories, which are in the flower season always filled with flowers. The effect this custom produces, is both pleasing and novel. In every street are three or four marble fountains, which eject the purest water. The streets are kept clean by those who have been guilty of some misdemeanour; these persons are well fed and clothed, and are sent every morning in companies, under the care of a keeper, to sweep and water them.

SECTION VI.

CUSTOMS AND MANNERS.

DR. WALKER having received an invitation to spend the evening at a gentleman's house, to whom he had letters of introduction; he was on the point of refusing, as he did not chuse to leave Edward alone. His scruples were, however, laid aside, when the gentleman said, his son, who was about the same age as the English youth, would be happy to entertain him on the same evening; it being the custom for each person of a certain class and age, to mix only with their equals in Berne.

This singular custom was not approved either by the Doctor or his pupil, who would have been much better pleased to have been introduced to the whole family.

Of the peculiar customs of this canton, the following are the most conspicuous. First, every clergyman is obliged to reside among his own parishioners, to visit the sick, to preach extempore, to examine the children as to their religious improvement; to compel the poor to bring their children to be baptized, when eight days old, and to admit such to communion whom he judges proper. No boy or girl is allowed to quit his parish to get a living without permission from the minister; nor are the children of good families taken into public until they have received the Sacrament. The Clergy may pray to the sick, but they must not administer the Lord's Supper out of the church; nor can they baptize children at home, or marry with a licence. His presence is not however required at funerals; these are conducted by the peasants, who generally invite upon these occasions as many persons as they can accommodate to eat, drink, and sing, which they do sometimes for three days successively after the body is interred; till which time they conduct themselves with great decency, and the sexton reads a short prayer over the grave. The benediction of the Clergy is required for those destined to pass their lives together, but no ring is necessary, although persons of superior rank do upon such occasions exchange rings when the marriage contract is drawn. These may be worn on any

finger. Persons who attend weddings or christenings, and those who go to the communion, are always drest in black; and all the children without any exception, are confined to swaddling cloaths till they are six weeks old; they have then the liberty of moving their fingers. The inhabitants of this canton are remarkable for sobriety. Milk and vegetables form the principal food of the peasantry, and they are generally very long lived.

The roads in the canton of Friburg are excellent, and are planted with trees on either side: the English traveller as he winds through these shady lanes, is strongly reminded of some of his own "hedge row elms," and the approach to the capital is particularly pleasing and grand. Friburg is situated in a fertile plain of vines, and olives, and almonds, on the borders of the lake of Morat. It is surrounded by a thick wall, in which, at stated distances, are placed watch-towers. The Friburgers are very musical, and are very ingenious in making instruments for themselves, upon which they perform with a great deal of taste. Dr. Walker did not omit visiting the celebrated hermitage which is in this neighbourhood; it was scooped out of a rock by one single man, who was driven to this solitude by the infidelity of a wife whom he almost adored, and the treachery of the friend of his earliest youth. The unfortunate man died in this place of solitude, leaving behind him a paper containing the particulars of his sad story.

The celebrated Haller was a native of this place, and his bust is preserved with religious veneration in the little museum which adorns the capital.

This town suffered dreadfully during the late war; many of the inhabitants who were formerly wealthy members of the community, are now living in a state of comparative poverty.

At Indlebank, four miles from Berne, there are many very superb tombs, among others is that of Madame Lagnans.

This tomb is equally interesting for beauty of design, and elegant workmanship. The wife of M. Lagnans, Minister of Berne, was the admiration of all who knew her; she unfortunately died in child-bed, in the 28th year of her age, and her infant only out-lived her a few minutes. Mr. Naal, a celebrated German sculptor, was engaged to erect a monument to the memory of this mother and her child; and most ably has he executed the task.

Madame Lagnans is represented at the moment of resurrection. After having sunk a kind of grave, sufficient to contain a statue, he placed therein a large stone, that seemed unequally split or broken, and so contrived, that the young wife appeared rising from her coffin, just awoke from the sleep of death, holding her child with one hand, and pushing away a stone with the other, that apparently impeded her resurrection. The dignity of her figure, her candour, innocence, and that pure celestial joy which shines in her countenance, give it a most feeling and sublime expression.

There is nothing wanting to this monument, but to have had it cut in marble. The epitaph is worthy of the tomb ; it is engraved upon the stone, and, notwithstanding the large cleft, may be easily read : it is written in the German language, and Madame Lagnans is supposed to speak.

The following is a translation of it :—

“ I hear the trumpet, awake ; it penetrates to the depth of the tombs ! Awake, child of anguish ! The Saviour of the world calls us ; the empire of death is ended, and an immortal palm will crown innocence and virtue. Behold me, Lord, with the infant thou gavest me.”

The Friburgers are very strict Roman Catholics. When the reformation began, many individuals of this canton seemed inclined to embrace the Protestant religion, but the Bernese wrote them a spirited letter, entreating they would not forsake the religion of their ancestors. The Friburgers paid so much attention to their representations, that they remained firm in the Catholic Faith. Some years afterwards when the Bernese changed their religious principles, they again sent messengers to Friburg, entreating the inhabitants to follow their example ; the only answer they received was their former epistle.

From Friburg our travellers bent their steps southward ; and halted in the plains, called Gruyere, where the cheese is made which is so much esteemed all over Europe. The little capital of Gruyere, is situated at the foot of a beautiful eminence, on the top of which is the castle overlooking the whole valley. Not far from this castle is a very celebrated convent of Chartreux, gloomily situated, and of an uncouth heavy architecture : but the convent of Hauterive exceeds it for solitariness of situation. Hauterive is surrounded by a forest ‘ impervious to the noon-tide ray !’ through which runs a turbid stream ; the dark waters of this second Lethe, pass

under the draw-bridge, that guards the entrance to the interior of the convent, from all intruders. The gloomy cypress overhangs the walls, and solitude and silence seem here to have taken up their abode, to add their imposing influence to the wild and desolate picture.

“What an immense size are those cypress trees,” said Edward, as they passed over the draw-bridge.

“Yes,” replied his friend, “but we will talk of them by and bye.” After visiting this monastic institution, Edward expressed a wish to go to the Chartreux. A wish which the Doctor immediately gratified, and they set off for that purpose. Upon entering the refectory whither they were first ushered, Edward was struck with its simplicity; but more so when he entered the church, on perceiving the only ornament it contained was a huge black crucifix. He, however, made no observation upon the subject, and when they returned to the refectory, he partook cheerfully of the frugal fare which was placed before him; a couple of apples, a slice of bread, and some water. The whole of this meal was passed in silence by the brothers, who never raised their eyes to look at the strangers, or even at each other. At night they were shewn to a small apartment, and at two o’clock in the morning they were roused by the monks, who were going to their devotions in the chapel, or as it is called to *mattins*. The monk appointed to attend them, answered all questions that were put to him, with ease and cheerfulness; and being an intelligent man, who had retired to this solitude, from disgust to the world, the information he gave them was interesting to a great degree. The next morning intelligence was given to the fraternity that a sister of one of the community was dead, and that their prayers were required for the peace of her soul. No mark of curiosity, no emotion was exhibited by any one of the members as to whose sister, but mass was said, and a requiem for her soul’s peace was chaunted.

“Will they not know to whom she belonged?” said Edward to the monk who led them to the church-yard. “No,” was the reply; “when once a brother is admitted within these walls the world has no longer a tie for them. Those two tombs which are placed side by side belonged to a father and son; but though both inmates of this convent, they were ignorant of each other’s fate till the young man died, and was buried. The stone being placed over his grave, his fa-

ther was seen to start at the sight of it, to shed tears even ; but upon hearing a footstep he turned into another path, and no further notice was taken of the circumstance ; but some years afterwards *his* tombstone betrayed the secret*.

Edward felt the tears rush to his eyes as he exclaimed, " Oh, how shocking. Do you think, Sir—" A look from the Doctor closed his lips, and they continued to stroll in the church-yard for some time, where they saw many names once distinguished in the world as heroes and statesmen.

Upon quitting this gloomy mansion, Dr. Walker and his pupil appeared to have imbibed some portion of the taciturnity imposed upon the fraternity who inhabited it. They pursued their route for some time in silence, which was first interrupted by Dr. Walker. " I told you," said the good man, " we would talk about the cypress trees, by and bye ; are you willing to hear their natural history now ?"

EDWARD.—" Yes, Sir ; but I wanted to ask you about the Chartreux monks."

DR. WALKER.—" Some other time I will give you the history of their foundation. At present we will not begin the subject. Those cypress trees claim our attention at this moment.

" This tree is a native of the Levant, although now so luxuriant here. They are sometimes, when left to themselves, of a complete pyramidal form, and then, as you see in that one which overhangs yon craggy rock, they are graceful and beautiful.

" In many of the old gardens in England, cypress trees are still to be found, but their general sombre and gloomy appearance has caused them, of late years, to be much neglected. They are, however, very valuable, on account of their *wood*, which is hard, compact, and durable, of a pale or reddish colour, with deep veins, and a pleasant smell. We are informed by Pliny that the doors of the famous temple of Diana, at Ephesus, were of cypress wood, and, though 400 years old at the time that he wrote, appeared to be nearly as fresh as new. Indeed this wood was so much esteemed by the ancients that the image of Jupiter in the Capitol was made of it. The gates of St. Peter's church at Rome was stated to have been of cypress, and to have lasted more than 1000 years, from the time of the Emperor Constantine until that of Pope Eugenius the fourth, when gates of brass were erected in their stead. As this

* The above anecdote is a fact ; but it happened in the Chartreux, at Grenoble, in Dauphiné.

wood, in addition to its other qualities, takes a fine polish, and is not liable to the attacks of insects, it was formerly much esteemed for cabinet furniture. By the Greeks, in the time of Thucydides, it was used for the coffins of eminent warriors; and many of the chests which inclose Egyptian mummies, are made of it. The latter afford very decisive proof of its almost incorruptible nature.

“ The name of this tree is derived from the island of Cyprus, in the Mediterranean, where it still grows in great luxuriance. Its gloomy hue caused it to be consecrated by the ancients to Pluto, and to be used at the funerals of people of eminence. Pliny states that, in his time, it was customary to place branches of the cypress tree before those houses in which any person lay dead.”

SECTION VII.

JOURNEY TO SAVOY.

FROM Gruyere they continued their journey, and arrived on a beautiful evening at Vevai, when the clouds were glowing with gold and purple. “ It has been a matter of great contest among philosophers,” said Dr. Walker, as Edward pointed to the lovely scene, “ by what means *water*, which is nearly nine hundred times heavier than air, can be rendered capable of ascending into the aerial regions. Descartes accounted for it by supposing, that by the action of solar heat upon a sheet of water, its superficial particles are formed into minute hollow spheres, and become filled with the *materia subtilis* of space; the particles thus filled, must necessarily, it was added, from the superior levity of the substance, they envelope, ascend through the ambient air, till they attain their proper level.

“ But the hypothesis now generally admitted is that of solution, first of all advanced by the Abbé Nollet, in his *Leçons de Physique Experimentale*. Water and air, it is contended, have a mutual power of dissolving each other; and air is not more frequently extricated from the former than water is from the latter. The lower part of the atmosphere being then pressed by the weight of the cumbent column on the surface of the water, and perpetually rubbing against it, attracts and dissolves those particles with which

it is in contact, and separates them from the rest of the water. The aqueous particles thus detached, and absorbed by the lower column of air, are next still more forcibly attracted by the superior column, in consequence of its being not only dryer, but that it possesses ampler pores to receive the dissolved vapour. When the aqueous particles attain a certain degree of elevation, the coldness of the atmosphere condenses them, and they coalesce into particles of much larger dimensions, and gradually produce the phenomenon, called a *cloud*. When the particles of which such clouds consist, are more closely compacted, either by their mutual attraction of cohesion, or the external pressure of the wind against it, they run into drops sufficiently ponderous to descend in the form of *rain*. If the cloud become frozen by any current of cold air before its particles are formed into drops, small fragments of them being condensed, and consequently increased in weight, they will detach themselves from the general mass, and fall in flakes of *snow*. If its particles have coalesced into drops prior to its being frozen, these drops will then descend in the form of *hail-stones*. And when the lower air is replete with aqueous vapour dissolved in its pores, and a sudden current of cold wind rushes through it producing the natural frigidity of the superior atmosphere, a *mist*, or *fog*, which is only a kind of inferior cloud, is immediately created, and as suddenly dispersed on the return of the natural warmth of the air, which then re-dissolves the vapoury particles to invisible minuteness. In like manner *dew drops* may be regarded as an inferior rain, the cold attacking the dissolved vapours of the lower atmosphere, being more intense than in the case of fogs, or continued for a greater length of time. Thus you see, my dear Edward, that we are surrounded by the wonderful operations of nature, by the most extraordinary chemical processes, and yet as the immortal Thomson says :

‘ But wand’ring oft with brute unconscious gaze,
 Man marks not *Thee*, marks not the mighty hand
 That ever busy, wheels the silent spheres,
 Works in the secret deep; *shoots steaming*, thence
 The fair profusion that o’erspreads the spring:
 Flings from the sun direct the flaming day;
 Feeds every creature; hurls the tempest forth,
 And, as on earth this grateful change revolves
 With transport touches all the springs of life.’”

The sun was just sinking behind the hills to the west of Velay, when our travellers entered the town. They no sooner alighted from their carriage, for since they quitted the more mountainous regions they had enjoyed that luxury, than they resolved to have a cruise on the much famed lake of Geneva. The tops of the magnificent rocks of Savoy were still seen reflecting the sun's last rays; but the waters of the lake were discerned only through the encreasing gloom of the evening, they therefore returned to the town, and early the next morning began their peregrinations in its environs. Upon a small eminence behind the town stands the castle of Blonai, from whence the prospect is extensive and beautiful. Within this small baronial territory there is a medicinal spring, which has performed several cures, and people resort to it in the summer to drink its waters. In this neighbourhood is a house called a Coterold, where Sir Edmund Ludlow, one of the judges of Charles I. took refuge when Charles II. was restored to his throne.

Dr. Walker and his pupil were extremely pleased with the scene displayed in the market-place by the Savoyards, who are allowed to dispose of their fruits, flowers and vegetables on a market day in this town. Their appearance is very picturesque; they wear a little straw hat, in which they tastefully place a rose on one side. Their manners are totally devoid of all vulgarity, and they arrange their little merchandize in the most fanciful way.

St. Saporin was the next town they stopped at; but here they only remained to take a view of the columns which decorate the walls, and which were erected to the emperor Adrian. Cuilly, situated at the edge of a fine forest, next arrested their attention from its romantic situation; but they staid only to change horses, and at length arrived at Lausanne, the capital of the canton of Lemane. The great church called Notre Dame, is magnificent, and very ancient; it was built in the eleventh century. It is very spacious, and of a prodigious height. The roof is supported by two hundred and sixty columns, and eleven others of black marble sustain a beautiful gallery, under which are placed two fine marble tables of great value. The great window is in the form of a rose, and is exceedingly striking. The view from the terrace of this town is beyond all description; but perhaps no part of it is more attractive than the lake in a calm summer evening, when the boats set sail to convey the

Savoyard peasant girls to the other side. Their voices are particularly melodious, and as they generally sing during the whole of their little voyage, their soft cadences, joined to the sound produced by the gentle undulation of the waters, considerably encrease those pleasing sensations which the beauty of the scenery is so calculated to excite. From Lausanne they coasted the lake till they arrived at Geneva. At Coppel, one stage short of this place, M. Neckar resided, and after him his daughter, Madame de Stael.

The environs of Geneva, are studded with magnificent edifices, many of which are inhabited by foreigners from various nations, who are attracted thither by the politeness and urbanity of its inhabitants, and the beauty of its situation. The walks are extremely extensive. That which overlooks the Rhone, and which is adorned with a bust of Rousseau, commands a fine view of the Alps, and from amidst these sublime and lofty mountains Mont Blanc lifts its venerable head.

DR. WALKER.—“ We have no time to visit the stupendous Mont Blanc, or its delightful valley of Chamouni; we must content ourselves with imagining its sublime scenery. M. de Saussure has the credit of being the first man who ascended this stupendous mountain; he is called the *Father* of the Alps; for the greater part of his life has been passed in visiting their most dangerous, as well as their most attractive points. Ben Nevis, which is 4388 feet above the level of the sea, is but a hillock compared to Mont Blanc; and Mont Blanc itself would be looked upon as no higher than Ben Nevis, if placed by the side of Chimboraco in Peru. Every thing is but comparatively large or small. Even in the intellectual world all must be judged comparatively. So it is with suffering. And the poor peasant of the Grisons, whose food consists of flour and honey mixed; whose bed is a heap of hay, his pillow the cold and flinty rock; whose hut is formed of stones, and whose body is enveloped in goat skins to defend it from the piercing cold of these unfriendly and solitary regions, is yet happier far than the miserable objects in the mines of Idrai. And now let us return to our delightful inn, and see what M. Degion can give us for dinner.”

SECTION VIII.

JOURNEY CONTINUED.

OF all the spots that surround Geneva, the inn kept by M. Degion is perhaps one of the finest. The gardens combine every thing that is delightful; the sweetest flowers, the most delicious fruits, and the richest scenery are here intermingled. The road from Geneva to the little village of Secheron, in which it stands, presents one continued scene of rural beauty, where the botanist will find ample scope for exercising his genius and his taste. The Genevans excel in music; they have their balls and card assemblies, and on a Sunday the public walks recall to the English traveller the splendour displayed in Kensington Gardens.

Dr. Walker and his pupil having retraced their steps in a northern direction, till they came to Aubonne; they traversed a beautiful country, and upon arriving at the pretty village of Cossonee, they spent one day there. Mont Blanc is seen from this neighbourhood rising from an amphitheatre of hills in Savoy, and in the distance three glaciers lift their towering heads above the surrounding Alps, viz. the Mont d'Or in Italy; the Jungfrau, or *Virgin's Horn*; and Wetterhorn, or the *Stormy Peak*; which divide Berne from La Valais.

"I suppose, Sir," said the landlord of the little inn at which they stopped, "you visited those mountains?" "No," replied the Doctor, "we did not."

"Then, perhaps" replied the inn-keeper, "you have not seen as grand a sight as any in Switzerland. The Wetterhorn is covered with perpetual snow many hundred feet deep; and its enormous sides abound in glaciers, and about half way up, there are two most enormous chasms that are formed in a valley of ice, about four miles in circumference. Near four hundred feet beyond them rushes a torrent of water, issuing from a huge glacier. The top of Wetterhorn has, I believe, never been ascended, nor that of the Jungfranhorn, which is in its neighbourhood. There is a mountain directly under the Wetterhorn, called Scheidek, on which are placed two cottages, both destined for the purpose of making cheese. These cottages are called *challeys*, and

contain only two rooms: one is allotted to the family, the other to the cows. At each of these cottages there are a hundred cows."

"Is it not surprising that they should find provender for so many cows in such a neighbourhood?" said Edward.

"You must have observed, Sir," replied the man, "that vegetation is particularly luxuriant in the valleys, and even round the foot of the steepest mountains whose tops are covered with snow in this country. The way of making the cheese is this: when the milk is turned, a man puts his arm into the copper, and with a wand breaks the curd; he then draws up the cloth. In this manner a cheese of a hundred pounds weight is taken up; and when it has lain three or four days in the vat, they rub it with salt."

From Cossonée they proceeded to Oraes, and from thence to Yverdon, which commands a fine prospect of the lake of Neufchatel. This place was built originally by the Romans; and medals of Augustus and Julian the Apostate, are found in its neighbourhood. There are medicinal baths a short distance from the town, to which many of the principal families from Berne resort in the summer months.

Switzerland is subject to violent storms of hail, which destroy in a few hours the hopes of the farmer and the peasant. The most promising vintage and harvest are often completely cut off. The houses are unroofed by the violence of the wind; and the whole country laid desolate. The fruit trees are sometimes so much injured, that they will not bear for three or four years afterwards. The natives have a curious way of preserving fruit for the winter. They cut it in slices and dry it in the sun, it is then put into wooden cases, and in this state it can be preserved for twenty years. By pouring a little warm water over it, it becomes as fresh as when it was gathered. From Yverdon they had a most delightful journey to Neufchatel, through a number of pleasant villages. That of Colombier, in which the houses are all white, with little gilt balconies projecting from the centre, filled with flowers, is particularly attractive. Each house stands in a garden and the middle of the town has a splendid view of Mount Jura, and commands the whole of the lake, it being placed upon a peninsula, which stretches itself into the calm blue water. The Jura Mountains are here cultivated as high as human footsteps can attain. Travelling in this part of Switzerland is particularly agreeable, for the roads are good, and so broad

as to admit three carriages abreast, while on every side objects, either of beauty or grandeur, arrest the attention. The town of Neufchatel is seated in the midst of vineyards, meadows, and woods. Mont Blanc still crowns the south-eastern horizon, while to the west the Jura forms the boundary of sight. The people of Neufchatel are fond of balls and parties, which are upon the same plan as those of Berne. The minister has the power of compelling those who have committed any fault which comes under his jurisdiction, to appear before the whole congregation, and to pay a fine according to the offence: no respect is paid on these occasions either to sex or rank. The merchants of this town are very wealthy; the taxes are moderate, and the government democratic. This canton is extremely populous, and it contains plenty of game and wild fowl. The Jura, about Geneva, abounds in sloping declivities, and affords the most delightful pasturage for cattle: in the vicinity of Soleure it produces a great variety of stones of different forms, hexagonal and pentagonal, the polish of which is so uncommon, as to be supposed the work of art. Others are marked with petrified fish. This mountain contains also mines of lead and iron; and about Neufchatel they present the most magnificent and picturesque scenery. Our travellers continuing their journey in a northern direction, arrived at the pretty village of St. Blaise, and from thence crossing a small river which joins the Lakes of Neufchatel and Biemme, they took up their quarters at Cerlier, from whence they had an extensive view of the lake of Biemme and the island of Rousseau. Having hired a little boat to take them to this island, they soon reached the spot where Rousseau retired in the year 1765, when he was driven from Paris. There is but one house in the island, and that was formerly a convent; it was erected in the third century by a monk of Belmont. His successors, however, becoming very depraved, and being accused of the murder of Duke William of Payerne and his son, they were expelled.

In a small apartment of this solitary house, which was occupied by Rousseau, the names of innumerable visitors are engraved, and many poetic effusions adorn the simple walls. The furniture is still preserved which he used, the table, chairs, and the little bed he slept on; the old-fashioned counterpane, and the looking-glass over which he used to throw a towel, all remain, and are shewn with profound veneration to every visitor. At a short distance is another

island, on which there is but one tree, which he used to compare to himself.

Having wandered for some time in this enchanting spot they reluctantly took leave of it, and returned to Ceslier. Upon arriving at Bienne, they did but stay just to refresh themselves, and from thence proceeded to the celebrated Pierre Pertuis, through which a road is broken, sixty six feet long, and thirty high. Above the arch a Roman inscription, although much defaced, is still visible; but what remains is sufficient to prove that it was cut by a chief of the Helvetic colony. As this arch is overhung with wood, it has the appearance of a gloomy cavern, as it is approached. They now entered the canton of Saleure, and having passed through the capital, which presents no object particularly interesting, they were surprised at the sight of a wooden bridge over the Aar, four miles north of the town of Saleure. It is three hundred and seventy two feet long. A small river which joins the Aar, produces a great curiosity, namely, *red* craw fish, and they are sometimes served up as boiled in a deep dish to strangers, in order to astonish them.

On the road from Saleure to Basle, the rocks are adorned with many Roman ruins, overhung with ivy, that at Walburg is particularly fine. It is placed on a prodigious rock of a conical form, overhung with wood, composed of dark and beautiful firs, whose tops are often lost in the clouds. The few towers which remain are covered with ivy. This part of the Jura abounds in gold, silver and copper, and different kinds of mineral waters.

Basle is situated on the Rhine; it is one of the most considerable towns in Switzerland, and carries on a considerable manufacture in ribbons. Hans Holbein was a native of this place, and Erasmus died here, and was buried in its cathedral. Erasmus resided in Basle for some time, and it was from thence that he wrote to Pace, Dean of St. Paul's, that letter in which he said "he had no inclination to die for the sake of truth. "Every man," said he, "hath not the courage requisite to make a martyr; and I am afraid if I were put to the trial, I should imitate St. Peter." He was at first a warm advocate for the Reformation; but he afterwards became its violent opposer. The police of Basle is extremely strict. No dancing is allowed among the peasantry on Sunday, and all card parties separate at ten o'clock. Every individual, without any exception, is obliged to send his chil-

dren to be examined twice a week by the clergyman of the parish, until they are ten years old, and then once a week till they receive the communion. At Easter and Whitsuntide, this ceremony generally takes place, when the girls, with their hair nicely plaited under neat white caps, frills round their necks, and little blue jackets, assemble with their parents, who are dressed in black at this solemn ceremony. The boys have their hair turned back, and their cloaths are made remarkably neat and plain.

CHAPTER XIV.

BANKS OF THE RHINE.

SECTION I.

JOURNEY ALONG THE RHINE.

DR. Walker and his pupil quitted Switzerland with regret. Upon crossing the Rhine, on their road to Freyburg, Dr. Walker asked Edward if he could describe the course of that noble river. "I will try what I can do, Sir," replied his pupil, and he began as follows.

"The Rhine has three sources in the country of the Grisons, which rise at the distance of some miles from each other, and are distinguished by the names of *anterior*, *middle*, and *hinder* Rhine; they unite not far distant from a place called Dessanti: from thence it runs in a north-east direction, till it reaches the Lake of Constance, impetuously rushing through its still waters, and issuing at Slerkborn. From the Lake it takes many meandering forms, and at length arrives at Basle. Its course then assumes a northern direction along the eastern borders of Alsace, till it receives the Maine a little below Frankfort, then proceeding north-westward, it enters the Netherlands, and falls into the German Ocean."

DR. WALKER.—"About a league from Schaufhausen,

at Lauffen, the Rhine falls in a tremendous cataract, from a rock said to be seventy feet high, and ninety paces in breadth. By the bye, at Schaufhausen there is also a very singular and beautiful bridge, which was built in the middle of the last century, by a common carpenter, called Ulric Grubenhäm. The rapidity of the Rhine had carried away several stone bridges built upon arches of the strongest construction. This man undertook to throw a single arch, of wood only, across the river, although it is three hundred feet wide. The magistrates insisted he should make it of two arches, and desired he would rest them upon the middle pier of the old bridge; the self-taught architect obeyed apparently, but he so constructed his wonderful arch, that it does not rest in the least upon the pier. A man of the slightest weight can feel this bridge tremble under him as he walks; but the heaviest waggons pass over it in safety, though the bridge appears almost to crack under the pressure. This wonderful piece of architecture is an astonishing example of the power of natural abilities; but it is not without a parallel. I remember when I was in South Wales, I was struck by a remarkable bridge over the Taaf, about twelve miles north of Caerphily in Glamorganshire. It consists of one arch, the segment of a circle; the chord is 140 feet; the key-stone, from the spring of the arch is 34 feet high. The architect was William Edward, who was living in the year 1773. He was a methodist preacher. Had the remains of such an arch been discovered among the ruins of Greece or Rome, what pains would be taken to discover the architect; whilst honest William Edward, if living, which is not very probable, remains unnoticed among his native mountains."

They continued their journey in a northern direction till they reached Rostat, from whence they continued their route to Philipsburg, which was captured by the Dauphin, eldest son of Louis XIV. Heidelberg was the next town which arrested their attention. It is situated in a hollow, on the banks of the Neckar, the country round it is exceedingly fertile, through which runs a fine chain of hills. The electoral palace is seated on an eminence, which commands the town, and a view of the valley below: the castle is, however, unfortunately commanded by a superior height, from whence the town was bombarded, by the ambitious Louis XIV. who laid this beautiful country desolate. Mannheim shared the same fate; and as our travellers passed through this town

certain reflections arose in their minds, which redounded but little to the honour of Louis le Grand, or even to conquerors in general. The country, as they approached Mentz, became hilly and irregular, and the fine sloping banks which border the Rhine, displayed the rich luxuriance of the blushing vine. Every spot of ground is here highly cultivated, and the best Rhenish wines are made in this part of the country. The number of ecclesiastics which are met in the streets of Mentz at first astonished Edward. "You forget," said the Doctor, "this place belongs to the elector of Mentz, who is always an ecclesiastic of high rank; his court, therefore, is mostly composed of the clergy. He has soldiers indeed, but their appearance is not very military." In the neighbourhood of Mentz, the celebrated wine called hock is made. From Mentz they crossed an amazing long bridge, formed of a moveable platform, placed upon fifty-six lighters, two or three of which draw out with ease by means of ropes and pullies, to open a passage for vessels ascending or descending the Rhine. Having crossed this curious bridge, they entered Cassel; the residence of the landgrave of Hesse-Cassel, is situated on the river Fulda. The new parts are regular and handsome, the others are chiefly in the ancient style. It has fine gardens, a college, an academy of painting and sculpture, and a literary society, which has been chiefly occupied with the history and antiquities of Germany, particularly of Hesse. This city has many manufactures, and a great trade. Here they dined, and then resumed their journey, and after passing four miles of open country, they entered an avenue of walnut, apple, and pear trees, loaded with fruit, to which they were told by their postillion they might help themselves. After passing over a draw-bridge, and through a large gateway, they entered the city of Frankfort, which presented scenes more congenial to British feelings than those they had left at Mentz. Here all was hurry and bustle, caused by preparation for one of the annual fairs. The next morning the boot-cleaner entered their chamber, at six o'clock, followed by the chambermaid, with a composition of frankincense and other gums, made up in a pyramidal form, and about an inch high; pastilles, in short, which she lighted, and placed upon their candlesticks, to perfume their room.

The number of Jews in Frankfort is prodigious; although they are subject to many severe restrictions. They live in

one street, which has no thoroughfare, and the entrance is at night fast closed by a great iron gate. No Jew is allowed to appear in the streets after a certain hour, and they are compelled to remain cooped up in this small place till the morning. Edward was extremely delighted with some excellent singing, which was executed by a set of boys and girls several days successively, opposite to the house next to the inn where they resided. "Do you not know," said the Doctor, that when a person of any consequence dies in Frankfort, these persons are employed to sing an hour every day till the corpse is interred." As the Doctor spoke, the funeral procession commenced, and the choiristers followed the hearse, chaunting a funeral hymn as they went along. Edward attended them, and returned home quite enchanted with the solemn vocal music which formed part of the funeral service.

Dr. Walker had a letter of introduction to a German nobleman, and remained some time in this town. He attended their public assemblages, at which tea and cards form the entertainment. Society is here divided into two classes, noblesse and bourgeois, and these different ranks never mix with each other; many of the bourgeois are persons of the first respectability; but they lack that airy distinction of rank, and are therefore indiscriminately classed as bourgeois. Our travellers, however, were hospitably entertained by some of these worthy citizens. Among the winter amusements of this place, traineau parties are conspicuous. A traineau is a machine made in any fanciful figure, such as a swan, a deer, according to the fancy of the owner; this rests on a sledge, which is drawn by two horses, gaudily ornamented. Sometimes twenty or thirty traineaux will start at once, with servants on horseback, bearing torches. This amusement is common in many parts of Switzerland, as well as Germany.

From Frankfort they again directed their steps towards the Rhine; and after a pleasant journey, they arrived at Coblenz, where the Moselle falls into that river. Here they staid but one day, being anxious to reach Cologne. The course of the Rhine, from Mentz to Cologne, is romantic to a great degree. The river runs through wild rocks, crowned with majestic woods, and skirted with fertile vineyards. The beauty of this scenery drew forth expressions of admiration from our travellers, not excepting Colin, who declared he longed much to conclude their travels, that he might have

the pleasure of telling all he had seen to Jean, whom he had left behind.

“And who is Jean,” enquired the Doctor; “I did not know you were married, Colin?” The Highlander shook his head, “Its like I will be, when I get hame.—Jean did na like me to quit her, and I didn’t ken how much I lov’d her till I left her; but I think I hear the carriage—yes, there it is”—and he hurried out of the room, as if ashamed of his feelings.

“Colin appears a little home sick, I think,” said the Doctor, “when we get to Holland he shall return to Scotland if he wishes it; I should be sorry to take him with us, if he really longs for his native glens.”

Cologne is a large commercial city, seated on the west bank of the Rhine, by means of which it carries on a brisk trade with Holland and Germany. It is built in the form of a crescent, and is fortified in the ancient manner. On the opposite banks of the Rhine is the village of Dortz, where is a flying bridge of boats, which will admit 1500 persons, besides horses, and even carriages to pass at the same time. Rubens was a native of Cologne. They embarked in a passage boat for Dusseldorf. As they approached this place, the stream of the Rhine became more rapid, and the country less mountainous.

“Edward,” said the Doctor, “as the former pointed out the distant mountains of Germany, did you ever hear of the wonderful spectre of the Broken? It is an atmospheric deception of the most singular kind. When I was in Germany many years ago, I heard of this curious phenomenon, and resolved, if possible, to witness it. After ascending, in vain, the mountain several days, I at length was gratified. It was very early in the morning, and upon looking to the south west, I perceived a huge gigantic figure approaching towards me. As I stood quite still, lest the delusion should vanish, I perceived the figure to halt likewise. Having gazed at it for some time, I suddenly put my hand to my head, in order to save my hat, which a violent gust of wind threatened to carry away: to my great surprise the figure did the same; upon observing this, I put myself in various attitudes, and which were precisely imitated by the spectre. A traveller passing by at some little distance, I hailed him, and pointing to the spectre, behold, two stood before us. I could but smile at the singularity of the appearance of these two gigantic figures.

The traveller's shadow, or reflection, stood the picture of astonishment and terror, while mine, assumed I must confess, bordered on that of the ludicrous, for I laughed heartily. My companion turning round, and discovering that one of the spectres resembled me, "pray, Sir," said he, "may I ask if that terrified looking gentleman is the counterpart of me." "Just so," I replied, upon which he turned to make a bow, and as the spectre returned his salute, the spectre vanished. Sometimes this phenomenon was weaker, and sometimes stronger; but the outline was always well formed. A phenomenon of the same kind was witnessed at Wilton-hall, in Cumberland, against the mountain of Souter Fell. A farmer and his servant, sitting at the door, saw the figure of a man with a dog, pursuing some horses along the side of Souter, a place so steep, that a horse could scarcely travel quietly on it. They all appeared to run with incredible swiftness, till they came to the end of the Fell. The following morning they ascended the mountain to seek for the body of the man whom they supposed must have fallen a sacrifice to his temerity. They were exceedingly surprised not to find any trace whatever, even of a horse's foot in the turf. Now as the imitative powers of the Broken, prove that the clouds do sometimes act as *mirrors*, it is not very improbable, that the man, dog and horses, seen at Souter Fell, were the reflection of such a person and animals from an opposite mountain. By a particular operation of the sun's rays upon the vapour or the clouds, which flitted by the mountain, as in the case of the *Fata Morgana*, this delusion was no doubt produced."

"We have lost the vineyards, Sir," said Edward, as he pointed to the flat country they were traversing. "Yes," replied the Doctor, "the vine is not cultivated further north than Cologne."

When from Frankfort to Coblentz. It lay sometimes through beautiful corn and pasture fields; sometimes through vineyards, orchards, and picturesque villages; while on the surrounding eminences, magnificent castles, and religious houses enriched the scene; behind this luxuriant country, the vast forest of Landeswald formed a sombre back ground.

SECTION II.

GENERAL SURVEY OF HOLLAND.

FROM Dusseldorf our travellers still continued their journey in a northern direction, through a sandy country, till they arrived at Wesel, a large dirty town, where they only changed horses, and late in the evening they arrived at Arnheim. "Suppose," said the Doctor, "we take a survey of the country we are about to traverse.

"The northern provinces of Holland are low and very level, exhibiting the appearance of an extensive drained marsh, varied with deep broad rivers and numerous canals; in general, abounding with rich pastures and fine groves of trees: it is defended from the ocean by dykes. In Flanders the western districts are remarkably level; the south-east has extensive forests, and a few elevations. Canals are very numerous; the principal of which are Brussels, Ostend, and Ghent. In the east the air is salubrious, and the seasons are more settled than in England; in Brabant, and along the coast, the weather is often foggy.

"The exports and imports of this country were, until lately, similar to those of England; scarcely a production in which they did not traffic, or a manufacture that was not successfully carried on. Their home commodities are plenty of butter, cheese, hemp, flax, corn, wine, madder, and tobacco.—Delft-ware, tobacco-pipes, and paper.

"Holland produces also some few minerals: such as nitre, lead and copper, in Namur; iron and slate in Hainault; sulphur and slate in Limburg and Luxemburg, and coals in

"Its chief ports are Amsterdam, Rotterdam, south of Walcheren, Helvoetsluys, south of Voornland, Sluys, Nieuport, and Ostend.

"The population of Holland was lately computed at little more than two millions and a half. But by the peace of 1814, the Stadtholder, now King of the Netherlands, has gained to the Seven United Provinces, the Belgic Provinces and the Duchy of Luxemburg, consisting altogether of the most fertile countries in Europe, and inhabited by several millions of wealthy and industrious people. I need not men

tion the names and capitals of the Seven United Provinces. You of course know them.

“Holland is intersected with innumerable canals, which, for number and size, may be compared to our public highways. By them a great inland trade is carried on with France and Germany. In summer they are constantly crowded with boats of pleasure or of traffic; and in winter, when they are frozen over, the inhabitants travel on them with skates, and perform long journies in a very short time.

“Its universities are Leyden, Utrecht, Groningen; Harderwicke, north-west of Guelders; Franeker, north-west of Friesland.

“The university of Leyden is particularly celebrated for its colleges, medicinal garden, anatomical theatre, astronomical observatory, and valuable library; the students are less numerous than formerly. About 1600 men are employed in manufacturing cloths and stuffs, which are said to be the best in Holland.

“In 1574, Leyden sustained a very severe siege from the bigoted and oppressive Spaniards; during which, famine and pestilence carried off 6000 of the inhabitants. As a reward for their gallant defence, it was left to their choice either to be exempt from all taxes for several years, or to have an university founded; they chose the latter.

“As I have marked down our route, I will mention those towns worthy of notice, which we shall not visit, and first upon the list is Amsterdam.

“Amsterdam, raised and supported by commerce, was, until lately, one of the most opulent and enterprising cities of Europe. It is nearly semicircular, and the site is so marshy, that the houses are chiefly supported on piles. The public buildings, the numerous canals, the streets planted with rows of trees, the cleanliness of the houses, the accommodations for commerce, all are worthy of attention and imitation. It has about fifty places of public worship, of these eleven churches are of the established religion, which is Calvinism.

“Rotterdam, at the confluence of the Rotte and the Mass or Merwe has an excellent harbour, and is very eligibly situated for commerce, for which it has most excellent accommodations; trade and riches, next to those of Amsterdam. This city is remarkable for the size and beauty of its build-

ings, fine deep canals, and a bronze statue of the celebrated Erasmus.

“Haerlem is also a large and populous town, with open streets and fine canals. It manufactures silk, velvet, linen, thread, and tape. Its lake, about 14 miles in diameter, lies between this town, Amsterdam, and Leyden; it is navigable but subject to dangerous storms.

“We cannot even visit the celebrated village of the Hague, which vies with the most celebrated cities in Europe for beauty, extent, agreeable walks, and great trade. It is about two miles from the sea, and surrounded by a fertile and agreeable country.

“Middleburg, situated nearly in the middle of Walcheren Island, where so many of our brave fellows lost their lives in the late war, is connected with the sea by a deep canal, which admits the largest vessels. It is a rich commercial city, the squares and public buildings are magnificent, but the island is unhealthy.

“Ghent, or Gand, which is placed at the confluence of the rivers Scheldt, Lis, Lieve, and Möre, and on the canal of Brüges, is one of the largest cities in Europe. It is divided into 26 islands by the rivers and canals. It trades extensively in linen, yarn, worsted and books. It was the birth place of Charles V.

“Brüges is connected by canals with Ostend, Ghent, Sluys, Nieuport, Furnes, and Ypres. It carries on a great trade in wool, cotton, tapestry, and silk stuffs.

“Brüges was formerly the English staple for wool, and the greatest trading town in Europe. It was the centre of communication between the Lombards (merchants from the north of Italy) and the Hanseatic merchants, (merchants of the associated cities for carrying on and protecting commerce, which was at that time interrupted by pirates). The Lombards exchanged the productions and manufactures of India and Italy, for the commodities of the north. But, in the sixteenth century, the civil wars, occasioned by the tyranny of Philip II. drove the trade, first to Antwerp, and then to Amsterdam.

“Delft has acquired great publicity from its fine earthenware, known by the name of Delft wares. It is clean, well built, has canals decorated with trees, and is defended from the sea by three large dykes. It was the residence of Baron Lewenhoeck, and the birth-place of Grotius.

“ Gronningen, about twenty miles from the sea, is handsome, rich, and populous. Its province yields fine pasture, and has a breed of very large horses.

“ Namur is large, opulent, and commercial: it manufactures fire-arms, knives, swords, and many other kinds of cutlery. The country in this neighbourhood is mountainous.

“ Luxemburg, on the river Etz or Alsit, is a place of great strength; its province is chiefly occupied by the extensive forest of Ardennes. It is rather mountainous and woody, but in general fertile in corn and wine, and has many iron mines.

“ Ostend is a strong, thriving sea-port, with a marshy vicinity. Its canal admits ships of large burden to enter with the tide. The damage done to this canal in 1798, in an attack by a body of English troops was estimated at 1,000,000*l*. Packets regularly pass between this port and Harwich.”

Arnheim is a pleasant town, but is famous only for being the birth place of the celebrated David Bech, a pupil of Vandyke. It contains some large churches, but Edward agreed with his friend, in wishing to set off early the next morning for Utrecht. The road to Utrecht is remarkably agreeable. Guelderland is one of the most salubrious, fertile, and romantic provinces of this low country. They were serenaded by nightingales during the whole of their route to Utrecht. They were also delighted with the alternate display of mountain and valley scenes, which they did not indeed expect. Groups of fine cattle reposed under the trees, and as it was early, they saw a quantity of game, which, as the day advances, screen themselves from the eye of man.

Utrecht is beautiful and very healthy; the environs are full of gardens, walks, and groves; it has a celebrated university, and is the chief residence of those who have retired from business.

“ That cathedral,” said Edward, “ must have been an extraordinary fine building. What a pity it is it should have been suffered to go to decay. The tower appears the only part which is perfect.”

“ We will ascend the tower,” replied his tutor, “ for I understand from its extreme height, (it is 464 feet high,) we may see, if the day is clear, 51 walled cities and towns, and the pyramid erected in honour of Napoleon at Zerst by the French troops under the command of Marshal Marimont.

This stupendous column was completed in thirty days. The height of this monument is 110 feet French."

SECTION III.

ROTTERDAM.—TOBACCO.

FROM Utrecht our travellers proceeded to Rotterdam, and took up their quarters at the celebrated hotel called the Mareschal de Turenne. The streets of this noble city, like those of all principal places in Holland, are adorned with fine rows of trees; the display of the numerous vessels upon the canals, together with the busy hum of business which is heard on every side, displays the character of the Dutch in its most lively colours; a thorough knowledge of their indefatigable industry, their devoted attention to trade, to which every other feeling gives place, and in which the greater part of their lives are spent, cannot be more forcibly pourtrayed, than by walking along the quays of the numerous canals, where the youth of seventeen and the old man of seventy are engaged with the same ardour in the same pursuits. The style of building in Holland is singular; the houses are lofty, and filled with large windows, which project forward as they ascend.

"This is something like the style of architecture in our Queen Elizabeth's days," said the Doctor, "few specimens of which are now remaining."

"So much the better," replied his pupil, "for those projecting windows make the under apartments very gloomy."

One of the most beautiful streets in Rotterdam is that called Boom's Quay, which extends along the river, (the Rotte) about half a mile from the old to the new head, the two places where the waters enter the city.

Our travellers were surprized at being addressed by beggars, as they understood Holland was not infested by them; they were, however, frequently accosted by vagrants, who begged in a low voice, and they invariably noticed that they always avoided a Dutchman.

Holland abounds with charitable institutions, and all beg-

gars are therefore looked upon by the natives as lawless vagabonds. They did not fail to visit the statue of the celebrated Erasmus, it stands upon an arch crossing a canal, and is nearly ten feet high. It was erected in the Year 1622, and is the *chef-d'œuvre* of Henry de Keiser, a celebrated statuary and architect. The cathedral of St. Lawrence, which is the finest church in this city, is used upon various occasions independent of those for which it was erected, for, to the surprize of our travellers, they were informed, that during the fairs, booths were erected in it.

“ I wish, Sir,” said Edward, who was a little chagrined at receiving the spray of a nimbly twirled mop; “ that the Dutch ladies would pay a little more attention to their persons, and less to their houses. It really is quite annoying.”

“ What, a citizen of the world,” replied the Doctor, “ and annoyed at the *cleanliness* of the Dutch! And I am sure, although the scrubbing ladies are not particularly neat, yet their mistresses are the patterns for every thing that is nice. But, do you know, Edward, that this over and above cleanliness which has offended you so much, originated in necessity. The air of Holland, from the lowness of the soil, and the damp which arises from the innumerable canals that in every direction intersect Holland, would soon cover those bright door knockers, with rust, would also cover the walls of the houses with that green coloured fungus, which is to be found on all neglected mansions that are exposed, even in England, to damp situations. There is, therefore, good reason why the knockers should be rubbed, the houses washed, and so forth.”

“ Very true,” replied his pupil, “ but they might do it in moderation.”

“ Ambition,” said the Doctor, “ the fault of noble minds, is the cause of this excess of cleanliness. You may smile, Edward, but when one house looks like a newly raised fabric, just sprung from the earth; who, that has a spark of feeling, would not be ambitious to rival such a pattern of cleanliness. By the bye, Edward, mind to day that you take a few florins in your pocket, to give the servant when we quit Mr. W's after dinner, or else, perhaps, you may be reminded of your omission, the next time you visit him, by having a little soup or made dish, turned over your coat *by accident*.”

“ Give the servants a few florins, Sir,” said Edward, with surprize.

“ Yes,” replied the Doctor, “ ’tis expected. Now this unfriendly custom was not many years ago still in fashion in England, when the guests were called upon to contribute to the wages of their host’s servants.”

EDWARD.—“ I think, Sir, that there are some of the society of the Moravian brethren settled in Holland; shall we visit them.”

DR. WALKER.—“ No, that will not be in our power, as their community is established at Zeyst, which is at a short distance from Amsterdam only. They inhabit the house which formerly belonged to Count Zinzendorf, and when I visited Holland, about a year and half ago, I bought this very watch at their repository. Upon ringing at the bell, one of the brethren in a lay habit opened the door, and receiving us, I had a friend with me, with great politeness, he conducted us into ten good rooms, each containing articles of the most useful trade, such as watch-makers, silver-smiths, milliners, grocers, sadlers, &c. &c. Many of the artificers have been tutored in England, and I do assure you, I never saw a more beautiful display of goods of every kind.

“ The artificers work on the basement story, at the back of the house, and no sound of trade is heard; but the house was so quiet that I could almost have fancied I was traversing the apartments of a Carthusian monastery, but that the gay display convinced me, that although surrounded by plain and simple dressed men, who appeared as taciturne as any monk in the world need be, yet I was still in the midst of this world’s vanities, quite as much so indeed, as if I had been parading the splendid Bazaar in Soho Square.”

Pipes and tobacco were invariably placed before our travellers when they returned to their hotel after their peregrinations in the city, which they declined touching to the surprize of the waiter, who could scarcely conceive it possible that any one should resist so agreeable an entertainment. As they passed along the quay, amidst clouds of smoke, which came wafting from the innumerable pipes, as the Dutchmen, after their daily toils were refreshing themselves.

“ I have no doubt,” observed the Doctor, “ that the

habit of smoaking is very beneficial to the Dutch, as it must counteract the effects of the damp atmosphere."

SECTION IV.

INUNDATIONS OF HOLLAND.

"LETTERS from England," said Colin, as he entered the room.

Edward eagerly opened his letter.

"Stop a bit, Colin," said Dr. Walker, "I have something to say to you. You, perhaps, would have no objection to return to Scotland?" The blood of the Highlander rushed to his face. "And as we really have no further need of your assistance, now is the time for you to say, whether you had rather continue your travels, or return to your native land, (here the Doctor paused) and *Jean*."

Colin knew not what to say. He began at length, to express various hopes and fears, and feelings tending to convince the Doctor that he was very unwilling to leave them, but that he still most ardently desired to return home.

"You shall embark for London, Colin," said the Doctor, as the Highlander concluded his long speech, "and you shall have letters for Mrs. Montague, and from London you can soon get on board a vessel for Leith, and then,—"

"Oh!" replied Colin, "I have been to Leith,—but,—indeed,—"

"No buts," replied the Doctor, "so now you may go and prepare for your departure."

Colin bowed, and Dr. Walker and his pupil began also to think of continuing their journey in a day or two. Fortunately a vessel bound for London was about to quit Rotterdam, and having seen the Highlander on board, they returned to their hotel, to settle their own departure for the next day.

After crossing the river Lock, and a flat country, they at length arrived at Dordrecht, or Dort, a town situated in an island formed by the mouths of the rivers Meuse, Merwe, Rhine, and Linge.

Holland is more exposed to inundations than any other

country. The industry of the inhabitants has, by means of dykes or sea banks, endeavoured to provide against the encroachments, but these at various periods have been swept away by the united action of the rain, wind, and sea storms. In the year 1421, the neighbourhood of Dordrecht 70 villages and 100,000 of the inhabitants were swallowed up by an inundation of the most frightful extent; and in the year 1686 the London Gazette contains the following melancholy account of the destruction of the dykes in the province of Groningen.

“ On Friday the 22nd of November, it blew the most violent storm from the south-east, towards night the wind changed to the west, then to the north-west, afterwards to the north-east, and then back again to the north-west. The weather continued thus tempestuous all night, accompanied with thunder and lightning; the chimnies of a great number of houses were blown down, and many houses were unroofed and much mischief was done in other respects, but it was not comparable to that which followed: for the dykes not being able to resist the violence of the sea, agitated by these terrible storms, the whole country between this and the Delfziel, being about eighteen English miles, was the next morning overwhelmed with water, which in many places was eight feet higher than the very dykes, and many people and thousands of cattle were drowned, the water breaking even through the walls of the town of Delfziel, to that height that the inhabitants were forced to betake themselves to their garrets and upper rooms for safety. The whole of the village of Olerdum is, in a manner, swept away. At Fermandrzyl, there is not a house left, above three hundred people being drowned there, and only nineteen escaping. Hereskes, Weywert, Woldendorp, and all the villages near the Eems have suffered extremely. The western quarter has likewise had its share in this calamity, and the highest lands have not escaped. On Sunday, and yesterday, it reached this city, the lower parts whereof are now all under water. From the walls of this city we can see nothing but the tops of houses, and steeples that remain above the water. In a word, the misery and desolation are greater than can be expressed.”

Groningen is noted for fine linen thread, a salmon fishery, and Rhenish wine. The inhabitants trade also in corn and timber; great quantities of the latter are cut up in the saw.

mills. Vessels coming down the Rhine and Maas pay a toll here.

From Dordrecht they embarked for Gastruydenburg, and after a very pleasant passage they arrived at that place, from whence they proceeded direct for Antwerp. On their road thither Edward exclaimed warmly against the odious custom of drinking gin, which appeared so prevalent in Holland. "It is hardly more so here, than in England," replied his friend, "and although I deprecate the custom as much as you do, because I consider it injurious to health; yet we should think even upon this subject with a degree of impartiality, with which it is seldom treated. We are all, I am afraid, given too much to the indulgence of our appetites, and those, perhaps, who every day drink Champagne and Burgundy, should pause a few moments before they lavish such gross abuse on poor people who drink gin, which is to them a greater luxury than the finest wine you could offer them. I am not defending the custom; neither do I defend the custom of drinking large quantities of wine, brandy, or beer; of eating immoderately, or dressing extravagantly; but human nature is in some degree the same in all stations. Men *will* indulge themselves in superfluities. Why then should we expect more forbearance in that rank of society who are the least taught it either by precept or example from their superiors.

"You know Dr. Johnson's answer to a man who himself lived on all the good things of this world, and was reproving the Doctor for giving a few half-pence to some poor creature, because it would be spent in gin. 'Well,' quickly replied the Doctor, 'and why not *they*, sir, their *luxuries* as well as *we*.' You understand me right upon this subject, I deprecate the custom because I deprecate all excess; but I deprecate it as much, or more, in the noble, than in the hard-working poor. The former have less excuse for it. The golden rule of doing as we would be done by, would stop many hasty and common place censures, which are habitually in the mouths of those, who conceive they have the right of judging their neighbours upon all occasions."

"Gin is principally made in Holland, is it not, Sir?" enquired Edward.

"That which is called Hollands is manufactured in this

country, and is distilled from wheat, and barley, flavoured with juniper berries."

SECTION V.

ANTWERP—BRUSSELS, &c.

DR. WALKER.—“ But see, Edward, we are approaching Antwerp, which about 200 years ago was the principal mart in Europe. At the quay the river is twenty-two feet deep at high water: it has good docks and many canals. It contains two hundred and twelve streets, twenty-two squares, and many public buildings, among which the cathedral and exchange are very conspicuous; the former is said to be the finest piece of Gothic architecture in Europe, and the exchanges of London and Amsterdam were built in imitation of the latter. The Scheldt is here four hundred feet wide, and the city presents a scene of bustle and activity not to be surpassed by any in the Netherlands.”

Having embarked on board a passage boat, that was going to Brussels, our travellers had a most delightful journey to that noble city, where they intended staying some little time, in order to take a survey of the surrounding country, rendered so interesting by the ever memorable battle of Waterloo. Brussels possesses in itself many objects of attraction, it is large, handsome, populous, and about seven miles in circumference. It is seated partly on an eminence, has seven fine squares, and is remarkable for its great and beautiful market-place. About 10,000 people are employed in manufacturing lace; its minor manufactures are cards, iron, and tobacco.

Brussels is reckoned a cheap place to live in, the necessaries of life, and even many of its luxuries are produced in great abundance in Flanders. The soil of this country is peculiarly fertile, and was formerly enriched with large forests, composed of beech, elm, and oak; these in many parts have disappeared; about Charleroi there are quarries of beautiful granite, as well as coal mines of considerable extent. From Brussels our travellers proceeded towards Charleroi after passing over the field of the battle of Wa-

terloo. How changed the scene! Luxuriant fields of corn wave over the graves of thousands of human beings, who fell immortalized in that ever memorable field. Here and there a small stone is seen erected by some friendly hand to indicate the spot where a beloved companion found an honourable grave; but the luxuriant soil has resumed its wonted splendid robe, and many of the spots where particular movements took place, can scarcely be defined. From Charleroi they advanced to Charlemont, which is romantically seated on a mountain near the Meuse, from whence they proceeded southward, and entering the beautiful country of Champagne, they stopped at Mézieres.

Mézieres, a town in the department of Ardennes, is seated on an island formed by the Meuse, over which it has two bridges with a citadel.

CHAPTER XV.

F R A N C E.

SECTION I.

GENERAL VIEW OF FRANCE.

PASSING on in a direct line to the south, they were charmed with the rich and luxuriant scenery, which the approach to Rheims presented. The surrounding hills were covered with vines, which hung in gay profusion on every side.

“The surface and climate of this extensive country, must needs be various,” observed Dr. Walker, “and we will therefore take a slight view of them,

“The north, west, and interior of France are much diversified, but the plain predominates, and is interspersed with rivers, canals, and the extensive forests of Orleans, and Ardennes: the rest is intersected or bounded by the highest mountains in Europe; the Pyrennees, Alps, Cevennes, Jura, and the Vosges. The air is salubrious; in the north the winters are very cold; the south is so mild that

many English invalids resort thither. The most elevated part of France is a curved line, extending from the north-west of Roussillon, west of Languedoc, south of Lyonois, west of Burgundy, north of Orleannois, and along the south of Normandy.

“ The north-eastern part from Flanders to Orleans, is a rich loam. Further to the west the land is poor and stony: Brittany is generally gravel, or gravelly sand, with low ridges of granite. Chalk runs through the centre of the kingdom, from Germany by Champagne to Saintonge; from this line southward to the mountainous tract is a large extent of gravel, the mountainous region of the south is in general fertile, though the large province formerly called Gascony presents many *landes*, or level heaths.

“ The surface abounds with corn, grapes, fruits, olives, tobacco, hemp, flax, manna and saffron. It is also rich in mineral productions.

“ The vegetable world here likewise displays its treasures in great abundance. The oak, and most other forest trees, the orange, the myrtle, the caper bush, the apple, the vine, the olive, and many mulberry trees, in short, fruits and flowers of almost every kind, at least of those that are found in Europe, regale the senses, and gratify the palate of the people of *La belle France*.

“ The trade of France is very great, she exports large quantities of wine, brandy, corn, silks linen, woollen, gloves, lace, cambric, and porcelain; and her imports are, raw silk, wool, hemp, hides, tallow, and East and West Indian produce. Surrounded on the north west, west and south, by the Atlantic and the Mediterranean, her ports are numerous and excellent. On the Mediterranean, are Marseilles and Toulon. On the Bay of Biscay, Bayonne, in the lower Pyrenees; Bourdeaux; Rochelle, in the lower Charente; Nantes; Vannes; and L’Orient, in Morbihan; Brest. On the English Channel, Morlaix, in Finisterre; St. Brieux; and St. Malo, in the Ille and Vilaine; Cherbourg, in the Channel; Caen, Havre de Grace, and Dieppe, in the lower Seine; Boulogne and Calais, in the Straits of Calais.

“ Her inland navigation is also considerable, by means of her fine rivers and her excellent canals. Of her rivers the principal are the Rhone, which meeting the Soane at Lyons falls into the Mediterranean in the gulf of Lyons.

“ The source of the Seine is near St. Seine, in the de-

partment of Côte d'Or, and passing by Troyes, Melun, Paris, and Rouen, it falls into the English Channel at Havre de Grace; its comparative course is about 250 miles.

“ The Loire, rising in the mountains of ancient Languedoc, passes by Le Puy, Fœurs, Nevers, Orleans, Blois, Tours, and Nantes, and after a course of 500 miles, falls into the ocean at Painbœuf.

“ The Garonne, rises in the Pyrenees, runs by Toulouse, Agen, Bourdeaux, and below that place falls into the sea. After being joined by the Dordogne, it assumes the name of Gironde. Its course is 250 miles.

“ In addition to these natural means of communication, the industry of France can boast of the canal of Briare, otherwise styled the canal of Burgundy, which unites the Loire and the Seine. From Briare, upon the Loire, it passes by Montargis, and falls into the Seine near Fontainebleau. A canal from Orleans joins the last-mentioned canal at Montargis. The canal of Picardy extends from the Somme to the Oise, beginning at St. Quentin. But the chief canal of France is the celebrated one of Languedoc, which forms a junction between the Mediterranean and the Bay of Biscay. This noble canal begins at Cette, in the Bay of Languedoc, and joins the Garonne below Toulouse. The breadth, including the towing paths, is 144 feet, the depth six feet, and the length 180 miles.

EDWARD.—“ What is the population of France, Sir ? ”

DR. WALKER.—“ About twenty-five millions. And now, Edward, let us stroll into some of the neighbouring vineyards. No French wine has so much celebrity as that of Champagne,” continued the Doctor, “ it is of two kinds; one of which, called still or quiet Champagne, has gone through the whole process of fermentation; the other, which has the name of sparkling Champagne, has been bottled before the fermentation was complete; this consequently proceeds slowly in the bottle, and causes the wine, on the drawing of the cork, to sparkle in the glass. Frontignac and Muscadel are white wines, the delicious productions of Languedoc.

Burgundy is a red wine of very delicate flavour, which has its name from the province where it is made. The wines of the neighbourhood of Orleans, however, after having been matured by age, are much like Burgundy. Claret is the only French red wine for which there is any great de-

mand in England. It is thin and highly flavoured, and is chiefly supplied from the neighbourhood of Bourdeaux. Some of the red wines of Champagne are highly prized for their excellence and delicacy, though they occasionally have a pungent and sourish taste."

When Buonaparte was on his way to Moscow he passed through Rheims, and here, as in all other towns through which he travelled, the inhabitants were obliged to entertain his troops, and in many instances, they were compelled to quit their houses entirely, and find shelter where they could.

"Rheims, you know, Edward," said Dr. Walker, "has been for many ages the place where the ceremony of the coronation of the Kings of France is performed, in the church of St. Remy. Under the altar of this church the body of St. Remigius is deposited, and here too la Sainté Ampoull was kept, said to have been brought from heaven by a dove, at the coronation of Clovis.

"In the neighbourhood of Rheims there are the remains of a Roman amphitheatre, a castle, and a triumphal arch, besides three gates of the city which still bear the names of pagan deities; viz. the Sun, Mars, and Ceres."

On their road to Chalons sur Marne, some part of the traces of our travellers harness gave way; a farmer who saw their distress, hastened to assist them, and with the urbanity which forms part of the characteristic of the French nation, invited them to rest in his house until their equipage was repaired. The offer was too inviting to be refused, and following their host, they reached his house, beautifully seated at the foot of a declivity, covered with vines. The season was peculiarly dry, but to the surprize of Dr. Walker, the vines appeared in great beauty, the reason was explained as they walked in the vineyards, for the farmer occasionally warned them of several trenches, which ran in serpentine directions throughout, not only the vineyard, but the whole of his grounds. Upon arriving at the top of the eminence the farmer shewed them a spring from which he had dug a canal along the ridge of the hill, and from which he had also dug the trenches that so luxuriantly and so easily watered his extensive farm. This they found was the usual way in which the farmers of this country water their grounds in dry weather; by means of little flood gates, these small canals can be stopped at pleasure, when the weather is rainy.

Having viewed the whole of the *metairie* which was upon a very extensive scale, they returned to the house, where they were regaled with fruits and cream.

SECTION II.

TRAVELLING IN FRANCE.

A LITTLE pig, which was the only one that a sow had not overlaid of a small litter, was shewn to Edward, by one of the farmer's sons as peculiarly beautiful. It was quite a pet, and so familiar that it followed every inmate of the farm like a dog.

"Pigs have the reputation of being very dirty," observed Dr. Walker, "that one is an exception, but I believe they are in some degree scandalized, for if they are shut up in a dirty place, they shew great uneasiness, and their addiction to rolling in the mud, which is by no means so peculiar to them, is rather a proof of their cleanliness, for it only betrays their eagerness to remove the itchy sensations produced by insects. The same uneasy feelings appear to be induced before rain, when, like poultry, these animals rub themselves in the dust.

"Neither are they so stupid as they are represented, and I hold myself bound in duty," continued the Doctor smiling, "to exonerate the character of an animal from the imputation of these disagreeable qualities, to which I am indebted for the luxuries of pork, bacon, and ham; and first of all let me speak of their courage. They evince the most determined courage, as well as the most marked sympathy with those of their own species; for the moment that one of them utters a signal of distress, all within hearing will run to its assistance. Of the numerous instances which have been quoted in proof of this assertion, the ensuing is not the least remarkable. The *Sieur Brue* having in vain, had recourse to every experiment for softening the ferocious disposition of a tyger, which he had reared at Fort Saint Louis, on the western coast of Africa, was curious to know how a hog would defend himself against so large and powerful a beast. He, consequently, caused one to be detached from

a herd, and the rest to be conveyed to some distance. As soon as the tyger was loosened, the hog retired into an angle in the wall of the fort, where, for a very considerable time, it kept the tyger at bay; at length, when closely pressed, it uttered a furious scream, and, in an instant, the whole drove advanced to its relief, and so resolutely assailed the tyger, that, in order to save himself, he was compelled to spring out of their reach, into the ditch of the fort. A herd of swine have been known to gather round a dog which teased them, and to kill him on the spot; and if a male and female of this species be put into a sty when young, the female will decline from the moment that her companion is removed, and will probably die of a broken heart. Neither can their stupidity be longer admitted, since the exhibition of the learned Toby in England is an irrefragable poof that they belong rather to the literary world than the world of ignorance."

"This little animal," said the farmer, "is no fool neither. *N'et tu pas une comme un renard,*" continued he as he caressed the petted pig, which grunted applause.

Their driver having announced that all was put to rights, they took leave of the friendly farmer and his family, and resumed their journey. Late in the evening they arrived at Chalons, celebrated for its manufactures of shalloons and coarse woollen cloaths; and the next day they passed through a beautiful country, on the road to Epernay. Here they staid one day to ramble in the adjacent and extensive vineyards, and to inspect the woollen manufactory, and the large potteries which are of considerable celebrity.

The day being hot, Edward expressed a wish to be in the grotto in Hungary, of which we have spoken. "You need not go so far," replied the Doctor, "for to the east of Vesoul, which is in the department of La Haute Soane, there is a cave, which will produce in one hot day more ice than can be carried away in eight. It measures thirty feet in length, by sixty in width; and the large pendant masses of ice which hang from the roof, present a very pleasing effect. A grotto, near Douce, in the same neighbourhood, is perhaps more beautiful than that at Vesoul; from the regularity of the columns which sustain the roof, and which appear to be carved with the figures of men and women, children and animals. There is a cavern also near Besançon, in a little wood, the entrance to which is formed by two rocks, that is eighty feet high, and

sixty feet wide. The ground of this grotto is perfectly smooth, and is covered with ice, about eighteen inches thick, which is formed by the dropping of the water, through the imperceptible fissures of the rock, although the ground on the outside is a dry and stony soil, covered with trees, and on a level with the rest of the wood. The cold is so intense, that it is impossible to remain long within this cavern."

From Epernai they continued their journey without interruption, until they entered Paris, the capital of the French empire. The day after their arrival, they proceeded to take a survey of this great city, and the Jardins des Plantes, was among the first of its curiosities they visited. The pleasure they received from visiting the museum, the theatre of anatomy, the gardens allotted to botanical and agricultural studies, and the menagerie, amply repaid the toil of a four hours examination.

A young gentleman, with whom Dr. Walker had become acquainted at Rheims, met them at their entrance, and presented them with tickets of admission into the museum, &c. It was necessary to have these, as this superb place is not always open to the public, else the young men who attend the lectures which are given in the museum, and the theatre of anatomy, would not be able to reap the fruit of the instructions they receive.

These lectures are conducted on the most liberal principles. They are open to all who choose to attend them; to Frenchmen, to Americans, to Englishmen, to foreigners of all nations, and to both sexes! without a single sol being demanded for instruction. This was the testimony of the young gentleman who provided them with their tickets of admission, and who had attended from five to seven different lectures daily, during these fifteen months, without paying a franc to any professor for his instruction, and he was a foreigner, but spoke the French language fluently.

Thus may young men study law, medicine, history, geometry, the *belles lettres*, in short, any or every part of necessary or polite literature, without putting their relations to any expences, except for the first necessaries of life, and one or two suits of clothes in the year, just as their finances may allow. Thus may young men, of any opinion or sect, of any country or clime, receive all the advantages they can derive from the abilities of the most learned instructors, without dressing like speculative Charlatans, to excite the pleasantry

of the nation by whose liberality they enjoy the advantages, without the expense of the English universities. Who is there that does not admire and extol this munificence? If such there be, they must be lost to all those feelings we entertain against the men, who, under the sanction of their power, compelled the illustrious Galileo to expiate

“ — par dix ans de prisons
L'inexcusable tort d'avoir trop tôt raison.”

And every one must agree in thinking that, in this point of view, France is indeed a great nation.

The French seem to have peculiarly studied nature; and the assiduity they have employed in collecting her productions, is only equalled by the skill they have displayed in arranging the finest specimens she could present to a people, who sought to preserve her works.

Whatever she has produced in the four quarters of the globe; whatever the earth or the ocean can call its inhabitant, may be found in the finest state of preservation in this museum, or alive in the menageries, or growing in the gardens.

How well then is the theory of instruction combined with its practice? What treasures the inquisitive and the curious here enjoy without the labour of travelling and the expense of purchase? “Do we wonder then that the French are an intelligent and a polite people,” said Dr. Walker, as they traversed the several apartments, “and that strangers of all nations flock to their capital? When we know that upwards of fifty ladies, Parisians and foreigners, this last year attended regularly the different courses of lectures at the *Jardins des Plantes*; that females may be found sitting in the Louvre, and the saloons of sculpture, painting and modelling from the finest specimens of the painter and the sculptor’s art that France boasts of. Although this was not one of the days on which the public are admitted to the museum of the *Jardins du Roi*, or *Des Plantes*; for the reason already mentioned, yet there were several parties beside our travellers, who paraded the different rooms, on both floors of this long building, and gazed at the works or productions of nature. The Doctor and his pupil were much amused with some parties of their countrymen, who took a particular pride in looking with indifference on the splendid collections before them, while their haste to be gone, and the taciturnity they observed, proved how much interest they took in what they

were permitted to behold; and how much better pleased they would be to have discovered that Great Russel Street could have rivalled what their jealousy bade them pass without examination, and their contempt taught them to look on without the smile of satisfaction, which, one would think, all human beings must wear on their countenance, when they enter this grand repository of all that is deemed curious and valuable, useful and ornamental, whether as necessaries or luxuries, to the animal called man.

The botanical gardens, however, were not shut to the public, who ranged them in great numbers, and entered in many instances, superficially into the names and uses of the vegetables, plants, flowers, shrubs and trees before them. But then these beings were all French, criticising the arrangements of their countrymen, or heaping upon Nature the praises her choicest beauties drew from their delighted feelings. Yet among this group the order that was preserved was truly admirable. Nor was it here only our travellers had occasion to observe this trait in the character of the lower orders of the Parisians. In the *Jardins du Roi*, in the Luxembourg, at St. Cloud, at Versailles, in the Louvre, the same decency is preserved, the same studied politeness is attended to, the same inclination to look at every thing, but to touch or meddle with nothing, was manifest. In the silence of admiration they will pass along; or if they stop to criticise, some morsel of wit doubles the pleasure they have already received.

A chimney sweeper, a waterman, the porter of an hôtel is admitted without scruple into the Louvre, or the *Jardins des Plantes*; and it is impossible for any nation to offer a picture of good breeding above what these poor men and their wives and children will preserve, in perambulating with their superiors, the halls and floors which seem waxed and brushed for the feet of princes alone.

It is not in those places a stranger will meet with an insult; it is not in any of them he will behold the petulance of ignorance, or the rudeness of dissatisfied poverty. The poorest Frenchman walks by the side of his superior with the satisfaction of the man who entertains a guest. The lowest artisan in Paris behaves in these places with all the national character of a philosopher; and it is very sure that he would think himself degraded below his nature, if any foreigners,

in his presence imagined him capable of offering them an indignity.

The Parisian whose dress bespeaks his poverty and his honest occupation, mingles in the crowd in the Louvre and the *Jardins du Roi*; but lest his clothes should soil the robes of a lady, or the surtout of an Englishman, he carefully picks his way, and shuns with a degree of gallantry to give his neighbour pain, by the misfortune of coming in contact with his homely garb; or being prevented examining something that had engaged the stranger's curiosity, by passing between his eyes the object, to distract the view he had been taking of it.

It is nevertheless true, the Parisians will amuse themselves with the monkeys, the wolves, the lions, the bears in the menagerie; and they will feed old bruin, better known by the name of Martin, and compel him to climb his tree, and perform his accustomed feats; but all this is an amusement peculiarly their own. Martin is in a deep large pit, and the walls at its edges are usually crowded with the curious whom he invites thither by his knowledge of what different cries import, and for how much he must climb the tree in the middle of his pit. In short, Martin, is as sage as the *sapient pig*, and can amuse the Parisians, as much as his hoggish friend, Toby, can the spectators who crowd to Spring Gardens.

Frenchmen, in fact, one and all, look upon the shrubberies in the *Jardins des Plantes*, the Luxembourg, the Tuilleries at St Cloud and Versailles, as so many things, whether trees, plants or flowers, or statues, shewn to the public, that they are interested in preserving, and they visit them with the satisfaction and the veneration a Musselman would feel, who had travelled from Damascus on foot to Medina to worship at the shrine of his prophet.

But whence arises this trait of character in men who are otherwise, to judge of them from their external appearance, the very lowest and the poorest of society? for the *bourgeois* are excluded in the consideration of this question. The munificence displayed in putting these fine sights within the reach of all, is most probably the true cause.

SECTION III.

JOURNEY TO ST. DENIS.

DR. WALKER and his pupil returned home highly delighted with their day's excursion; and early on the following morning they renewed their peregrinations, and set off for St. Denis. Upon passing over the place Louis Quinze, many melancholy recollections came into the mind of the Doctor. It was here the unfortunate Louis XVth expiated a life of suffering by an ignominious death. It was in the place Louis Quinze that two thousand persons lost their lives at the celebration of a national fête upon the day of his coronation! But this was not the only day marked for festivity that was distinguished by unexpected death, for the courier, who was conveying the intelligence of his birth to Louis XV. was killed by a fall from his horse. It is fortunate for the traveller that no national column has been reared in the centre of this immense octagon, (the place Louis Quinze,) for from thence he enjoys the superb perspective that presents itself around the chateau of the Thuilleries, the magnificent alleys of trees in the Champs Elysees extending as far as the barrier de l'Etoile, the terraces of the royal gardens, the basins, the statues, the Garde Meuble, and the Palace of the Institute of Marine; and on the opposite side in the distant perspective, appears the Palace of the Corps Legislatif. From the centre of this place is also seen the triumphal monument of the Barrier de l'Etoile, and the Carousel, the new Madelline Church, begun in part, through the donation of Madame de Pompadour, but stopped in its construction since the revolution broke out; but which in time will become a new ornament to the capital, when the government shall be able to complete this great undertaking.

The entrance to the Champs Elysées, particularly arrests the traveller's attention, decorated with the superb horses from Marlé, which correspond perfectly to those others that surmount the entrance to the Thuilleries.

"Great mansion of the dead!" ejaculated Dr. Walker as they approached St. Denis, which so long recalled to Frenchmen's minds both their kings and their great men, but whom suddenly, in 1793, the furious men who then governed

France, decreed should be dragged from their tombs, not only here, but in all places of the republic. Will posterity believe that a commission was appointed to see accomplished this work of destruction—this glorious trait of liberty and equality of the more glorious revolution! On Saturday the 12th of October, of the same year 1793, these worthies having given orders to exhumate, in the Abbey of St. Denis, the ashes and bodies of kings, of queens, of princes, and of princesses, and of celebrated men, many of whom had been inhumated nearly 1500 years, to make leaden bullets of their coffins, to defend the goddess of liberty! Conformable to a decree of the National Convention, the workmen, curious to see the ashes of a great man, commenced their undertaking by opening the tomb of Turenne; and from this period, till the 18th of January 1794, this *unholy* work of unholy France, still went on, and all the remains of the kings, the queens, the princes and princesses of three dynasties, were *en suite* by order of the convention, thrown *pèle-mêle* into two large trenches dug opposite the northern portal of the church; and over these remains was laid a thick bed of quick lime to destroy them more rapidly and more surely!”

“Is it possible, Sir!” said Edward. “Oh, how barbarous?”

“Barbarous indeed,” replied his tutor, “and yet not more barbarous than true; but St. Denis still stands, and will, I trust, stand for ages; for it is not more renowned for its antiquity, its fine Gothic architecture, and the grand and touching recollections which it brings to one’s mind, than for its being one of those French monuments which ought to inspire the deepest historic interest from the various vicissitudes it has experienced. Consecrated, from time almost immemorial, to the reception of the illustrious dead, it has witnessed the rapid flight of ages which consigned to its sepulchral vaults, the supreme, the successive grandeur of human life. Faithful depository! What France had produced the most illustrious during twelve hundred years, thou didst preserve intact in thy precious *dépôt*; and the veneration of Frenchmen for all the corpses shut up in thy vast bosom but added to the veneration with which they were wont to be inspired for the name and the memory of thy patron!”

“But, ah! a time arrived when this ancient respect which the French bore to the persons of their monarchs, vanished away, when the royal sepulchres of St. Denis, which ought

to have been defended with the last drops of blood Frenchmen had to shed against the Vandalism of revolutionary factions, by respect for the ashes of the dead alone, were violated by sacrilegious hands; and the cathedral of the apostle of France, unworthy of such devastation, was stripped of its dépôt of the ashes of the dead, which had rendered it celebrated among all nations.

“ Considered under this last point of view, the Church of St. Denis will remain an unique monument upon earth. It will attest to ages yet to come to what excess of madness and delirium a people may be carried when they break through social institutions, when they throw off the yoke of salutary laws; of religion and of morality!

“ Built, as one may say, with the French monarchy, this church partook also of its ruins, and had well nigh disappeared with it; but it was its destiny to stand almost entire in the centre of the horrible revolution; it was its destiny to receive again, in its subterranean vaults, prepared for the French kings, the ashes of this royal race, who have again remounted on the throne of their fathers; and HE who directs the fate of people and of empires, arrested, of his own accord, the destroying arms of the Vandals of 1793.

“ Of its splendour before the Revolution, one can form no idea. No church of France possessed treasure so rich, and at the same time, so celebrated as that of St. Denis. Its sacristie; its cabinet of relics, was an object of admiration to all those who came to see it. Dulaure’s description of it, before this epoch, mentions objects, which credulity alone could render precious; and some that deserved to be respected, if in 1793, there had been any respect for what was either human or divine. Terrible epoch, that which incontestibly teaches the useful lesson, that the funeral pile of a nation is a revolution, such as we have seen it in this country, debasing the national character, and rendering France, for a time a reproach and a bye-word, among the nations of the universe.

“ Since that fatal epoch the grass has grown over the common grave of kings, and the astonished traveller no longer distinguishes the spot, where in mutual friendship the monarchs rest, who governed France for above twelve hundred years.”

Edward deeply impressed with the Doctor’s observations, remained silent, and after a short pause, his friend continued thus.

“ Yet not content with having thus profaned the last asylum of their kings, many members of the Convention wished that the church of St. Denis should be destroyed, *de fond en comble!* nor were they a little surprised when the great body of that assembly rejected this proposition; but they found out that it was covered with lead, and a decree passed in 1794, to strip off this lead *d'enfaire de balles destinées à la punition des ennemis de la republique!* and the great bell of St. Sulpice was melted down into two sols pieces to purchase muskets for the troops of the rebel chief, Monsieur Equality.”

“ After their decree respecting St. Denis,” said Edward, “ I am not at all surprised that the bell of St. Sulpice should be converted into money.”

DR. WALKER.—“ Deprived of its magnificent great glass windows in 1796, the cathedral of St. Denis, this superb monument of the piety of early religion, remained for a long time exposed to all the injuries of the weather, and to all the inclemencies of the seasons. And though in 1797, it was again proposed ‘ to erase this ancient fabric, and on its scite to make a public walk for the good people of *Francade,*’ (it was thus the town of St. Denis was named by the apostles of liberty,) the efforts of *M. Petit Rudel*, then inspecting architect of public monuments at Paris, preserved this edifice from total ruin.

“ During all the time of the directorial government, the church of St. Denis remained in a state the most deplorable to the eyes of the few who still preserved any respect for the institutions of their ancestors; but when under the consulate, order succeeded licentiousness, the friends of the arts united to demand that the necessary repairs which this church required should be made on it; and the government too wise to refuse to comply with any means of gaining additional popularity, acceded to their urgent wishes.

“ When Bonaparte became emperor, he accelerated these repairs, and in 1806, he promulgated, on the 20th of February, a decree, which informed ‘ all good Frenchmen,’ that the church of St. Denis was consecrated as a burial place for the *emperors!* A chapter of ten canons was charged with the service of the church. This chapter was selected from among the bishops who had seen sixty years glide over their aged heads, and who found themselves too infirm to perform their episcopal functions. They were to enjoy in

this retreat the honours and emoluments, the prerogatives and the good things attached to the episcopate. And the same decree announced that four chapels were erected in the church, of which three occupied the tombs of the kings of the first, second and third dynasties, while the fourth was destined as the sepulchre of the emperors; and tables of marble were to contain in those three chapels the names of the monarchs whose mausoleums had existed in the church of St. Denis. This decree was that of him who wished to establish a fourth dynasty; but it passed away with his dauntless, military, but perishable career, and the chapel, or tomb for his dynasty, no man can *now* see; it is closed in with a wall of stone; yet it is said that in this tomb Louis XVIII intends to be buried, when the corpse of his successor shall take its place in the recess at the foot of the stair as we descend into the vaults of kings' remains; for formerly, the coffin of one of them, and always the last that had died, and was brought into these regions of fallen royalty, remained on the stairs, as the French people say, or rather in a recess at their base, as if to invite his posterity to descend, and enjoy the peace and the quiet, the dangers and difficulties of a throne had denied them!"

SECTION IV.

ST. CLOUD.

FROM the inspection of the celebrated and national church Dr. Walker returned pensively home, where he found the Abbé de Foi waiting for him. "I had half an inclination," said the latter, "to follow you to St. Denis; but thought I might possibly miss you; I came to say I should be happy to attend you to St. Cloud to-morrow, if it is agreeable."

Dr. Walker assured him nothing could be more agreeable. "And if you are not engaged for the rest of this day," added the Doctor, "perhaps you will favour us with your company at dinner." The Abbé consented, and they passed the evening in amusing and rational conversation. Early the following morning, they set off for St. Cloud, in company with the Abbé.

Their route to this delightful place lay through the charming *Bois de Boulogne*. This wood is the Hyde Park of the Parisians; but what a train of ideas does the sight of it raise in the mind of those who join in the opinion of *St. Foix*. *St. Foix* supposes that Charles the Ninth, to whom nature had given the most comprehensive views, had formed the idea of consecrating the wood of Boulogne to a cemetery for all the great men of France?

The palace of *St. Cloud* is situated on an eminence, which commands an entire view of Paris from the west. At the base of this height is the village of Boulogne, on the right bank of the *Seine*, which rolls its waters close to the roots of the hill, and separates it from *St. Cloud*; and as rivers always give charms to landscape views, it may be easily imagined how much the woodland scenery of this district is improved by this agreeable variety in the bosom of its dark foliage.

The state apartments here, if not so finely decorated as those of the *Thuilleries*, are yet, nevertheless, very magnificent; and they are shewn to the public with the same degree of condescension as is the *chateau* in the capital; but *St. Cloud*, standing on a lofty eminence, commanding an extensive and rich prospect for many miles around Paris, embellished with all the taste of Louis the Fourteenth, and latterly by the artists whom Napoleon, and since his exile, by those whom the restored family have employed—*St. Cloud*, the favourite residence of the Empress Maria Louisa, creates to itself an interest in the traveller's breast, which gives rise to many curious reflections. The cieling of the chapel in *Whitehall* will give an idea of the painted cielings of the state apartments of *St. Cloud*; but no chambers can rival the *chambre à lit*, and the *boudoir* of the late empress, now the sleeping and dressing rooms of the Duchess of Angouleme. The chamber in which Napoleon was wont to throw himself into the arms of *Morpheus*, and which is now *l'on couche pour le roi*, is a plain bed-room, containing nothing that could indicate the rank of its owner.

The dining and billiard rooms are also plain. "The superiority of the artist's taste is here easily discovered," said *Dr. Walker*; "in giving grandeur to those apartments where royalty must shine before the ambassadors of foreign courts, and studiously avoiding the splendour of embellishment where the majesty of the monarch is laid aside, and where he sits down as the master of his own table, or amuses himself

with his family in those pastimes which neither the sage nor the prince need ever be ashamed to confess he finds pleasure in, when the fatigues of his labours are over, and he seeks in the games of youth, the recreation that soothes the infirmities of age.

SECTION V.

THE THUILLERIES.

THERE are few places in Paris that do not recal some striking scene of the Revolution. None perhaps excite feelings more painful than the Thuilleries; the recollection of the terrible 10th of August, and its fatal consequences, spread a shade of thought even over the youthful face of Edward; but few were the countenances of sympathetic sadness, all here, generally speaking, were running full tilt at the ring of pleasure. Here and there a moody Englishman, indeed, as his gayer neighbour often designates him, thoughtfully approached the stately walls, which, if walls could speak, would unfold many a sad and piteous tale. Arrived at the palace, they found there, among a group of strangers and Parisians, who trode the state apartments by permission. Some of these people had on Wellingtons and boots, others wore gaiters like game-keepers, but were all gentlefolks, boots or no boots; *paysanne* or *citoyenne*; *madame* or *mademoiselle*, all had alike gentled their condition, by the display of their holiday finery.

One admired one thing, another was charmed with something else; an English lady wondered there were no grates in the fire-places; a fourth asked his friend if the tongs were not like those one might find at a smith's forge? a fifth put innumerable questions as to the state apartments in Bonaparte's time, and enquired if this were the chair *he* sat in? If that were the bed *he* slept in? If in this glass the Emperor admired his sallow visage? In what place did Berthier and Fouche sit? Was Carnot ever in this room? Where was it Ney took leave of the king? and a thousand such like questions equally galling to the servant, whose patience was meted out to the stranger's ignorance and imper-

trient curiosity; while the natives' wonder rose as they beheld the *profound* politeness of people, who ventured, in the very council chamber of Louis the Eighteenth, to ask any questions about his predecessor; but this was true English curiosity.

Every thing pleased the Parisians, who *seemed* to be charmed with the *Chapelle Royale*, and particularly the theatre, over the pit of which is erected a temporary pathway for the convenience of *Monsieur, le Duc d'Artois*, whose apartments are in the north wing of the palace. It would be natural to suppose the conduct of the government in employing the *garde nationale*, in conjunction with the *garde royale*, and the Swiss guard, to do the duty of the palace, would gain to Louis the affections of thirty thousand Parisians; but the mercenary troops, the *garde des Suisses*, with their red coats, are said to be an eye-sore to the *garde royale*, who are Frenchmen; yet the appearance of these foreigners made our travellers almost fancy themselves at home again, or viewing the palace of the parental George the Third, from the foot of St. James's-street.

On their arrival at their lodgings, the porter of the hotel brought Dr. Walker a note which had arrived by the two-penny post, after they had gone abroad in the morning. This was an envelope, containing an order to see the palace; the governor's secretary being apprehensive their request had not been answered. There was a degree of attention and politeness in this which persons must travel to Paris to experience, if they would see the house of a king. The fact was this; Dr. Walker called on Tuesday about two o'clock in the day at the governor's apartments, which are on the north side of the palace. This great man was out. Dr. Walker left a note addressed to him, craving permission to see the apartments of the *Thuilleries*. Impatient to know the result, he called again on Wednesday morning, and among other applicants, received a ticket of admission. His name was not asked; and he took what was given him; thanked the servant, and walked away. How natural for the governor's secretary to suppose he had not got a ticket, and how politely attentive to forward him the following billet:

“ No. ———. *Chateau des Thuilleries. Le Gouverneur autorise les garçons de chateau de service à faire voir les appartemens au porteur du presens et à société, composée de — per-*

sonnes, &c. &c. *Ce billet ne sera admis que dans la quinzaine. Ou entrera par l'escalier du pavillon de Flore. Le present billet ne peut servir que quand le Roi est sorti les Mardi, Jeudi, Vendredi, et Samedi. Gouvernement des Thuilleries.*"

It is this kind of treatment that enchants travellers with Paris, though there are in it many things very opposite to the comforts enjoyed in England, and to which time only can fully reconcile an Englishman; yet Dr. Walker did not go to Paris to find a strict resemblance between two nations that have been for ages the enemies of each other. But before we drop the subject of the letter, we shall give another instance of the French character, as respects the civilities a stranger, who behaves *politely*, may always expect to receive among this people.

Dr. Walker having expressed a desire to his friend the Abbé, to see the king at his devotions in the Chapel Royal. In the afternoon of the same day that this wish was uttered, the Abbé returned to him with the following billet :

" No. ——. *Chapelle Royale du palais des Thuilleries. Galerie à droite. Laissez passer trois personnes. Le Dche. Sept. 1817. Le Capitaine de Gardes de Service. M. L'Abbé de Foi.*"

In the same way, though the place is open weekly to the public, he applied and received this billet to view the French monuments in the monastery of the Augustines:

" *Conservation des monumens publics. Il est permis à Monsieur ———, et à sa société, de visiter le dépôt des petits-Augustins. Paris, le 6 Sept. 1817. Le Conservateur.*

* * * *

" May we not hope," said Dr. Walker, charmed with the attentions he so repeatedly received, " that time will consolidate the government of the Bourbons, obliterate the many painful recollections which the first sight of them could not fail to raise among the French people, and give a direction to that tone of feeling which a stranger would daily wish to see manifested; yet while the *nation* talks of its *sensibilities*, it seems as difficult to ascertain these, as it would be, were they once found out to measure their exact tension, and know how to manage them without trenching upon its *affections*, and exciting that innate irritability which is not extinct, though smothered for a time.

“ How many reasons, then, have English folks to be one day in love with the French character, and the next disgusted with it, even in the same persons, I had almost said, and nearly under the same circumstances? How many of our countrymen return home with unfavourable impressions of a people they cannot comprehend; or, carried away by their frivolity and gasconade, ape them while here, and exclaim highly against every thing that is plain, honest and unassuming at home, because it is not French. Is it woven in our nature to find fault somewhere? After leaving England in the foolish hope of finding France a paradise, and Frenchmen Milton's good angels, when we behold a fine country peopled with beings who have manners, customs, opinions and tastes peculiarly their own; Must we contemn them for this? Can we not come here without returning home dissatisfied with all we have heard, and almost with all we have seen? Yet I have met some who have railed as violently against all they left in England, as if Frenchmen who heard their exclamations of dislike, were such simpletons as to believe they had been beaten both by sea and by land, by a host of knaves and fools, whom these inflated travellers could not live among. But little do these silly people who pretend to despise the land they draw pensions and rents, and annuities from, consider that the French, to whom they thus address themselves, most potently believe us inferior to themselves in arts, in arms, and in politeness. In a word, they fawn on those English tourists and levellers, for an hour, to laugh at them for an age. These roving economists cannot be persuaded they might vegetate as cheaply at home as abroad. But why? Their pride is too great to stoop at home to the niggardly modes of marketing and living which they resort to, where necessity compels the poor around them to the same. But why cannot they live as cheap at home as in France? In England they would buy even their potatoes on credit to be paid at Christmas; in France, on the other hand, they must go with ready money for all they want to eat or to drink or to wear. This then is the great secret of economy among all whose *fortune* is not enough for their luxury in England.” The following day our travellers visited the Royal Library. “ Pray Edward,” said Dr. Walker, “ look at that good man and his wife, they appear to be engaged in earnest conversation.”

Our travellers drew near to them, and soon discovered that they were travelling to Switzerland for *cheapness*.

DR. WALKER.—“ Now do you not suppose, Edward, that a corner could be found in Wales where cheapness would enable that worthy English couple to exist with comfort, without crossing the Alps ?”

The attention of the travellers in question, whom we may designate idle and inquisitive travellers, was at length excited and engrossed by the curiosities contained in the cabinet of the royal library, and the following conversation took place between them, to the amusement of the Doctor and his pupil, but which was looked upon with ineffable contempt by the porter who stood at the door.

Husband.—“ This is a mummy from Egypt.”

Wife.—“ O ! a mummy—there are some of these things in Bullock’s museum, I believe. Let us look at something else, that’s so frightful.”

Husb.—“ This is the shield of Francis the First.”

Wife.—“ Ah ! indeed !”

Husb.—“ And that is his casque over it.”

Wife.—“ Casque ! casque ! why it looks very like one of the fire men’s helmets ; but it an’t brass like theirs ? How many pounds weight may it be ? I shouldn’t like to walk to the Gobelins with it on my head this hot day. I dare say Francis the First walked much farther with it often ?”

Husb.—“ Look here, my dear, these are antique gems.”

Wife.—“ Let me see. Why, yes—they look so upon my word ; but then there an’t a crucifix on one of them. But what are these things ?”

Husb.—“ I have been looking at them myself with my glass.—They are Roman coins, I think.”

Wife.—“ They are all gold !”

Husb.—“ I see A. U. G.—C. æ. Yes ! yes ! they are Roman.—*Augustus Cæsar*—That’s the word.”

Wife.—“ I suppose these are French ?”

Husb.—“ Not one of them, I think.—I’ve been spelling the inscription. Why they’re coins of Alexander the Great, as I’m a sinner.”

Wife.—“ You don’t say so ?”

Husb.—“ The pieces themselves say so.”

Wife.—“ How many do you think I counted in this case ?”

Husb.—“ I don’t know.”

Wife.—“ Eighty-one. How much, my dear, do you think this room is worth ?”

Husb.—" 'Tis impossible to say."

Wife.—" Pray what do you think this piece of carved metal is?—It looks like a pastry-cook's mould?"

" *La targe de Scîpe*, Madame," said the porter, observing her pointing to this antique.

Husb.—" Bless me!—The shield of Scipio; Aye! aye! I see by my *guide* it's here.—And there's the shield of Hannibal," added he, looking the porter in the face, who nodded assent, and pointed to the great African's targe.

Wife.—" Why, my dear, this Scipio's shield, as you call it, is full of *Highlanders*—"

Husb.—" They're *Romans*; but I confess if one wasn't told, he might take this for Ossian's shield."

Wife.—" O! then I suppose the *Highlanders* took the fashion of their petticoats from the *Romans*."

Husb.—" Whist, my dear, pray don't talk so loud."

Wife.—" There's only that old gentleman and his son know what we say."

Husb.—" That clerk, or secretary, that sits writing there, may know our tongue."

Wife.—" And if he does?"

Husb.—" Yes, Sir, I see it is (to the garçon.) My dear, this is Hannibal's targe. See, there's the Numidian lion on it."

" 'Twas found in the Garonne," said the garçon.

Here the good man looked at his watch, and finding that his hour of dinner drew near, he prepared to depart, perfectly satisfied with his own erudition and that of his wife. Dr. Walker and his pupil also departed; and on passing over the Pont Neuf, they observed a charlatan at the north end, who, to attract the passengers' attention, appeared with an odd cap on his head. The Parisians stopped and looked at him. "An indifferent inventor," said one of the crowd; "does not lower the nation: we have long been accustomed to this tone of singularity in this fellow. It is his hardihood alone that arrests the attention of some few young fools." "How so?" said another of the crowd. "Oh! granting this droll fellow has some wit," said the other, "you see whom he takes off." "Have you not so much discernment?" said a third. "He is taking off the citizens," said a fourth. "Not at all," said the man who spoke first. "He is making game of the English." All the others believed it was so; that is to say, they affected to do so, though they very well

knew the charlatan was laughing at the Parisians all the while. "Now that good man we have just seen at the Thuilleries, would scarcely deign to glance at that mountebank," said the Doctor, "and if he did, he would as soon think of scaling the monument without ascending the stairs, as be the dupe of his fooleries. The French of the inferior ranks of society, have all a superficial knowledge of most of the arts, I will not say sciences. In this lies their superiority. The Englishman of the same rank, on the contrary, knows but little beyond his immediate calling; but he has his superiority notwithstanding. 'Comparisons, are,' however, as my old copy used to say, '*odious*.' So I will say no more upon the subject. I am rather tired, and we will pass a quiet evening at home."

On the following day they amused themselves with making several little purchases, which they intended to dispatch to England, and writing letters to their friends, mentioning the principal places at which they should stop in their intended route towards the Pyrenees. In the evening they went to the opera, and here Edward could not help expressing much surprise at the gloomy appearance of the house, the ladies being all in an undress, most of them wearing large bonnets. The following evening they went to the principal theatre, where they saw Corneille's celebrated play of the Cid. The solemn monotonous recitation of a French tragedy, seems in direct contradiction to the character of the Parisians; and strange to say, the English, who are in general more uniformly given to thought and intense attention than their gayer neighbours, become extremely weary at the representation of a French tragedy. This is not because they do not understand either the genius or the idiom of the language, for many natives of Great Britain comprehend them thoroughly. How is this contradiction in the character of the two nations to be accounted for?" enquired the Doctor.

"I suppose," said Edward, who had learned to think, "that we may set it down to the inconsistency of human nature in every country."

"Why, I believe," replied his friend, "you are right, and if we admit the truth of your observation, what *forbearance* should it not excite! The trundling of a cleanly mop—"

"Not one word more, if you please, Sir," hastily interrupted Edward. "Not one word more; for every day of my life do I here wish a few of the Dutch predilections in

favour of that article the mop; and a few of their antipathies to dirt, could be infused into the minds of the Parisians."

"Of some of them," replied his friend, "beware, Edward, of stamping a whole people, or even the inhabitants of one town with an epithet so repulsive to our national feelings of cleanliness. Be candid and impartial if possible."

EDWARD.—"I shall say no more, Sir, upon *this subject*. I may express my surprise at seeing a woman taking the money at the theatre to night."

DR. WALKER.—"Oh, certainly, and you were not less surprised, I dare say that women were the check takers, and national guards, or *gens d'armes*, their protectors. I myself could but smile to see *Madame* lay aside her knitting to attend to a solitary customer, nor could I help pronouncing the French a philosophical people, and the English, who fight their way into Drury-lane Theatre, a nation of *gobe-mouches*."

EDWARD.—"A nation of freemen, if you please, Sir."

DR. WALKER.—"I must beg a truce, not a parley! for I have mounted you on your *high horse*, Edward, and I am sure you will be off in a twinkling far beyond my reach."

SECTION VI.

THE CATACOMBS.

AMONG the numerous objects of peculiar interest in Paris, the Catacombs stand conspicuous.

Thirty years ago, the word Catacombs was unknown to the greater part of the Parisians. Some learned men, and some devoted to the reading of legends, or church history, knew only that the Catacombs were vast caverns, situated under the city of Rome, and had been formed by the extraction of materials employed in the building of that celebrated city; but the mass of the Parisians were far from forming any idea of these souterrains; and though a great part of their city was built over cavities resembling those at Rome, it was another thing for them to know that such immense vaults actually existed, and could be visited.

Learned men, themselves, were not agreed on the use to

which the Roman Catacombs had been employed. All, however, were of opinion that they owed their origin to the quarrying of stones and other materials proper for building, from the bosom of the earth. But the accounts of travellers, and what had been read in ancient authors, who had spoken on this subject, left the question to be settled by other men, or an enlightened posterity.

All that was known was, that these ancient quarries or catacombs, contained an incredible quantity of human bones ; and Christian writers pretended that the faithful of the first ages of our religion, during the cruel persecutions to which they were so long exposed, had withdrawn into this Roman cavern to celebrate their holy mysteries. They pretended also to know that when any of their fraternity died, their brethren considered it a duty due to their religion to inter them in these consecrated places. It was also said, the remains of those, too, who had courageously perished, confessing the name of the founder of Christianity, were deposited in the Catacombs.

These traditions, which were handed down from age to age, among the catholics, conferred a singular religious honour upon the Catacombs, and the popes who had successively inundated the Christian world with their absurd relics of what never existed, took under their special protection the Catacombs, and recommended them to the faithful as an asylum, sanctified by the presence of a great number of saints and martyrs.

Ages thus rolled on without any one starting a doubt on authority so respectable, and the Catacombs of Rome were considered the most memorable monuments of Christianity. But when the church saw a number of her children stray from her bosom ; when the dissenters, or protestants as we call the first reformers, began to dispute the authority of the pope, they also discussed the authenticity of the title the bones collected in the Catacombs had so long been honoured with. When, in fine, learned men and artists visited these depositories of frail man with a spirit of observation, to which these extraordinary monuments had not hitherto been subjected, it was strongly suspected these enormous masses of bones did not belong to Christians alone.

The ancient Roman authors were consulted, and it was found that the custom of burning their dead was not universal ; but that it was also common among the conquerors of the

world to bury their dead as we moderns do. These discoveries engaged the attention of the learned to make more accurate researches in these dark abodes, where—

“Night, sable goddess! from her ebon throne,
In rayless majesty, now stretches forth,
Her leaden sceptre o'er a slumb'ring world.”

The result of this perseverance was the discovery of a crowd of magnificent tombs, belonging to Romans, whose names were well known in history; and in the construction of whose sepulchres, marble, porphyry, and like durable materials had been profusely employed. There were also discovered entire inscriptions, paintings in fresco very well preserved, of which the subjects appeared also the models of many paintings of the Italian masters; and mankind were thenceforward taught to look upon the Catacombs not only as an asylum consecrated by the presence of many Christians, but as they really were or had been, a general cemetery for the city of Rome, where the great and the poor came in turns to occupy like Morar, “low their pillow of dust,” after having been more or less agitated in that populous city.

Perhaps this short sketch of the Catacombs of Rome may not be uninteresting; it was necessary to say so much only to conduct our readers to the Catacombs of Paris, for there can be no doubt it was this knowledge of the Catacombs of Rome, which suggested to the Parisians the idea of making use of the immense quarries which were known to exist under the Faubourghs of St. Germain and St. Jacques for the same purpose.

Thus these caverns, of whose existence thousands in Paris were twenty-five or thirty years ago ignorant, have now become a monument under the auspices of religion and philanthropy, which every one desires to visit. Yet it is but a few years since the Catacombs have become thus popular, though now they are regarded as the most curious monument about the capital. For it was not till 1810 their interest was made fully known to the public, in a pamphlet published by M. Hericart de Therry (chief engineer of the corps of miners, and inspector-general of the subterranean works of the department of the Seine, that is to say, of the Catacombs) that the curiosity of the public was first stimulated to this novelty, which amused the Parisians as much as strangers.

The public journals also took up the subject of M. de

Therry's tract, and the Parisians were set a going. Nothing more was necessary. The Catacombs were no longer unknown to the Parisians; and having also acquired a degree of celebrity in other countries, the curious of all nations who have visited Paris since the great political events of 1814 and 1815, visit also the Catacombs, as a part of their education, in travelling from home to this singular country. This being the case, Dr. Walker and his pupil could not but follow so powerful an example, to which they were further stimulated by their wish to see every thing worth seeing that fell in their way. On their route thither, the Doctor made several remarks upon these ancient repositories of the dead, and as they approached near to the object that engrossed their attention, he began thus—

“The ancients used to burn their dead, and bury their ashes far from their cities, and in desert solitudes, where every thing conspired to create sadness and melancholy; for man in this world's misery

“Finds tongues in trees, books in the running brooks,
Sermons in stones, and good in every thing.”

“A solemn and mysterious silence necessarily reigned in those mournful asylums of the dead; and if some men of great families, of the nation, raised tombs to their friends or relations, it was always in the country, and far from the city they placed them; they were satisfied with fixing upon the last residence of persons who had been dear to them, in retired places, under the shadow of some tree, on the borders of some stream, whose soft murmurs they believed contributed to the repose of the dead, as Chateaubriand so beautifully describes an Indian grove of souls in *Attala*.

“Of all people of antiquity, the Romans stand the first for this humane custom of burying their dead far from the abode of the living. Though the Catacombs of Rome attest the asylum of many great men of that city, it was their custom also to place the tombs of their friends on the borders of great roads, which thus radiated from that eternal city, as from a common centre to all the different parts of the empire. The tombs thus reared around the city of Rome, extended on certain roads for more than a league. The Appennine Way is still celebrated for the magnificent tombs which skirt it; and travellers who pass along it for the first time, I am told, going to Rome, are astonished to behold themselves

traversing a city of the dead, in reaching the capital of the world.

“ The custom of placing these monuments, destined to hide the wreck of man, by the road side, did not fail to teach lessons of wisdom, though we have seen persons traversing burial-grounds that have been made common thoroughfares without any sensation or emotion, e’en though

“ The moping owl does to the moon complain,
Of such, as wand’ring near her secret bow’r,
Molest her ancient, solitary reign ;”

but the sight of a single tomb in a desert place, gives the spectator an impression more durable and more habitual than numbers of tomb-stones do in St. George’s burial-ground west.

“ We like to be surprised by sights that are not common and such is our essence, we cease to be affected by what we always see. For example, to those who are supposed to think less of death, and to have less of its fear than other people, as grave-diggers, undertakers, and men who are employed here to carry the dead on a covered hand-barrow the Parisians, gay even in matters the most serious, designate them under the characteristic name of *croque-morts*.

“ The Christian Clergy, guided by the letter of Scripture in order to render the idea of death always present to the imagination of the people they governed or instructed, were the first who fixed upon the interior of cities as the asylum of the dead. Vast cemeteries were in consequence chalked out around the churches and consecrated, and formed, as one may say, the parks and gardens of the church ; for whence else could the English term ‘ church-yard,’ originate ?

“ Every parish church had its own, and the parishioners successively dropped into this consecrated ground.

“ The equality of the dead was long observed in those sepulchral asylums. The rich and the powerful indiscriminately mingled with the poor and oppressed. No sign, no tomb-stone, served to make known or distinguish the one from the other, and the sepulchral rural cross, the grass of the field, that sublime image of the vanity of man, covered indifferently the ashes of all ; the lord of the manor and his vassal by his side, and the bishop became alike, and in due time food for the worms.

“ But when the severity of the first ages of Christianity had relaxed, when the humility of her first founders had

degenerated into pride with their successors, and when all the princes of Europe were embarked in the Crusades against the infidels, the luxuries which the ministers of the church found they could enjoy in the taste for honours and distinctions, spread among their people, and an innovation took place. The clergy to make their court to the great world, permitted the nobility and those who could pay them well, to distinguish themselves from the vulgar, by deserting the common but ancient mode of sepulture in the church-yard, and interring their dead separately in the temple of God. In the end, the same honours and distinctions were coveted by the clergy themselves, who adopted, in their turn, the practice of separate and particular interment, and established their tombs in the body of their respective churches.

“ We have only to turn to our own country, to perceive how common this practice has become. The pavement of many is composed almost entirely of tomb-stones, under which repose in peace the ashes of those who have obtained these particular concessions.

“ Those who seek to distinguish themselves thus from the people, little know that these tombs receive more outrages and insults than the open ground which covers the bones of the poor in the common cemetery. The crowds which weekly go to church, in a few years efface with their feet, and without respect for their *bettors*, the pompous epitaphs which pride had dictated.

“ How much sooner this honour of being thus interred in a religious temple, and under the pavement of their parish church, contributed to enrich the clergy, the great never reckoned, because they were determined to display their pride of birth in a manner becoming their ability to defray the expense of a proper line of demarcation between them and a few, who by the favours of fortune had begun to make encroachments on these land marks of title. This was a second, or rather a third innovation, better known by its description than any name I can now hit on. This *new* custom exists to our own times, under the fashion of burying the important dead in sepulchral vaults, which have been dug out under the choirs of the churches. Human vanity is a passion so contagious, that in a short time after this mode had been adopted, it became as general as the first.

“ Every parish church had in time a great number of these vaults, which, for a succession of years, belonged exclusively

to the nobility, the bishops, the abbies, and other dignitaries. The successive generations of great and powerful men in time, however, glutted these vaults, and in spite of the inscriptions which extolled virtues the defunct never possessed, the memory of a lord, or a bishop, frequently perished the day after his obsequies had been performed. Sad neglect this of an ungrateful race of heirs, relations and vassals.

“ The custom of thus shutting up the remains of the dead in the interior of the temples of the Deity, far from being agreeable to the majesty of the place, has still the inconvenience of giving a false and ridiculous style to the architecture employed in decorating these little mansions of the great, where every rustic may with Alpin say, ‘ With three steps I compass thy grave, O thou who wast so great before !’ For the architects obliged to proportion it to the smallness of the speck allotted to the undertaking, these monuments destined to honour in the eyes of posterity, the memory of great men, produced pitiful works unworthy of being ever exposed to the light of day, and in the vast field of nature. One might even ask an enlightened architect what effect tombs of twelve feet square, would produce were they, after the manner of the Romans, erected on the skirts of the highways in isolated places. Assuredly none, and the tombs one sees in the Museum of French Monuments, *Rue de petits Augustins*, if erected in such places as are becoming the sepulchral monuments of great men, would be as unworthy the names of the artists who designed them for churches and cloisters, as of the great men to whom they are consecrated.

“ At length some part of mankind was persuaded it was really dangerous to dwell too *near* cemeteries ; and Paris first set the example of removing these dépôts from the interior of her walls : but this useful revolution, so long desired by all men who pretended to take the health of their fellow citizens into their hands, began only in the end of the last century, and had the French confined themselves to a revolution in favour of health, cleanliness, and comfort, they would have done well. Paris, under the wise and paternal government of the unfortunate Louis XVI. set the example of removing from without its walls those huge dépôts of contagion which had for ages crowded the *Charnier* of the Innocents, and the bones which were thus dug up were carried to the Catacombs. The cemetery of the Innocents, the largest then in

Paris, was dangerous from its position, situated in the centre of the quarter St. Denis, one of the most populous quarters of the capital ; but by 1788 all the bones it contained were dug up ; and in the same manner many other cemeteries within the walls of the city were emptied ; in fine, in 1790, at the moment the revolution began like a torrent to sweep away all ancient usages and customs, it was decreed by the national assembly, that all churches and villages should abandon their ancient cemeteries, and choose new ones without their walls ; nor should the interior of churches be disfigured by burying the dead in them. This decree, whose design was salutary, but whose execution was most foolishly gone about in many cases, served as a pretext for all the devastations which were committed in 1793, and caused to disappear from the face of France a crowd of monuments, as precious under the direction of the arts, as from the great events they failed not to recal to the mind of man.

“ The grand *charnier* of the innocents was a vaulted gallery, which surrounded what was called the *Champ eaux*, or the *Petits Champs*, and this latter was the cemetery of no less than twenty parishes of Paris ! The last grave digger, Francois Poutrain, of the *Champ eaux*, interred in the space of thirty years alone, more than eighty-four thousand corpses, thus making nearly three thousand annually. And if we reckon from the year 1186, when *Philippe Auguste*, first caused the cemetery *Petits Champs*, to be walled in, to the end of the six centuries it received the dead of twenty parishes, at the rate of two thousand annually, we shall compute one million two hundred thousand corpses interred ! But this cemetery existed many centuries before the time of *Philippe Auguste*, and was for ages the only burial place in Paris.

“ Judge then, Edward, how unwholesome must have been a residence in the neighbourhood of this charnier, or bone-house ; this abyss of death ! The bones from this charnier, with all those of eighteen cemeteries besides, are now piled up in the grand central *dépôt* of the Catacombs.

“ So much for the general outline ; now for the detail. It was M. Lenoir who had indicated the ancient quarries beneath the *Fauxbourg* of St. Germain, as a place the most favourable for this central *dépôt* of the ashes of the dead ; and M. Crosne, his successor, appointed Charles Axel Guillamont to prepare these caverns for the reception of the bones

which might be dug out of the cemetery of the Innocents. Fortunately these quarries, thus designed to become the Catacombs of Paris, were already, so to speak, in a condition to serve for this new purpose; and they required no repairs, except those necessary to fit them for their ulterior destination. Scooped out in times of the monarchy the most remote, they still were practical for this new purpose.

“When the Fauxbourgs of St. Germain and St. Jacques extended themselves on the left bank of the Seine, towards the plain of *Mount Souris*, in 1774 and 1776, many accidents happened to houses in those quarters, from the roofs of the quarries giving way; and the police appointed commissioners to examine these souterrains, who, finding them in a deplorable condition, commenced operations to secure them from furthermore falling in, and in a few years the ruin which the inhabitants were one and all threatened with, was no longer dreaded. It was this labour which prepared these quarries to become the Catacombs.

“In order, however, to have a respectable entrance to this grand dépôt of the dead, a house was bought which had long gone by the name of the *Tomb of Isoire*, a famous robber, who 'tis said had been killed and buried in this place. A stair was accordingly cut in the rock, by which to descend into this dark region of ‘silence how dead! and darkness how profound!’ and in another place, a well or pit was hewn down, for the purpose of hurling whole cart loads of bones extracted from the cemeteries, deep into these quarries, where formerly ‘nor eye nor list'ning ear an object found.’

“On the 7th of April, 1786, the interior of the Catacombs was consecrated to the reception of the ashes of the dead, by the clergy of Paris in great pomp, and the following day this great work of reformation commenced, by transporting the bones from the *Champ eaux*; for the workmen had already been some months employed in digging them up. With the bones of the dead, were transported from this cemetery all the tombs, the crosses, the coffins of stone and of lead, the tablets of stone, of marble, and of lead and brass, with their inscriptions, &c. and they were arranged in order around the tomb of Isoire, in a spot which had been consecrated at the same time as the Catacombs; but all these objects which veneration for religion and for the manes of the dead had so long preserved with unshaken piety, shared the general devastation of 1793, and the tomb of

Isoire sold as national property is now, after having passed through ten several possessors in twenty years, the place where a *cabaretier* has established a *guinguette*, or tea-garden*. It is thus, that in these degenerate days, the cemetery of St. Sulpice has been transformed into a dancing hall. Under the fine inscription,

“Has ultra metas requiescunt beatam spem expectantes,

We read,

Bal de Zéphire !”

Our travellers arrived at the cabaretier's *guinguette*, which is within musket shot of what their guide into the Catacombs, called the tomb of Isoire. It was full half an hour before they could gain admittance where “creation sleeps,” and were surrounded by numbers of starving *garçons*, who had wax tapers to sell to the curious who had travelled thither, where—

“’Tis as the general pulse,
Of life stood still, and made a pause,
An awful pause.”

At the gate which leads into the field where is the stair to the Catacombs, they met a great crowd of English, who were putting themselves in order to go down. Some of them drove up to the *guinguette* in their own carriages; others came to the gate covered with the dust they had gathered walking all the way from Paris; and the distinction which was thus made on their arrival, was kept up where all were on a level; where death, fell tyrant, had unceremoniously abolished rank and title!

“See, Edward,” said the doctor, “by the bustle round the entrance, the door must be opened; let us follow that motley group.”

Having lighted their tapers, they descended eighty-six steps of a deep narrow winding stair. The scene which presented itself when they arrived at the bottom, was awful and imposing to a great degree. The bones of the limbs and the skulls of beings whose “years fled swifter than a weaver's shuttle,” are here piled in rows which the ingenuity of the living devised without any regard to disturbing the

* This is correct, though the traveller is invariably told the *guinguette* is not, but the small house which covers the stair to the Catacombs is, the *Tomb of Isoire*. At all events this is the language of the best informed Parisians.

ashes of the dead, or annoying those frail remnants of proud man, by placing the bones of his legs at right angles to each other, while his skull set in the upper segment of the figure, seems to say with the motto usually written below this device, *Memento Mori*.

No language can paint, no pen can describe the appalling sight which greets the eye in this vast mansion of forgetfulness. 'Tis here the slave and the tyrant, the oppressed and the oppressor, the lord and his vassal, the prince and his subject, the captive and his jailor, countrymen and strangers, men of all ages, of all degrees, conditions and fortunes while living, have their ashes collected and arranged, the labour of a pious and humane posterity; the wonder of transitory travellers, who come hither and gaze on what they must be, without reaping the profit of the lesson which a visit to the Catacombs teaches them!

The gay and the dissipated cannot behold these relics of their fellow-creatures with the smile of indifference, or the look of contempt. No! They preach a language no tongue ever uttered—the lecture of the tomb; and in silence and with horror arrest the heart that is bent on evil, to consider the shortness of all earthly pleasures. 'Tis here the sprightliness of the Parisian forsakes him, and he seeks for the relief his religion brings by reciting a prayer to the Virgin. 'Tis here the Englishman's countenance assumes its proper cast, and the paucity of his speech to the wife of his bosom and the child of his heart, bespeaks the train of meditation his soul has been thrown into. 'Tis here the fierceness of the warrior is lost, and his mien becomes placid, gentle, and mild. 'Tis here the saint's face beams with peculiar hope in the belief that death will be swallowed up in victory, though "deep is the sleep of the dead, narrow is their dwelling now, dark the place of their abode"—the Catacombs.

It was reserved for the revolution to hurl *pêle mêle* into the Catacombs, the victims of its sanguinary hordes, and many monuments placed in these regions of the dead, indicate different epochs of the civil commotions which France, and Paris in particular, was a prey to. The victims who perished opposing revolutionary mobs in the streets of Paris and on the stairs of the Thuilleries, with all those who were massacred in the prisons, and who all owe to M. Guillamont the honour of a place in the Catacombs, will henceforth and annually have a solemn and expiatory service performed to their

manes. Solemn indeed it must be, for the altars on which those expiatory services are annually performed, are constructed of the very bones for which these rites are solemnized; the wrecks of generations assisting in their own purgation; supporting the lamps that light the books, which other fragments of the same mass bear; the skulls of the dead staring the priests in their face, and, as it were, mutely listening to hear if the prayers be faithfully performed.

Deeply impressed with the solemnity and gloom that surrounded them, our travellers began to feel almost too much oppressed by melancholy, and they were glad once more to see the dazzling brilliancy of the meridian sun, and again to gaze upon this fair world; but when they took leave of the Catacombs, they did not choose entirely to disturb the solemnity of their feelings by any further excursion, and they accordingly retired to their hotel, where they passed the rest of the day in comments upon the Catacombs and other interesting subjects.

DR. WALKER.—“How much do objects in themselves, inoffensive and even inanimate, excite in one's mind trains of distressing sentiments! I never pass between the magnificent eastern façade of the palace of the Louvre and the church of St. Germain l'Auxerrois,” continued the Doctor; “but I feel an involuntary horror. True, the colonade of the Louvre, that master-piece of architecture, inspires me with the most agreeable thoughts; but the moment I hear the bell of the church of Saint Germain, which faces this front of the palace, begin to ring, I am carried back to the night of St. Barthélemi, in 1572; I seem thrown into the presence of Catherine de Médici, waiting the ringing of the tocsin of the clock of the palace. I seem to hear her give orders for the signal for the commencement of the massacre to be given (the bell of St. Germain l'Auxerrois to be rung!) In my mind's eye, as the immortal Shakspeare says, I behold the Duke of Guise approaching with his bloody myrmidons the door of the Admiral de Coligni, in the street Betizy, wiping with his handkerchief the blood off the face of this great man, and having kicked the corpse with his feet, saying to the horrid gang that had enlisted in this cause, ‘This is a good beginning; go on—we must finish the work we have begun!’ But this does not close the scene. The head of the Admiral being cut off, and carried to Catherine de Médicis, she caused it to be embalmed, and sent it to Rome to

the Pope, who ordained a solemn procession and thanksgivings, for the result of the glorious night and day of St. Barthélemi.

But this, horrible as it may appear, was not all; notorious as the queen has made herself, execrable as the Duke of Guise is looked upon by posterity, Charles IX is yet more detestable. It was from the windows of the constable of Bourbon's house, or as after his death it was called, *le garde meuble du roi*; that Charles*, during the massacre of St. Barthélemi, fired with a long arquebuse on the Hugonots who crossed the Seine to save themselves in the Faubourg St. Germain; the *Pont Neuf* was not then built†.

SECTION VII.

PRINCIPAL PLACES IN FRANCE.

THE following morning proving wet, our travellers remained quietly at home, and Dr. Walker proposed that with a map before them, they should point out the principal places in France.

“ There stands Paris, Edward, situated on both sides of the Seine, and surrounded by a fertile vicinity; the houses are chiefly of freestone; the public buildings much celebrated, and with good reason, as we can vouch. There are many universities in France, of which the following is a list. Paris, Orleans, Rheims, Poitiers, Bourdeaux, Angers, Douay, Nantz, Caen, Bourges, Montpellier, Cahors, Valence, Aix, Leon, Grenoble, Strasburg, Pont-a-Mouson N. W. of Nancy, Thoulouse, Pau, Perpignan, Orange 50 miles N. W. of Aix. Of these the Sorbonne of Paris is the most celebrated.

“ Prior to the Revolution, there were in France, 17 archbishoprics, 750 great convents of monks, and 200 nunneries. The monks and nuns in the whole kingdom were reckoned at 200,000, and the revenues of the clergy and religious houses amounted to upwards of six millions sterling.”

* *P. de St. Foix. Ess. Hist. sur Paris, V. I. p. 65. Ed. 1778.*

† It was begun in 1578, and finished in 1594.

EDWARD.—“What an immense sum! Are the religious houses restored, Sir?”

DR. WALKER.—“Partly so; but not in their former splendour. Now proceed.”

EDWARD.—“There is Dunkirk, a noted sea-port, but the entrance is dangerous. Here is a public library, and the churches contain numerous paintings by celebrated masters. It has many snuff-manufactories. This town was given to Cromwell by Lewis XIV. as a compensation for his assistance against Spain; it was sold to France by our Charles II. for 5,000,000 livres.

“Dieppe has a good harbour; packet boats pass between this place and Brighthelmstone. Trades in fish, ivory, toys and lace. It is 132 miles N.W. of Paris.

“Brest stands on a declivity, the streets are narrow and crooked, the quay is about a mile in length. Its harbour is the finest and most commodious in France, but the entrance is narrow and difficult.

“Nantz. The Loire is here about three miles over, and contains several islands, which are connected by bridges: large vessels can come no higher than Port Launai, which is 12 miles below Nantz. This town is wealthy, and may be considered as the Liverpool of France.”

DR. WALKER.—“Now for the towns in the North. I think you need not name any more of the sea-ports.”

EDWARD.—“Amiens has three bridges over as many branches of the Somme, and five gates. Manufactures linen and woollen cloth extensively. It is 75 miles N. of Paris.

“Caen is divided by the Orne, which, with the tide, brings up large vessels. This town is neat, has a fine castle, and a good trade.

“Rouen is opulent, but inelegant, though many of its public buildings are grand. It has a bridge of boats that rises and falls with the tide. Rouen is called the Manchester of France.”

DR. WALKER.—“The country about Rouen is extremely beautiful, and it contains upwards of eight thousand houses, and thirty-six parish churches; has every appearance of wealth, though the streets are narrow and crooked, and the houses built mostly of wood. But its great commerce accounts for its opulence; and when one sees at its quay ships of all nations, the disagreeable appearance it otherwise presents to our country folks, who come thither only to find

fault, is lost in the recollection that it is one of the most important places in France, being more than two leagues and a half in circumference, and containing nearly ninety-thousand inhabitants, who subsist principally by trade, merchandize and manufactures, and who must, therefore, with health and commerce, have all the comforts of this life cheap, and in abundance."

The day having cleared up, our travellers set forth on another pedestrian excursion through Paris. They were now greatly annoyed by the filth of the streets, particularly Edward, who expressed his chagrin at seeing his cloaths were profusely tintured not only with the colour, but with the *boue de Paris* itself; and the Doctor proposed returning home.

"In London one may avoid the carriages and their spattering" observed Edward; "but here really one must have all one's wits about one to escape being run over. Oh for a broad pavement, at this moment, like that in Oxford-street, or any street, or any court in London!—Take care, Sir, there is a diligence and a fiacre, and a variety of other vehicles close upon us; do let us step into this shop for one instant."

The Doctor laughed heartily; but followed the advice of his nimble friend. "I do begin to think we must return to England," said he, as Edward looked first at himself, and then at his tutor. "But, Edward, a brush will soon free you from your *boue de Paris*! You have been as badly splashed in London I am sure."

Edward laughed too; but he still regretted that amidst the many improvements and changes which had taken place in Paris, as he had been told, in the last forty years, that the French had never thought of making a *pavé* for foot passengers.

"But '*la totalite des Rues*,' would then vanish you know," replied the Doctor. "Come let us begone, there is a free passage now."

When they returned to their inn, it was dinner time, after which the map of France was again produced, and they resumed the description of its principal towns.

"Troyes," said the Doctor, "is chiefly built of wood, the stone in its neighbourhood being too tender for architecture. St. Stephen's, and the public library, are fine buildings, here is also an ancient castle, in which the counts of Champagne formerly resided. This town is surrounded with fine meadows and vines; it manufactures coarse cloth and fustians, also wax and tallow candles.

“ Avignon, on the Rhone, the seat of the Popes from 1308 to 1376, and dependent upon them till it was united to the French Republic. This city is well built; and is surrounded by a good stone wall with towers and bastions. It has seven monasteries, seven hospitals, seven colleges, seven palaces, seven markets, and seven gates; the churches are very stately, the surrounding avenues delightful.

“ Besançon is large, ancient, and well built, has a fine cathedral upon a high rock, and a triumphal arch, built by the emperor Aurelius; the statue of Jupiter, in the garden of Versailles, was taken from this town. It is situated on a peninsula, formed by the river Doubs. The neighbouring territories produce corn, wine, fruits, copper, lead and iron.

“ Nancy is large, and the new parts are very uniform and handsome. This part of France, the late Lorraine, abounds in all sorts of corn, wine, hemp, flax, game and fish; it has large forests, with mines of iron, silver, copper, and salt-pits. The south-west is occupied by the Vosges, a large range of mountains.

“ Strasbourg is ancient, large, handsome, populous and commercial, it is situated about a quarter of a league from the Rhine, on the river Ill, which runs through the town, and forms many canals. The principal structures are built of a red stone, which is dug from the quarries that lie along the Rhine. Here are six bridges, a clock in the cathedral, which shews the motions of the constellations, the revolutions of the sun and moon, the days of the week, &c. and a pyramidal tower, 549 feet high, ascended by 635 steps.

“ Metz, at the confluence of the Moselle and Seille, is ancient and large, its cathedral is esteemed one of the finest in Europe. Here are about 3000 Jews, who have a synagogue, and live in a part by themselves. Metz is 25 miles north-west of Nancy.

“ Lyons, at the confluence of the Rhone and Saone, from which it derives great advantages, is large, rich, handsome and ancient. Its trade is great through France, also to Italy, Switzerland and Spain. Manufactures silk very extensively. The environs are mountainous.

“ Travelling from Dieppe to Paris by Rouen, in the autumn, confers peculiar pleasure. The crops ripening into harvest, abundant as the mind can wish, and covering the entire face of the country, except where majestic woods in-

tervene, the peasantry industrious and artless; the flocks and herds numerous and in good condition; vehicles and conveyances of all descriptions plying on the roads, and bringing hither the imports of Havre de Grace and Dieppe. The Seine rolling its proud waters to the ocean, and bearing on its bosom craft of all sizes, laden with the merchandise and provisions of Normandy; the last portion of the road from Dieppe to Rouen, an entire vale of manufactories, whose number does not more engage one's attention than their exterior neatness, and the many new erections along the road for the accommodation and comfort of handicraftsmen. All these scenes so numerous and so varied, present successive objects of admiration and delight to those beings who, to whatever country they may belong, still feel they are *citizens of the world*.

“Such, Edward, are the principal facts I can recollect of a little tour I made last year to Paris for one fortnight only; at least those that concern Rouen, the capital of Lower Seine, and the face of the country through which I passed; and now as the weather has cleared a little, let us take a stroll, though we shall see no sights to day. I want to make a few small purchases.” They accordingly sallied forth, and entered the first boutique they met with, the contents of which were rather *motley*. Yet the French have method in all things; but then it is peculiarly their own; and in Normandy they are not to be hurried in doing what their forefathers, three hundred years ago, did in the same time, and in the same way.

“A postillion will drive down a hill as furiously as along a level road; and if his sturdy horses could pull the clumsy diligence up hill as fast as they drag it down, *le garçon* would never alter his pace while jack-boots remained; and the *conducteur* would sooner forget a prayer to his saint, than omit to count the wheels of his vehicle and his passengers at every *poste*.”

“Adieu, Paris,” said Edward, as the carriage drove on to Versailles; “Adieu thou magnificent city; thou art great and grand; but thou art not so comfortable as *London*!”

“Upon my word, Edward,” replied his tutor, “you improve. Your apostrophe is unique, and might be poetical; but for that John Bull word, comfortable, which drops rather harshly; but surely the fine country we are traversing gives you as much delight as if it were English.”

EDWARD.—“ Almost, Sir. It is indeed very beautiful ; and there is St. Cloud once more !”

“ And there,” said the Doctor, after a long pause of silence, “ and there is Versailles.”

Versailles is a neat town, in the department of the Seine and Oise, about twelve miles south-west of Paris. To Versailles there is a fine avenue from St. Cloud, and through it our travellers drove at a slow pace, so that they had an opportunity of examining the scenery of the woods, and the adjacent country, which if not romantic, is truly enchanting, and the day being very fine, they enjoyed their ride extremely.

“ In the reign of Louis XIII.,” observed Dr. Walker, Versailles was only a small village ; but this Prince built here a hunting seat in 1630. Indeed no range of country could be more favourable for the sports of the field ? and the monarch who selected it, proved how much he understood the nature, and relished the pleasures of the chase ; but Versailles was not always to be the resort of sportsmen ; and Louis the Fourteenth, whose taste was even more excellent than his ambition was unbounded, built that magnificent palace, which became the usual residence of the kings of France.”

After traversing many superb apartments, they were shewn the bed-room of the unfortunate queen of France, and the door was pointed out to them through which the infuriated mob rushed, in order to stab her in her bed.

“ Unfortunate queen !” said Doctor Walker, “ what a fate was there ! When thy proud and doting mother placed the map of Europe before thee, and bade thee chuse what nation should call thee *queen*, little did she think, when thou didst point to France, and she replied, ‘ the French alone are worthy of thee, my child,’ ah little did she think those very French would heap thee with indignities—treat thee with bitter scorn, and finally condemn thee to a cruel and ignominious death !”

EDWARD.—“ Did the queen point out France in the map of Europe, to Maria Theresa, as the country over which she wished to be queen ?”

DR. WALKER.—“ She did ; and the empress charmed with her choice, embraced her affectionately, and highly approved of it, as you may suppose by her answer.”

EDWARD.—“ Poor thing !”

The servant who was shewing them the palace, reminded them they were standing still, and Dr. Walker, whose mind was 'fraught with things' not yet forgotten, started from his reverie, and mechanically followed their conductor through suites of splendid rooms and halls of state.

Edward too appeared but little to enjoy the superb display, and after wandering about in the park and gardens for some time, they took up their abode in the village for that night, and the next day proceeded to Estampes, and so on to Orleans.

Orleans, in the form of an oval, is large, ancient, and rich; the streets are spacious. The commerce consists in wine, brandy, corn, sheep-skins and grocery: particularly raw sugar from Nantz and Rochelle. It supplies Paris and the country with 100,000 hundred-weight of refined sugar annually. In its environs, which are pleasant, is the noted forest of Orleans, covering about 100,000 acres, and planted with oak and other valuable trees; the sales of the timber and underwood produce 100,000 livres annually.

"What a beautiful river is the Loire?" said Edward, as they strolled along its verdant banks.

"It is indeed," replied his tutor, "and in its course it passes many great towns. Le Pay, Nevers, Orleans, Blois, Tours, Saumur and Nantz are enriched by its limpid waters. Its banks are very fertile, and susceptible of great improvement, they are much varied with small hills, which are covered with vines; fruit trees of all kinds are so numerous that even the hedges are filled with them. Near its confluence are many salt marshes, which are very productive."

They did not omit contemplating the celebrated statue of the Maid of Orleans, which is placed on the great bridge.

"Joan of Arc was an enthusiast of the most ardent kind," observed the Doctor, "and her enthusiasm had its origin in her patriotism; and though patriotism is not indeed enjoined 'as a Christian duty, because it is too much connected with the violent passions, and too often with destruction to be safely placed in a code of benevolence and peace. Yet human sympathy has always acknowledged it to be, when *pure and genuine*, a sublime feeling; an heroic emotion which great souls only can *truly feel*.'"*

Sir Robert Walpole, in his able defence against the oppo-

* Turner's England, Edward I.

sition who wished him to be dismissed from his majesty's councils, said, that '*patriots* sprung up like mushrooms; I could raise fifty of them,' continued he, 'within the four and twenty hours. I have raised many of them in a night!' Not such patriots as Joan of Arc though"—

"No, indeed, Sir," replied Edward. "The road to Blois lies along the north banks of the Loire, I think, Sir."

DR. WALKER.—"Yes; and thither we shall bend our steps to-morrow."

Blois is a very ancient and handsome town, and was formerly the residence of the kings of France. Our travellers were peculiarly struck with the arrangements of the streets upon the side of a hill, in rows one above the other, forming a beautiful amphitheatre. This town is adorned with many fountains, and a fine bridge. It has also a manufacture of serges and ticking, and carries on a brisk trade in wine and brandy.

From Blois they traversed a beautiful country, until they came to Tours. Tours is surrounded by a fertile plain, its bridge over the Loire, is one of the finest in Europe, consisting of 15 elliptical arches, each 75 feet in diameter. It has extensive manufactures in silk, and its red wine is in great estimation.

They now changed their course, and crossing the Loire, they proceeded southward, and passing through Chatehault they at length reached Poitiers, capital of the département of Vienne, and familiar to an English reader by the recollection of the victory gained on the spot by Edward the Black Prince, over John king of France. They staid at Poitiers two or three days, in order to inspect the Roman antiquities, which are to be found in this neighbourhood; among which an amphitheatre, and a triumphal arch which forms one of the gates of the city, are very conspicuous. It is a very picturesque town from the intermixture of gardens and fields throughout the city. Its manufactures are stockings, woollen caps, gloves and combs. On approaching Limoges, Dr. Walker was struck by the indigence of the poor people; the principal product of the surrounding country is rye. These parts, which are very cold, are covered with woods of chesnut trees, and contain mines of lead, copper, tin and iron.

In this part of France the cattle are of a beautiful cream colour; indeed one part that was anciently called the *Limosin*, is the most beautiful part of France. The country is

here extremely diversified. The Limosin now forms part of the departments of Haute Vienne and Corrèze.

Having traversed this woody region, the face of the country again changed, and it assumed a mountainous aspect to the west; Angoulême, which our travellers visited from the mere association of its name with the matrimonial title of the daughter of Louis XVI., is romantically seated on a mountain, surrounded by rocks, at the foot of which runs the Charente.

As they frequently deviated from the direct road, they were obliged to put up occasionally with different kinds of conveyances. Sometimes they rode horses, sometimes mules; sometimes they enjoyed the luxury to be found in a French diligence, where mirth and good humour often supply the place of more substantial comforts, at least according to the taste of an Englishman. One day being seated in a cabriolet, Edward said, pointing to the postillion, who had particularly long ears, "*Voilà le prince des anes.*"

"Fie, Edward," said the Doctor; but before he could add further reproof, the postillion who had heard him, turned briskly round, with a smile, and replied, "*Oui, Monsieur, et voilà mes sujets,*" pointing with his whip towards his mules; and glancing an arch look into the interior of the carriage at the same time.

"You are answered, Edward," said the Doctor, "and most aptly. It is dangerous, you know, to play with edged tools. You will be more cautious for the future."

The postillion's sally, together with the agility with which he sometimes mended his whip, sometimes his harness, his saddle, or drove with a stone into its place a loose pin which had started from his ancient vehicle, amused our travellers extremely; and when they arrived at Périgueux, they almost felt regret at parting with him.

Périgueux, capital of the department of Dordogne, is celebrated for its partridge pies, which are exported to all parts of Europe.

Our travellers did not fail to visit the ruins of the temple of Venus, and the Roman amphitheatre, which still remain in this vicinity, as proud vestiges of Roman grandeur. From Périgueux they crossed a beautiful country, and reached Bourdeaux, just as the sun appeared sinking into the bosom of the vast Atlantic.

Bourdeaux ranks amongst the first cities of France for magnitude, riches and beauty. Large vessels come up to

the quay, and it is said to export annually 100,000 tons of brandy and wine. The greater part of the latter being called by the English, claret, from its fine transparent colour. The theatre of Bourdeaux is the finest in France. Bourdeaux possesses peculiar interest, as being the place where Louis XVIII was first publicly proclaimed king in France, and where the Duchess d'Angouleme exhibited so much heroism when Buonaparte returned from Elba.

Toulouse, by its canal, holds a communication with the Mediterranean, and by the Garonne with the ocean. It is well situated for commerce, but the inhabitants have more taste for literature than trade.

“ Before the Revolution,” said the Doctor, “ there were three academies in Toulouse, the academie of sciences, that of inscriptions, that of belles lettres, established in 1746. That for painting, sculpture and architecture in 1750. The most ancient and most interesting was that called *Jeux Floraux*.

“ The prizes left by the interesting Clementi Isaure, *fille aussi spirituelle que genereuse*, as I heard one of her countrymen call her, were contended for by the Troubadours of ancient times, with all that ardour and zeal with which they generally pursued their romantic and poetic calling.

“ These Troubadours,” continued Doctor Walker, “ who appear to have been the lineal successors of the Celtic bards, had followed in crowds to the Holy Land, the princes and nobles by whom they were patronised. They were the minstrels of Provence, and the *romance*, or modern heroic fable, was originally written in the Provençal dialect, then the most polished and universal of any modern tongue. The imaginations of these roving minstrels, became inflamed by the splendour of oriental cities, by the sumptuous equipages and gorgeous banners displayed upon all occasions by the Christian as well as pagan knights, by their heroic bravery and daring exploits in actual war, and by the skill and address they displayed in the more peaceful, but occasionally not less fatal *tournament*.

SECTION VIII.

JOURNEY IN THE SOUTH OF FRANCE.

CONTINUING their journey on the south-side of the Garonne, they crossed that river at Langan, and at the small village of Reole they passed the night. The venerable ruins of the castle of Reole are seated on a mountain which overhangs the river. It was formerly of considerable consequence, and was the place of residence of Catherine de Médiçi in many of her excursions to the south of France; and within its extensive walls she had several interviews with Henry of Navarre, afterwards king of France. The beauty of the scenery from Langan to Toulouse is beyond all description. Cherry-trees, figs, acacias, poplars and elms adorn the valley; and in many places the hills, which are covered with vineyards, when they border upon the river, are enlivened and enriched by clusters of the glowing grape. In the middle of this luxuriant scenery stands Agen, sheltered on the north by a very high hill called *le Rocher de la belle vue*, on the summit of which is a convent; the chapel and some adjoining cells of which are scooped out of the rock. Agen is itself a poor and mean town, and contains but one good looking building, except a convent of Carmelite Nuns. The walls of this building are exquisitely painted in Chiaro Oscuro, and over the altar, which is very beautiful, is an interesting painting. The subject is that of a nun sinking under the transports of holy contemplation. In this town Margaret of Valois, wife of Henry IV. held her court.

From Agen our travellers continued their journey along the charming banks of the Garonne. The country on the south of the Garonne is hilly and mountainous, but is not less fertile than the northern shores of this fine river. They stopped one day at Auches, in order to view the fine cathedral, the painted windows of which are only to be rivalled by those of Gouda in Holland. The buildings of this town are in general modern and elegant, and its situation delightful. It stands on the summit and declivity of a very steep hill, which is sur-

rounded by rising grounds on every side, and in the valley beneath runs the small stream of Gers.

Dr. Walker, struck with the romantic beauty of the scenery, lingered for two or three weeks in this charming neighbourhood, and from thence made a little excursion to Borége, so celebrated for its medicinal baths, and to Bagnères, which almost rivals Borége in reputation. Bagnères is seated at the foot of the Pyrenees, at the end of a beautiful valley. The scenery is here much diversified. On one side rise the towering Pyrenees, their snowy summits lost in the clouds; while on the other, gentle hills and vales covered with the most luxuriant vegetation, and adorned with romantic cottages, present a mild and pleasing contrast to the grandeur and sublimity of the opposite mountains. From Bagnères they proceeded to Tarbes, where they only stopped to change horses, and they arrived the same evening at Pau, the ancient capital of the ancient kingdom of Navarre.

“Do, Sir,” said Edward, “let us visit the castle where Henri le Grand was born.”

“With all my heart;” replied his friend, “who would not visit a spot consecrated by the birth of so great a man?”

In one of the apartments they were shown a whole length portrait of his mother, Jane, queen of Navarre; her dress resembles very much that worn by queen Elizabeth; another apartment contained a portrait of Henry when a boy, and at length they reached the room where Henry was born. “Many of the kings of Navarre resided in this castle,” said their guide, “one of these was so extremely beautiful, that he was christened Francis *Phæbus*; at the age of sixteen this unfortunate youth taking up his flute, he was very fond of music, he no sooner put it to his mouth than he declared he was poisoned, and in two hours afterwards he expired.”

“Did no one ever ascertain who poisoned him?” enquired Edward.

“No;” replied his guide; “but he was succeeded by his sister Catherine de Foix.”

“We are on interesting ground,” observed the Doctor as they traversed this fertile country on their way to Orthes; “indeed one can scarcely enumerate the spots in this neighbourhood, which towards the conclusion of the late war, were so profusely stained with human blood!”

In the neighbourhood of this town they observed a great

difference in the costume of the peasantry, which strongly resembled that of the Spanish peasantry, and the language was so strongly tinged with the *basque*, that it was in many instances unintelligible to our travellers. The only object worthy of attention in this place was the castle, which is situated on a high hill, commanding an extensive view of the surrounding plain. The sun was fast sinking behind this hill, when our travellers strolled to its summit. It was a lovely evening, the clear transparent ether glowed with the rich refulgence of the setting sun; every breeze was hushed, and no rude sound disturbed the calm repose which reigned around. Our travellers contemplated in silence the bewitching softness of the scene, which the gradual approach of twilight rendered every moment more indistinct.

“Can you not, Edward,” said the Doctor, “recollect some lines applicable to the present scene?”

EDWARD.—“Now came still evening on, and twilight
Had in her sober livery all things clad:
Silence accompanied; for beast and bird,
Those to their grassy couch, these to their nests
Were slunk: all but the wakeful nightingale,
She all night long her amorous descant sung.
Silence was pleased; now glow'd the firmament
With living sapphires: Hesperus that led
The starry host; rode brightest, 'till the moon
Rising in cloudless majesty, at length
Apparent queen unveil'd her peerless light,
And o'er the dark her silver mantle threw.”

DR. WALKER.—“You could not have chosen a more beautiful or more apt quotation, Edward.”

They were at this moment accosted by an old grey-headed peasant; who expressed much surprise at seeing our travellers so quietly seated among the ruins.

“You had better not stay there my friends,” said he as he passed rapidly on, “that castle is haunted.”

Edward ran after him, “stop,” said he; “haunted! by what?”

“By the ghost of a young princess,” replied the peasant, “who was murdered there.”

Edward eagerly requested he would turn back and tell them the particulars; but no entreaties could prevail upon the peasant, and he returned to Dr. Walker, lamenting very

much that he could not learn the legendary tale attached to the castle of Orthes.

“ Sit down quietly,” exclaimed his friend, “ and I will tell you the origin of this ghost story.” Blanche, a young and beautiful princess, daughter to John king of Arragon and Navarre, became heiress to the Navarroy crown upon the death of her brother. But her father having delivered her into the hands of her younger sister Leonora, countess of St. Foix, the latter confined the unhappy Blanche in this castle, and at length caused her to be poisoned in the year 1464. I was just going to tell you this story, when you scampered away in such a hurry after the old peasant. Now this is foundation enough for two ghost stories. It is therefore not to be wondered at that there should be *one*.”

“ There seems a sort of fatality attending that name of St. Foix,” observed Edward. “ Leonora is the second of that name which is associated with murder !”

The dew beginning to rise, Dr. Walker proposed returning home; that is to say, to their inn; but the word home conveys so much, and is so familiar to an Englishman, that if a British sailor, in the middle of the great South Sea, is asked where he is going, he will answer, *home*, if he is on his way to England.

SECTION IX.

ENTRANCE INTO SPAIN.

OUR travellers having at length arrived at Bayonne, they prepared for crossing the Pyrenees. The carriages used in this part of the country are neither easy nor elegant, but they are indeed the only vehicle suited to the rough road they are destined to traverse, with the assistance of six mules. These animals are harnessed with cords only to the shafts; and their sagacity and docility are astonishing; upon the smallest word from the chief muleteer they stop, and are guided by the human voice alone, through the windings and turnings of the roads upon these mountains. If they relax the postillion darts from his seat upon the shafts, and when they prove very obstinate, which is seldom the case,

he applies his whip, but in general they are stimulated to exertion by his voice and example, for he will run briskly by their side for a considerable time, and then with no small agility resume his seat.

CHAPTER XVI

SPAIN.

SECTION I.

ST. SEBASTIAN.

HAVING arrived at St. Jean de Luz, they then crossed a small bridge over an arm of the sea, and proceeding southward, they reached the celebrated Bidassoa, immortalized in the last war by the celebrated passage of the British army; and in former times, by its forming the small isle of Pheasants, where Cardinal Mazarine and Don Louis de Haro met to settle the preliminaries of the peace of the Pyrenees, and the articles of a marriage between Louis XIV. and Maria Theresa, daughter of Philip IV. of Spain.

Dr. Walker and his pupil were charmed with the delightful country they traversed in Biscay. On all sides neat towns and villages presented themselves. The Biscayans enjoy many and valuable privileges, which are not participated by their fellow subjects. The northern parts of Spain have, in a great degree, retained their independence, and the Spanish monarchs have always been tenacious of encroaching upon the liberties of this part of their subjects. Every hill, every valley in Biscay is richly cultivated, and the inhabitants are the most cheerful and happy in the Peninsula.

Our travellers could not refrain from visiting St. Sebastian, situated at the foot of a mountain, surrounded by a strong double wall, and in all other respects so well fortified, that it was thought to be impregnable, till it was taken by the British at the time they drove the French out of Spain.

“ The particulars of that siege make one shudder,” said Edward, “ the French boast very much of their engineers, as being superior to those of any other country, but I think that siege must have convinced them we are equal to them, when our artillery fired heavy shot over the heads of their own countrymen, and within eighteen inches of their hats.”

DR. WALKER.—“ I will grant you Edward, that the British distinguished themselves particularly in Spain, even at sieges; but it is in the open field, that British soldiers have always most signalized themselves. And this may be accounted for thus: surrounded as England is by the stormy billows of the ocean, she fears but little the attack of foes at home. Her sons, therefore, have no opportunity of studying the art of fortification, unless they go abroad. Fortification is a science to be acquired by intense study only, and then that study would avail but little, unless it were reduced to practice. Gibbon says, ‘ the battles won by lessons of tactics may be numbered with the epic poems created from the rules of criticism.’ The same observation may be, in part, applied to the capture of fortified towns. British soldiers are seldom beat in a pitched battle, because personal courage, cool intrepidity, and subordination to their officers, are their characteristic features; and a body of men possessing these qualifications, may be deemed invincible, unless overpowered by a very superior force. To use the words of Gibbon again, ‘ the discipline of a soldier is formed by exercise rather than by study;’ and he goes on by saying, ‘ the talents of a commander are appropriated to those calm though rapid minds, which nature produces to decide the fate of nations and of armies; the former (the discipline of a soldier) is the habit of a life, the latter the glance of a moment.

“ ‘ But the honours of war are at all times evanescent and mutable, depending sometimes on the comparative talents of the opposing leaders, sometimes on numerical force; sometimes on the nature of the country, and often on the accidents of disease, want of supplies, failure of co-operation, or other casualties which mock both skill and valour*.’

“ Spain,” continued Dr. Walker, “ is a country that has become peculiarly interesting to the natives of Great Britain, of late years. The peninsular war familiarized it

* Turner's England.

to every one, and its history and geography have been more, perhaps, discussed within these last thirty years, than they have been since the reign of Philip II.

“ The early history of Spain is generally enveloped in mystery, and is replete with histories no less marvellous than that of Romulus and Remus. There is scarcely a great town in the peninsula that does not boast a *hero* as its founder. Many of the Trojans are said to have sailed to this far distant country after the fall of their ‘ sacred city;’ and Ulysses himself, it is affirmed, was driven on the coast of Portugal, during his long and wandering banishment from rocky Ithaca. Lisbon even claims him as its original founder. And now I will relate to you a marvellous story, which outdoes that of Romulus and his brother, for the fable of the wolf is considered, you know, as nothing more than that a shepherd’s wife, named *Lupa*, nursed these celebrated twins.

“ One of the native Kings of Spain, who reigned over the Curetes during the invasion of that country by the Trojans, (if it ever did take place) was called Gorgorius. He was a prince much esteemed for many private as well as public virtues. But virtue itself, among the heathen, bordered so closely upon vice, that we must not be surprised to find the former often degenerating into the latter. Gorgorius stained a life of virtue by his cruelty to his daughter and her illegitimate child Abides. He ordered his unfortunate grandson to be exposed to wild beasts, but they, forgetting their savage nature nourished him with their milk; the inhuman grandfather instead of relenting at this unusual spectacle, ordered him to be thrown into a path where a large number of cattle was to pass. This danger he also providentially escaped, but the miracles that had hitherto preserved him, no way softened the unrelenting heart of Gorgorius. He now commanded that he should be thrown to hungry dogs, and this scheme failing also, the young prince was committed as his grandfather supposed to a watery grave. ‘ But all things which were used to do him harm, refused their office.’ The waves gently wafted him to the shore, and a doe happening to lie near the place, the child crawled to it, and received from the gentle animal that nourishment which prolonged its eventful life. Having attained the age of manhood he still continued to live in the mountains, supporting a precarious existence by acts of rapine and violence. The inhabitants made several ineffectual efforts to take him, but

he appeared to have imbibed some of the characteristic swiftness of his foster-mother; for if he were observed for one instant, he was 'out of sight the next. Wearied at length by his repeated depredations, they laid an ambuscade for him, and having succeeded in this enterprize, they with difficulty secured him, and carried him to Gorgorius.

“ When introduced to the regal presence, he appeared no way intimidated, but preserved an air of conscious dignity. Gorgorius gazed on him at first with surprise, then with affection; but when by some peculiar marks in his body he recognized in the person of our lawless hero, his own grandson, whom he had so often exposed to a cruel death; he appeared for a short time overcome by various and agitated feelings; at length, however, recovering himself, he stretched out his arms and embraced him, in the most affectionate manner. Our poor persecuted wanderer was now acknowledged as the grandson of Gorgorius, and treated with all the respect due to the acknowledged heir of the kingdom. Gorgorius gave him the name of Abides, and at the death of the former he succeeded him, and reigned for many years, with particular discretion.

“ He erected tribunals, instituted many wise laws, appointed judges, and by his impartial administration of justice, he became the darling of his people. After a long and truly glorious reign he was succeeded by his posterity, of whom no notice is taken; their names not being even mentioned by the Spanish historians*. This prince, according to the accounts by the Spanish historians, was contemporary with King David.”

EDWARD.—“ Many thanks, Sir, I think the story of Abides exceeds in interest, though not in probability, that of the Roman founder.”

DR. WALKER.—“ You are right Edward.”

* Mariana's Spain.

SECTION II.

GENERAL VIEW OF SPAIN.

“Of the surface and climate of Spain,” said Dr. Walker, as they traversed the fertile hills and plains of Biscay, “nearly all the provinces are either intersected or bounded by lofty mountains, of which five large chains, chiefly primitive and secondary, traverse this country from west to east, four of which terminate in a longitudinal chain, that connects the provinces of Granada and Biscay.

“Montserrat, a mountain near Barcelona, in Catalonia, is famous for its height and hermitage, to which pilgrims resort, to implore the protection of the Virgin before her miraculous image. The whole extent of this mountain is supposed to be about twenty-four miles in circumference, consisting chiefly of round lime-stone, firmly conglutinated with a yellow calcareous earth and sand, with a further addition of round white quartz, streaked with red, as well as touch-stone, all cemented together, and forming one solid mass. In the course of time, however, torrents of rain have washed away the earth, formed by decomposition, and have split the mountain into clefts and precipices of the most grotesque and frightful figures; whilst other parts consist of immense rocks, bare and blanched, in form of cones, pillars, and jagged fragments, apparently scaled upon one another to the height of 3,000 feet above the level of the sea. On the summit of this lofty mountain, the prospect is extensive and splendid. The lower part of the mountain, having been decomposed sooner than the upper parts, and converted into soil, produces corn, vines, and olives; while the shelving rocks, facilitate a passage to the summit, and exhibit to the curious botanist, above two hundred sorts of trees, shrubs, and plants, that seem to shoot up spontaneously. The direction of this mountain is from east to west, rather visibly inclining to the west; twenty miles north-west of Barcelona.

“These mountains are crowned with snow a few weeks in the year. In its neighbourhood, to the north-west, at the village of Cardona, is a hill of rock-salt, three miles in circumference: this salt is manufactured into ornaments. The rivers are large, rapid, and numerous. The atmosphere is tempered by breezes from the high elevations and surround-

ing seas ; and though the south is often parched by excessive heat, yet the air of Spain is said to be the most salubrious in Europe, and during the greater part of the year, it is a matter of indifference with the peasants whether they sleep under a roof or in the open air."

DR. WALKER.—“The principal quadrupeds of Spain are horses and sheep, the latter of which are computed to produce no less a sum than 80,000,000 reals annually to the Spanish government, but are nevertheless the cause of much serious evil. As however England and France, cultivate the breed of these merinos, (the latter with greater success than the former) it is to be presumed Spain, in the course of time, will find it more to her interest to attend to the art of agriculture than she does at present. Within these hundred years wool has doubled its price, while corn, which is so troublesome and so precarious, has very little increased in value. Sheep are by far the most *profitable* possession a man can have in Spain ; and while this continues the case, few persons will be found so disinterested as to relinquish their own for the public good. The Spanish sheep are fed upon the mountains during the summer months, and when the cold weather sets in they are driven to the fertile plains of Estremadura and Andalusia. These flocks are under the direction of a particular society of persons, called the *Mesta*..

The *Mesta* is composed of the grandees, heads of rich monasteries, large proprietors of flocks, and opulent individuals, who unite together in preying upon the welfare of the country at large. What originally began from necessity, has been continued from the selfish policy of the wealthy part of the inhabitants of Spain. The pasturages that feed these sheep are let at the lowest possible rent, and the ordinances of the *Mesta* having fixed a breadth of forty toises as a road through which the sheep are to pass ; the proprietors of the land are consequently incapacitated from reaping the advantages of the otherwise luxuriant soil of Estremadura. In the month of October they begin their journey and travel in flocks of 1000 or 1200, under the guidance of two shepherds, proceeding gradually to the southward ; and in the month of May they retrace their steps to the northward. At that period, the great fête of sheep-shearing takes place ; this operation is performed in large buildings, called *esquiello*s, capable of containing whole flocks of forty, fifty, or even 60,000 sheep. One hundred and twenty five per-

sons are allotted to 1000 animals. Some part of the wool is immediately carried to the different sea-ports for exportation *unwashed*, while another part is sent to certain stations, where there are proper persons called *Apartadores*, who cleanse and purify it in the following manner. They know at the first glance what part of the sheep the different flocks belong to, each sheep producing wool of three distinct qualities; this separation being accomplished, it is beaten about to get rid of the dust, and is then conveyed into pits three or four feet deep, into which boiling water flows from an immense cauldron; here it is stirred about in every direction, and after it is tolerably cleansed, it is taken out, and placed upon hurdles, and those parts which are still clotted with dirt are taken away with the hand; a second washing completely cleanses it. The hurdles are then placed in a narrow aqueduct, through which runs a current of cold water. One man throws it in, while five others receive and trample upon it, till it is quite clean; it is then wrung dry, and placed upon a stone shelf to drain; after which it is exposed to the sun for three or four days in the surrounding meadows, until every particle of moisture is absorbed. When well dried, it is put into large sacks, on which are two marks, one indicating the quality, and the other the name of the flock which produced it.

The wool which is most employed in Spain (at Guadaluaxara in particular) in the fine manufactures, is that of the Escorial, Negretti, and the Chartreuse of Paular.

Wolves are the only beasts of prey with which Spain is annoyed; but she suffers much from the locust, a most destructive little animal which some times appears in such prodigious numbers as to darken the air.

Esparto grass is plentiful on the coast, it is made into ropes, carpets, mats, chair bottoms, &c. In the neighbourhood of Barcelona and Alicant are extensive plantations of *salsola fativa*, from the ashes of which are annually produced many thousands tons of *barilla*, an alkali much used in the manufacturing of soap.

“I have often been much surprised,” said Edward, “that Spain, possessing so many natural maritime advantages, has never become a great naval nation.”

DR. WALKER.—“No nation where the government is so despotic as it is in Spain, can in my opinion become a great naval power.”

“ The spirit of navigation seems intimately connected with that of liberty. Great Britain and Holland have ever distinguished themselves by their maritime exploits, and America bids fair to dispute with the old world the palm of victory on the ocean. Spain has several fine ports : Bilboa, St. Andoro, and Santillana, the birth-place of the renowned Gil Blas, and his no less renowned uncle Gil Perez. In Galicia, Ferrol, Vigo, and Corunna, where the wreck of Sir John Moore’s army embarked in the face of the French army.

“ Cadiz is large, opulent, and the chief emporium of Spanish American commerce. It is situated on an island, which forms a capacious bay with the continent. It is 55 miles south by west of Seville.

“ Malaga is noted for delicious grapes and figs.

“ Alicant is small, but rich in wine and fruits. It has an extensive trade. The English, Dutch, and Italians have resident consuls here.

“ Carthagea has the best harbour in the kingdom ; in its gulf vast quantities of mackarel are caught.

“ Tariffa, where the Moorish general of that name, first landed ; Algesiras, which belonged formerly to the traitor, Count Julian, who betrayed his country to the Moors.

“ Tarragona celebrated for its defence during the last war.

“ The streets of Barcelona are narrow, but the churches rather rich than beautiful. The inhabitants are very industrious, and have extensive commercial connexions with France, England, and Denmark. They manufacture silk, cotton, wool, and cutlery. On the north west is the celebrated Montserrat, the highest hill in Spain.

“ These are all capital sea-ports, and it seems astonishing that in enumerating so many, where there is a considerable degree of industry and trade, that Spain is still far from being either a great naval or commercial power.”

SECTION III.

CHARACTER AND MANNERS.

THE general character of the Spaniards is strongly tinged with indolence, except when it is excited by any extraordinary circumstance; then indeed its energies are not inferior to that of any other nation.

At a bull-fight the Spaniard exhibited the strongest feelings of delight; the pleasure he took in this barbarous sport bordered on enthusiasm. But his amusements and sports in general, are tame and supine to a great degree.

EDWARD.—“The bull-fights were abolished, I think, by Charles IV. were they not, Sir?”

DR. WALKER.—“Yes: I shall therefore give you a short account of them. In several parts of Spain there were formerly waste pasturages, called *Valdios*, set apart for the sole purpose of feeding these courageous animals. In the neighbourhood of Salamanca was one of these districts, which supplied the arenas of Valladolid and Madrid. Bull-fighting was quite a science, and one of the celebrated *Torreadors*, persons who killed the bulls in these fierce encounters, wrote a book upon the subject. The arena is a kind of circus, with seats round it, placed one above the other. The entertainment began by the parade of the lancers (horsemen) handsomely mounted and dressed in a full Spanish costume; and the *Chulos*, (those who fight on foot) round the arena; after some little time an alguazil, in a black robe and a large wig, made his appearance, and asking either the governor or corregidor, when the combat should begin, gave the appointed signal, and then made a hasty retreat. The door of the shed which contained the animal was then opened, and the noble bull appeared. Stunned by the noisy exclamations of the spectators, and instantly attacked by the Picadores with their long lances, he rushed boldly to the combat, and the unoffending horses were generally the first to feel the effects of his rage. If it so happened that the horse should fall, the danger of his rider was averted by the *Chulos*, who shaking various coloured stuffs before the bull, attracted his attention, and dexterously avoided the danger which it is now their turn to brave. After the Picadores had tormented the poor animal

sufficiently, they left him to those on foot, who were prepared as the bull approached them, to plunge into his neck by two and two, a kind of arrow, at the end of which were fastened various coloured papers. When this tragedy had been exhibited long enough for the amusement of the spectators, a cry was raised for the *matador* who *alone* approached the now exhausted but still undaunted animal. The *matador* held a kind of banner in his hand which he shook before him. While this single combat continued, the voices of the spectators gradually subsided to a suspensive and awful calm. The decisive blow being however given by the *Torreador* (or *matador*) shouts of applause burst from the lips of the spectators at the death of a noble and inoffensive animal. Three mules, ornamented with bells and streamers were then brought in, and being fastened to the horns of the prostrate bull, dragged him from the scene of blood, to make room for another devoted victim.

“In Portugal the principal actor is *he* who rushes between the horns of the bull, an act that requires considerable agility, great presence of mind, and an uncommon share of muscular strength. In this posture he is carried about the ring by the enraged animal, amidst the shouts of the audience, until the rest of the combatants rescue him, by overthrowing the bull, which becomes their property.

EDWARD.—“What a barbarous sport! indeed I can hardly call it sport.”

DR. WALKER.—“It is the remains, no doubt, of the old Roman shews of gladiators and wild beasts. I am sorry to say that our own country has two no less repugnant to the feelings of humanity—I mean bull-baiting and cock-fighting. Now there is a degree of heroism in the bull fights, although it is tinctured with the savage spirit of the times in which it originated, that absorbs the attention of the spectators, even of those who come only to condemn. The cavaliers require great dexterity, agility, and presence of mind in attacking their enemy; but in a bull bait the poor animal is confined and deprived of half its natural means of defence. The man who dares to unpin, as it is called, the bull, is the only person who can have the least claim to courage; for such is the savage nature of the bull-dog, that when he has caught the bull by the nose, force alone can make him quit his hold.

“The Spaniards have one athletic amusement, called *El juego de la borra*. In this sport there are some faint traces

of the ancient athletic games of the Romans also. I mean that of the *Discus*."

EDWARD.—"It is then something like throwing quoits."

DR. WALKER.—"With this difference; the Spanish game requires more strength than the latter, since it consists of throwing an iron bar of considerable *weight* to a certain distance. Another game more insipid than the former, is much in vogue among them. Several men sit down in a circle, and holding up one, two, three, in short, as many fingers as they please, call out rapidly the number thus held up.

"The Spaniards are fond of theatrical entertainments; and though they themselves are not very celebrated for musical composition, they are great admirers of the Italian; they have, however, one national air, which is forbidden to be played at certain times, I mean that of the *Fandango*, for I am told it is so bewitching in its effects upon the natives, that if they were to hear it, even when at their devotions, they would after a short time, jump up and begin to dance."

EDWARD.—"Pray, Sir, what are the Alcajdi, so often mentioned in *Gil Blas*, and the *Sancta Hermandad*?"

DR. WALKER.—"The Alcajdi de Ordinario, answers to our justice of the quorum; and the Alcajdi Pedario to our constables. The office of the latter is to take up delinquents, and to execute the orders of the Corregidor. These officers are sometimes elected by lot in the provinces, and are sometimes appointed by the *Camera* of the council of Castile. The *Alcades Mayores*; or *Corregidores*, are the superior officers. Besides these three classes, there is also another of the denomination of Corregidores, which are confined to Madrid and Seville. These officers cannot be lawyers, are simple overseers of the police, who superintend all affairs of the corporation, regulate bull feasts, &c. The *Sancta Hermandad* is nothing more than a fraternity, or provincial police, dispersed throughout Castile, whose object is to watch over the safety of the country, and to prosecute all disturbers of the public peace. It was first established in the reign of Ferdinand and Isabella. They have plenty of employment just now, since the *Guerillas* have become so formidable; but what could the *Sancta Hermandad* effect against a body of men, who seldom appear in a less number than two or three thousand men?"

Tolosa, where our travellers next stopped, is pleasantly seated in a valley, and is celebrated for its manufacture of

sword blades. Having crossed the beautiful plain in which it stands, they ascended with difficulty the ascent of Talinas, and at length reached Vittoria; a spot more celebrated for the decisive victory gained by the allies over Joseph Buonaparte, than for that gained many years before by a king of the Visigoths, who gave it the name of Victoria, or Vittoria. The surrounding country is extremely fruitful, and is richly diversified by vineyards and corn fields.

At Vittoria they were detained some time by the severity of the weather, the winter having now set in with unusual rigour; and Dr. Walker having taken a violent cold, he was obliged to give up all thoughts for the present of continuing his journey. He experienced many civilities and attentions from the inhabitants, to several of whom he had letters of introduction; the principal of these was the superior of a Franciscan convent, who visited them very regularly, and who, when Dr. Walker was in a state of convalescence, invited them to spend a day or two in his convent. The Doctor accepted his invitation with pleasure, and they accordingly took up their abode in the Franciscan convent. The monks had a good library and some fine paintings, among which was one of the founder of the order, which Edward mistook for a Christ.

“No,” said the superior of the monastery, “it is the portrait of our founder.”

Edward apologised for the mistake, and the subject dropped.

The Doctor informed Edward that these monks are generally supposed to have settled in England about the year 1224, and had their first house at Canterbury; from whence they removed to London. Christ's Hospital originally belonged to them, until it was converted by Henry VI. into a charitable institution for the education and support of a certain number of youths, who are instructed in every kind of useful knowledge, according to their several abilities. The weather having become a little warmer, Dr. Walker ventured to take a walk, accompanied by the good Abbé. The streets of Vittoria are shaded by fine trees, which in the summer present a most delightful and cool retreat from the rays of the sun. In their peregrinations through the city with their monastic friend, they had an opportunity of particularly witnessing the profound respect with which the clergy are treated in Spain. Wherever the Abbé appeared, the in-

habitants always gave him the wall; sometimes they kissed his hands, and sometimes the skirts of his garment.

“ But you must observe, Edward,” said the Doctor, in answer to an observation made by his pupil upon this subject, “ that this respect is not confined to men in the Abbé’s rank. There is a poor monk on the other side of the way, who is begging, to whom they pay the same devoted attention.”

Dr. Walker having quite recovered his indisposition, they recommenced their journey, and passing through the villages of Cuella and Armision, they arrived at Miranda; they now entered a rocky country, beyond which they traversed several extensive plains, tolerably cultivated; but upon arriving at Bibiesca, the scene changed; all here was barren, parched, and gloomy. In the immediate neighbourhood of Burgos, there are indeed a few agreeable promenades planted with trees; but the town itself is extremely uninviting; and except the cathedral contains no object worthy of arresting a traveller’s steps. The picture of the Virgin clothing the infant Jesus, in one of the chapels of the cathedral, is very fine. The merits of this painting are, however, rivalled, by a miraculous image, in the suburbs of the city, on the opposite side of the Arlançon, which Dr. Walker and his pupil went to see. They were introduced into a small chapel with great solemnity, where the crucifix is concealed behind three curtains, which are slowly drawn aside, one after the other. This obscure chapel was adorned with numerous silver candlesticks; and the common people of the town firmly believe that the beard still grows.

From Burgos they proceeded through a dreary country, till they arrived in the neighbourhood of Valencia, where the soil is remarkable for its fertility. From Duenas, which is seated on a hill, the country becomes again barren, and our travellers saw with delight the steeples of Valladolid rising above the horizon, which they first discovered on quitting the village of Cabezon.

“ The Spanish peasantry would vie with the ancients in running,” observed the Doctor, as a youth of about seventeen, outstripped the steady pace of their mules; “ but they are accustomed to endure fatigue and hardships from their childhood. They never sleep in a bed till they are married, and you observed this morning the son of our host stretched by the stable door, there I found he had passed the night; it

appeared perfectly immaterial to him whether he slept under cover or not when the weather is tolerably mild ; but I have not heard you, Edward, make any observations as to the cleanliness of the Spaniards, or the very great accommodations we meet with at the inns where we have stopped."

Edward smiled.—“ Why, no, Sir,” he replied, “ the fact is this: when I was in Paris, the capital of a great empire, it seemed natural to expect certain accommodations. But here, when all appear alike insensible to luxury and comfort, it would be folly to expect any accommodation beyond that of shelter from the inclemencies of the weather ; besides, Sir, I am rather more of a philosopher than you suppose ; and although my bed consisted of a huge straw mattress placed upon two trussels, with a thin one of the same nature as a coverlid, I slept very soundly last night.”

“ Thanks to the fatigues of the day for that,” replied his friend. “ Now I honestly confess that I did not sleep at all ; for what with musquitoes, who fluttered over me, and other agreeable gentry, which amused themselves in the bed with me ; together with the agreeable clattering of the rats over our head, and the dirt they scattered upon my face, through the roof, (which you must have observed, was composed of cane only,) I never closed my eyes ; but yet, though I was vexed at being thus disturbed, I could not help smiling at your drowsy and reiterated ejaculations, as the musquitoes roused you into a state of transitory sensibility. I congratulate you, however, on your accommodating and somniferous powers.”

SECTION IV.

VALLADOLID AND SALAMANCA.

ON their approach to Valladolid, they observed great quantities of madder, which is successfully cultivated in a part of its environs, as well as in the provinces of Burgos and of Segovia, in the Asturias, Andalusia, Arragon and Catalonia.

This root tinges water a dull red colour, and spirits of wine a deep bright red. When eaten by animals it stains even.

their most solid bones. Cows are remarkably fond of the plant; and when they freely eat of it their milk becomes red, yet the cream which it affords makes a yellow butter.

Madder is a substance very extensively used in dyeing, not only on account of its yielding a fine red colour, but also as forming a first tint for several other shades. It is employed in the preparation of the Adrianople red, which possesses a peculiar degree of brightness. The madder used for dyeing cottons in the East Indies is in some respects different from that cultivated in Europe. And, in the neighbourhood of Smyrna, and in the island of Cyprus, a kind of madder is grown which affords a peculiarly bright and beautiful colour.

“What a fine avenue that is;” exclaimed Edward, “it is really *superbe*, and those cross walks which are so crowded with people, present quite a novel scene; and yet, Sir, such a number of persons parading the beautiful walks of Kensington gardens, have a much more pleasing effect. The men in their long dark cloaks, and the women in their black veils, appear so gloomy.”

As their carriage drove leisurely through the avenue, they could with ease contemplate the dark and expressive countenances of the natives.

“At a period,” said the Doctor, “when Spain acted such a grand part, when she discovered and conquered the New World; when, not satisfied with domineering over a great part of Europe, she agitated and convulsed the other, either by intrigues or by military enterprises; at this period, the Spaniards became intoxicated with that national pride which breathed in their exterior, their gestures, their discourse, and their writings. As it then existed, it gave them an air of grandeur, which was overlooked at least by those whom it did not inspire with respect. But by a concurrence of unfortunate circumstances, this splendour is eclipsed; yet the pretensions for which it formed an excuse have survived. The Spaniard of the sixteenth century has disappeared, but his mask remains. Hence that proud and grave exterior which distinguishes them still in our days.

“But this pride, which would be noble if more moderate; this gravity, which always deceives and sometimes repulses; are compensated by very estimable qualities; or rather, they are the source of them. Individual as well as national pride elevates the soul, and guards it against meanness; and such is the effect of Spanish pride. There are in Spain, as elsewhere, vices and crimes; but they wear in general this prominent feature of the Spanish character. It is to be perceived even in a dungeon, and under the tatters of misery. It even balances to a certain point the genius of a language essentially diffuse, where the ear

seems to be pleased with a collection of sonorous words, and where an abundance of words is taken for an abundance of ideas. Pride is commonly very precise! she disdains to go into detail, and loves expressions ænigmatical from their conciseness, which leave something to think upon, and sometimes to guess at. Hence it happens that these same Spaniards, who, when their imagination is ever so little heated, display all the richness of their language, are perfectly laconic when their mind is calm.

“ This Spanish gravity, which is become proverbial, is, however, far from what is generally conceived. It is true, you seldom find amongst the Spaniards what we call affability. They will never go to meet you, but wait for you. This forbidding exterior, however, often envelops a good and kind heart, which you will find when you least expect it.

“ The smile of good-will is seldom the mask of duplicity, and their heart commonly expands with their countenance.

“ These, my dear Edward, are the distinguishing characteristics of the Spanish people, of which we shall have further proof as we travel through their country, and mix more in their society.”

The inhabitants of Valladolid have lately formed some agreeable plantations along the Pisuerga, upon the square called the Campo Grande, situated at one of the extremities of this city, remarkable for its immense size, and the thirteen churches which may be reckoned within its walls.

Valladolid has another very regular square, with three rows of balconies, where it is asserted that 21,000 persons may be seated; and where the bull-fights used formerly to be exhibited once in every three years: it is also adorned with many beautiful fountains.

“ By the bye, Edward, I forgot to remind you, that if you should feel indisposed, this is the place of all others where you will find relief.”

“ I have no wish,” replied his pupil, who understood the allusion, “ to put myself under the hands of a doctor Sangrado, I do assure you, Sir.”

Valladolid, among other remarkable churches, has that of the Dominicans, and of Saint Benedict, which have to boast of the kind of beauty peculiar to almost all the sacred edifices in Spain; that is to say, they are spacious, and filled with altars surcharged with decorations and gilding; they besides contain some tombs of white marble, sculptured with admirable care.

“ This city,” observed Dr. Walker, “ was formerly one of the greatest importance in Spain; but when Philip III. fixed the residence of the court at Madrid, he carried in his train all the opulent families, which had formerly resided there. The nobles having been content to be at court only, when the king visited this city. “ It really is lamentable,” continued the Doctor, “ to see so many fine houses abandoned by their inhabitants, and mouldering into ruins: nothing now remains of its former opulence but a prodigious number of sacred edifices. While out of the town, in spite of the fertility of a country adapted for every kind of culture, and abounding in rivers, all is nakedness and misery.”

Our travellers proceeded by Arevalo to Penceranda, through well cul-

tivated plains; but there is still a degree of indigence among the inhabitants, which can be only accounted for by their seclusion from strangers and of objects of comparison, for they seem to have neither the desire nor the knowledge of the comforts of life. It never occurs to them to ornament their estates. A garden of pot-herbs is to them an object of luxury, which their parsimony denies. Indolence subjects them to privations, and habituation to privations encourages indolence in its turn; and in this state they must remain until roads, bridges, canals, and the more easy means of carriage, have made them acquainted with the advantages of commerce.

At Peneranda, our travellers took up their quarters at one of the neatest and most commodious inns they had seen since they had entered Spain. From Peneranda they continued their journey without any interruption; and in quitting Herta, the towers of Salamanca appeared in the distant horizon.

On entering Salamanca, Edward exclaimed, "how dirty, narrow, and unpeopled the streets look, Sir: I am sure one would suppose from this entrance, that it is one of the most gloomy cities of Europe;" but he was agreeably surprised upon entering its modern square, equally remarkable for the neatness and regularity of its architecture, and which is adorned with three rows of balconies, which follow each other without interruption. Ninety arcades form its foot pavement. In the intervals between the arches are placed medallions of the most illustrious persons Spain has to boast of. On one side is to be seen all the kings of Castile, up to the reign of Charles III.; on the other, those of the best known Spanish heroes, as Bernard del Carpio, Gonsalvo de Cordova, and Ferdinand Cortez. The niches on the eastern side are still empty.

In the midst of the crowd of sacred edifices which Salamanca contains, they were recommended to visit the church of the Dominicans, the façade of the Augustins, and the church of San Marcos.

In the first they remarked a Gothic façade, wrought with much care, a vast nave, and chapels richly decorated; but they sought in vain for the beautiful pictures which had been so highly extolled. Neither did they see any thing remarkable in the gate of the Augustins, but the ornaments with which it is loaded. It faces a castle or palace of the Duke of Alva, part of whose estates is situated in the neighbourhood of Salamanca. These estates and castles seem to feel the continual absence of their lords; a reflection which a tour in Spain will suggest at every step. While the opulent proprietors do not enliven their domains, at least by their occasional presence, the patriotic societies, the establishment of manufactures, the encouragements to draining, and a thousand other salutary measures will only be vain palliatives of the evils which have been for ages undermining the Spanish monarchy.

During the last war the battle of Salamanca stands very conspicuous, and the whole country, through which Dr. Walker and his young friend now passed, presented, generally speaking, a most dreary aspect, until they arrived at Almeida, just within the confines of Portugal.

SECTION V.

PORTUGAL.

THE surface of Portugal is in general rocky, but the numerous rivers, vineyards, and fine groves of orange and lemon trees beautifully diversify it. The air is so salubrious, particularly about Lisbon, that the consumptive, from most parts of Europe, resort thither.

Though there is a great number of barren mountains in Portugal, yet the inhabitants have plenty of vineyards, oranges, lemons, nuts, almonds, figs, and raisins; great quantities of salt are also procured from the seawater in the Bay of St. Ube's. The cattle is not held in much estimation, for the flesh of the horned cattle is lean and dry: and although there are many mules, they have few horses. Were the culture of grain more attended to, Portugal would be independent; but she imports this essential article chiefly from Morocco.

The exports of Portugal are chiefly wine, oil, oranges, lemons, figs, sugar, cotton, cork, drugs, tobacco, bullion, coin, diamonds, and other precious stones. And she imports from England and Ireland, woollens, hardware, large quantities of salt, and dried fish; of the last article to the amount of 200,000*l.* annually. The balance in favour of England is about 400,000*l.* and of Ireland, about 63,000*l.*

Portugal has large foreign possessions; Brazil, part of Paraguay, the Azores, Canaries, Cape Verd islands, and many scattered islands in the Indian Ocean. Besides which, the eastern part of Trauquebar, Goa, on the coast of Malabar, and the island of Macoa in the bay of Canton, are all Portuguese settlements. From Brazil, Portugal receives gold, silver, pearls, precious stones, rice, wheat, maize, sugar, molasses, timber, drugs, spices, and articles used in dyeing. She returns woollens, linens, stuffs, &c. and fish.

From Almeida our travellers continued their route to Abrantes, famous for the victory gained there by Marshal Junot, who was made Duke of Abrantes, by Buonaparte upon the occasion. It is agreeably situated on the Tagus, along the banks of which, Dr. Walker and his young friend pursued their agreeable journey, till they reached Santaram. To the Doctor, who had taken a deep interest in all the fluctuations of the Portuguese war, every spot had the power of conjuring up innumerable associations; and the nearer they approached the capital, these associations became more frequent and powerful.

“What extraordinary vicissitudes has the capital of Portugal undergone,” said he, as they entered Lisbon! Scarcely

had it recovered the fatal effects of the dreadful earthquake in 1755, when the overwhelming effects of the French Revolution, plunged it in fresh calamities."

As the evening was closing in, when our travellers entered the Portuguese capital, they resolved on having a comfortable *tête à tête*, and having taken some refreshment, Edward called upon the Doctor to fulfil a promise he had given him of detailing the fatal effects of the earthquake."

DR. WALKER.—“ I am ready to fulfil my promise if you require it; but I have a letter in my portmanteau from a friend introducing me to a gentleman, who was but a youth when the catastrophe happened; but upon whom it made so deep an impression that as he grew up, he became fond of solitude and retirement, and at length took shelter in a convent of Dominicans. If he is still living, he would perhaps be able to give us a most interesting account of a scene to which he was an eye witness.”

Edward said he should be happy to accompany his friend to the convent, and on the following morning they set off for the monastery of ———. Upon knocking at the gate, and enquiring for the father Francis, the porter told them, the reverend father had just breathed his last, but entreated they would enter, while he informed the superior of their visit; they waited for some time, and at length were informed that on the following day the superior would be happy to see them.

Father Francis had been greatly beloved by the whole fraternity, and his death although at his advanced age, (he was near eighty,) was daily to be expected, it caused an unusual sensation in the monastery. The superior received them with courtesy, and said he was happy to have it in his power to commit to their care some papers which the father wished particularly to be conveyed to England. They were addressed to the very gentleman from whom Dr. Walker had his letter of introduction, and as he was informed they contained merely an account of the earthquake of 1755, and his own feelings upon that melancholy occasion, Dr. Walker made no scruple of looking at them, and then giving them to Edward. Upon their return to their inn, after a short preliminary introduction, the latter went on as follows.

“ On the 1st November 1755, having just quitted my father's palace, I was suddenly alarmed by a violent shock of an earthquake, it seemed to last about the tenth part of a

minute, during this short space of time every church and convent, the royal palace, the palace of the inquisition, and the opera-house, together with the greater part of the houses, all fell, and the city became, in an instant, a heap of ruins. My first impulse was to fly, for the shocking sight of the dead bodies, the shrieks and cries of those who, half buried in the ruins, soliciting the aid of the survivors, presented such a scene of horror as surpasses all description. Not far distant from me I saw my servant Pedro. Overjoyed at the sight, I approached towards him, he pointed to the spot where our palace stood. Mechanically I turned; the thoughts of my father, mother, and two sisters overpowered me. I retraced my steps—another shock of the earthquake threw open a part of it. I heard a shriek—it was my mother's voice, I flew to the spot, saw her, and that was all. I fell from the violence of the concussion, and when I rose, the aperture was closed. Pedro now insisted I should leave the spot; but strong as was the love of life, I still clung to the hope that I might possibly rescue some part of my family, and refused to quit the spot, until exhausted by my exertion, by contending feelings, and the scene of horror that surrounded me, I sunk senseless on the ground. When I recovered, I found myself in a neighbouring field, the faithful Pedro by my side chafing my temples and my hands, while the big tears rolled down his aged cheeks.—‘My dear young master,’ he exclaimed. His words shot a thrilling chillness through my frame—they seemed to say, ‘thou art all I've left.’ This cold faintness was succeeded by the burning glow of fever. Starting from my seat, I fled, not knowing whither; but on all sides I was surrounded by the same recollections. Poor Pedro in vain pursued me; but his unwearied diligence at length discovered me half cloathed, seated by the side of a small rivulet, weaving rushes—he feared to approach me, and yet still more to leave me; at length he espied a countryman, and beckoning to him, they crept softly beside me, and secured me. They conveyed me by easy stages to Evora, where by the kindness and attentions of some of the inhabitants, my reason was restored in the course of time to its former tone; but my spirits had received too severe a shock to enable me to enter the busy scenes of life; and although but eighteen, I resolved on embracing the monastic life. From Pedro I learnt, at different times, farther particulars of that calamity, which had deprived me at one blow of my

nearest and dearest relatives ; but he was unwilling to touch upon a subject which always appeared to overpower me ; at length, however, when time had softened the feelings of anguish into those of a tender regret, I at length drew from him the following account :”

“ The general scene of misery and confusion produced by any earthquake, and this in particular, no pen can adequately describe. In the first fall of the houses, thirty thousand persons are supposed to have lost their lives. All those who alarmed at the noise, attempted to make their escape at the doors, perished : of those who were in the upper parts of the houses, many escaped ; numbers of those who were in carriages were so fortunate as to avoid much personal injury ; but their drivers and animals were generally much wounded if not killed. But the churches proved most fatal ; for it was on the eve of an *Auto da Fe!* and the churches were crowded to excess. About two hours after the shock, fires broke out in three different parts of the city, occasioned principally by the vast number of lights which were placed before the saints, whose draperies quickly caught fire, and the flames communicating to the surrounding buildings, the city, in the course of a few hours, became a blazing pile. This additional calamity, was greatly accelerated by the sudden rising of the wind ; but it was not sufficient that fire, earth and air, should unite their powerful and destructive influence on this devoted city, for the sea threatened to overwhelm it at the same time, for it rose forty feet higher in one instant than it was ever known to do ; but happily it subsided without doing much injury.

“ When these united causes had subsided into something like a calm, fresh apprehensions assailed the wretched inhabitants who had escaped with life. A pestilence was not unlikely to be the consequence of so many unburied bodies, and a famine was a calamity that appeared almost inevitable ; the neighbouring country too was beset by daring robbers, who plundered all they met with, and thus profiting by the miseries of their fellow-creatures, carried terror and dismay wherever they made their appearance.

“ The fire, however, prevented the pestilence, and the neighbouring villages and towns supplied the shivering wretches with food ; and the depredations of the lawless banditti were stopped by the vigorous proceedings of the government. This earthquake is said to have had its origin under the At-

lantic Ocean, the waves of which were almost as violently shaken as the land; its range extended over a part of both hemispheres, and more or less affected Europe, Africa and America, though it was in the south western parts of Europe where it raged with the most destructive fury.

“ Five years after this dreadful calamity, the convent I now inhabit was completed; and within its sacred walls I have found content, and with it happiness. My worthy Pedro fixed himself in its neighbourhood, and as I had recovered my landed property, I was enabled to make his latter days easy and comfortable. When I lost him, I lost the only tie the world held for me; and since that period I have never quitted the precincts of the monastery, except once, when I went on a pilgrimage to Montserrat.

“ One man alone had power to excite a feeling of regret, and he was an Englishman, who came to Lisbon for his health. He was introduced to me by the superior of the convent; and I confess that in his company I passed some of the pleasantest hours of my monotonous life. Having asked me one day what could induce me, who seemed formed for society, to seclude myself from the world, I promised him that when I died, he should have a brief sketch of my life. My task is completed; and when these lines meet his eye, the hand that wrote them will be mouldering in the grave.

“ Father FRANCIS.”

“ Poor Father Francis,” exclaimed Edward, as he concluded the narrative, “ I should have liked to have seen him very much.”

DR. WALKER.—“ Then you would not have known his history; and you would of course have felt no more interest in his society, than in that of any other venerable old man.”

“ St. Ubes,” continued the Doctor, “ was also entirely destroyed by this earthquake; but it is now a flourishing town. It has a fine harbour, a good fishery, and an extensive trade, particularly in salt, for which it is noted. The adjoining plain is fertile in corn, wine and fruit. The neighbouring mountains contain quarries of jasper, and are covered with forests of pine and other sorts of timber.

“ To-morrow, Edward, we will cross the Tagus, and take a view of this port, and of the surrounding country; for it is romantic and picturesque.”

Edward was particularly struck with the appearance of

Lisbon from the opposite shore; the view is indeed very fine. Ten thousand sail can safely ride within its spacious and magnificent harbour. Their excursion to St. Ubes gave them great pleasure. "I always," observed Edward, as they wandered among the mountains in its vicinity, "enjoy our peregrinations most when they are among the wild scenes of nature."

"That I can easily conceive," replied his friend. "The contemplation of nature fills the mind with great and insatiable conceptions. And the great charm perhaps of the clear blue ether, of the boundless ocean, of stupendous precipices, consists in their leading the mind to the anticipation of something great and grand, almost beyond the actual conception of man."

"I remember too, Sir," replied his pupil, "when a cloudy sky excited all the sensations you describe. The moon was near the full, and the heavy clouds rolled majestically along, sometimes totally obscuring her soft mellow light; sometimes unfolding their dark bosom for an instant, she shone in all her splendour. I shall never forget how delighted I was."

"They were not *fleecy clouds* then," interrupted the Doctor.

"No," said Edward, "they were dark and gloomy."

"Like those which are now rising on the horizon?" enquired the Doctor with a smile.

"You are laughing at me, Sir, I shall say no more; and see, Sir, the boat is ready; and we shall have it dark before we reach Lisbon."

SECTION VI.

PORTUGUESE CHARACTER.

HAVING some visits to pay on the following day, Dr. Walker hired a coach for that purpose, as he understood the servant of the house would not consider him a *gentleman* if he walked. One of the members of the family being also dead, he was under the necessity of buying a suit of black cloaths, as he did not wish to act so contrary to the esta-

blished etiquette of the country, as to appear in a coloured coat upon such an occasion. Edward did not accompany him; but he amused himself with walking through some of the principal squares and streets which reminded him of those in London. Having heard that the Portuguese were famous for preserving and candying fruit, he went into a shop and bought some, desiring the servant they had hired while in the capital, would carry them home for him; this he refused, saying *he was a Portuguese, not a beast.*

Edward astonished beyond measure at such a reply, repeated his request, and being again answered in the same manner, he took up the jars with a haughty air and carried them himself; while his attendant, whom he had taken with him rather as a guide than as a servant, told him he was at liberty to carry them if he pleased.

When the Doctor returned, Edward began immediately to describe the insolence of the man, and entreated he might be instantly dismissed.

“Really, Sir,” said he, “it was too bad, was it not?”

“Compose yourself, Edward,” replied his tutor calmly. “You seem chafed; and have you indeed been a week in Lisbon, and not discovered that all parcels, burthens, and *slavish* offices, as they are here termed, are performed by one class of men, the Gallicians, a hardy and industrious race, who draw water, hew wood, and in short, perform all the laborious offices of life; thus, Edward, by not making use of your eyes, and acquainting yourself with the manners of this people, you have betrayed your ignorance, and lost your temper. I have an invitation for you to-morrow evening, do not betray yourself again; remember, ‘when you are at Rome, you must do as they do at Rome.’ In the meanwhile we will, as it is yet early, take a view of the celebrated mountain of Cintra, called by the ancients Hierna, and also *Promontorium Lunæ*. At the foot of the rock stands a town of the same name, celebrated for the convention held there, by which the French were compelled to evacuate Portugal. On the top of the mountain is a convent of Carmelites, who by their vows of humility, are forbidden to lift their eyes from the earth.

“I am sure,” observed Edward, “that if I were a monk, and had once glanced this stupendous view, I should be in danger every moment of breaking such vows; and I cannot

help thinking it a pity, that a spot so calculated for astronomical observations, should be so ill applied."

"I agree with you," replied his friend. "What do you suppose the height of this mountain, Edward? The loftiest part is said to be no less than three thousand feet above the level of the sea. When you have satiated your eyes and imagination with the magnificent display of rocks, woods and water on one side; and with the boundless waves of the Atlantic on the other, we will descend on the western side, as there are the remains of a Moresco bath of great beauty in that part of the mountain."

Having reached the spot, accompanied by a guide, they were indeed surprised not only at the bath itself, but at its situation. It is fifty feet long by seventeen broad, the water is four feet deep, and neither encreases or diminishes in winter or summer, though it has no apparent source; it is always transparent, and the sides and bottom of the bath are free from weeds or sediment, which, according to Vitruvius, are the surest signs of the salubrity of the water. This purity is perfectly natural, for no one ever takes any pains to clean the basin, which contains it. Their guide desired they would look upwards, when they were struck with awe at the situation of the monastery they had so lately visited; it appeared absolutely hanging over a number of precipitous rocks.

The evening now began to close fast upon them, and they commenced their journey homewards; long after the country was enveloped in the gloom of evening, the top of Cintra retained a faint glimmering of day light.

Billiards, cards and dice formed the principal entertainment of the following evening, which was concluded by a little dance. They were charmed with the amiable and unaffected manners of the female part of the society, and Edward returned home quite delighted.

"We will embark for Cadiz," said the Doctor; "a journey by land through the southern parts of Portugal will present no object of interest equal to the fatigue; and from Cadiz it is easy to proceed to Gibraltar, either by land or water, just as we please. I have letters to write, and shall be busy in the morning, so you must cater for yourself, under the protection of your favorite *Enrico*."

"I shall stay at home, Sir, and write to my mother," replied Edward, as the colour mounted his cheek.

“Just as you please,” said the Doctor calmly, but with an arch smile.

They had a most delightful sail to Cadiz, during which the conversation turned upon the chief towns of Portugal. In answer to a wish expressed by Edward, implying that he should have liked to have seen Oporto, his friend replied, “You would have been disappointed, for I dare say you have conjured up a beautiful town, surrounded by orchards, vineyards and gardens.

“Oporto is situated on a declivity, the streets are narrow, and the houses ill constructed: it is true, it is noted for strong wines, of which 20,000 pipes are said to be exported annually; but it has no other attraction.

“Of the manufactories of Portugal there are but few of consequence, that of the most importance is one for silks at Braganza. The Portuguese make a few linens; but the article which they excel most in is wine casks.

“Cadiz may be called the emporium of the wealth of the two worlds, possessing almost every thing in abundance, if we except fresh water, which is sometimes hardly to be procured for any money. There are some few wells in the town, but the water is in general brackish, and the inhabitants, in order to collect rain water, have the tops of their houses flat, surrounded by a terrace; this terrace serves them as a promenade and observatory, and the water being collected in the centre, is conveyed by pipes to the cistern, which occupies the open space in the interior of the house from whence it is drawn into another reservoir at one corner of the court.

“The entrance into this bay presents a grand sight; and both the Doctor and Edward were surprised at the prodigious number of merchant and other vessels which it contained. Cadiz has a manufacture of linen and salt; but is perhaps more interesting to a mercantile and political man than to travellers of the description of Dr. Walker and his pupil; at least they thought so, and again embarking, they passed Trafalgar, off which the gallant Nelson lost his life, and Tarifa, where the Moors first landed when they invaded Spain; and at length entering the Straits of Gibraltar, they entered the bay of the same name, and landed at the foot of this celebrated rock.

SECTION VII.

GIBRALTAR.

THE form of this mountain is oblong, its summit a sharp craggy ridge; its direction is nearly from north to south; and

its greatest length in that direction falls very little short of three miles. Its breadth varies with the indentations of its shores, but it no where exceeds three quarters of a mile. The line of its ridge is undulating, and the two extremes are somewhat higher than its centre. That point to the south, called the Sugar Loaf, is 1439 feet above the level of the sea; the Rock Mortar which is to the north is 1350; and the Signal House, which is nearly the central point between the two former, is 1276 feet above the sea. The western side of the mountain is composed of a series of rugged steeps, interspersed with abrupt precipices. The northern extremity is absolutely perpendicular, except where it inclines towards the north-west: here the lines intervene, and a narrow passage of the ground that leads to the isthmus, which is covered with fortifications. The eastern side of the mountain mostly consists of a range of precipices; but a bank of sand rising from the Mediterranean in a rapid acclivity, covers a third of its perpendicular height; its eastern extremity falls in a rapid slope from the summit of the Sugar Loaf, into a rocky flat of considerable extent, called Windmill Hill. This flat forms half an oval, and is bounded by a range of precipices, at the southern base of which a second rocky flat takes place, similar in form and extent to Windmill Hill, and surrounded also like it by a precipice, the southern extremity of which is washed by the sea, and forms Europa Point, which is the part of the mountain that advances most towards Africa, and is generally regarded as the most southern promontory of Europe.

Upon the western side, this peninsular mountain is bounded by the bay of Gibraltar, which is in length nearly eight miles and a half, and in breadth upwards of five miles. In this bay the tide frequently rises four feet. Upon the north the mountain is attached to Spain by a low sandy isthmus, the greatest elevation of which above the level of the sea, does not exceed ten feet, and its breadth at the base of the rock is not more than three quarters of a mile. This isthmus separates the Mediterranean, on the east from the bay of Gibraltar on the west.

“I cannot help fancying,” said Dr. Walker, “but that this rock was formerly detached from the main land. The breadth of the isthmus which attaches it to Spain, and the height of the sands above the level of the sea is so small, that it appears very probable to me, that it is an accumula-

tion deposited by the ocean. It would then too stand so distinctly as to be at first sight denominated a *pillar*; an appellation which it possessed formerly. This mountain is much more curious in its botanical, than in its mineralogical productions. In regard to the first, it connects in some degree the Flora of Africa with that of Europe. In respect to the latter, it produces little variety; perhaps a few substances and phenomena that are rare, but none that are peculiar. The principal mass of the rock consists of a grey dense (what is generally called primary) marble, the different beds of which are to be examined in a face of 1350 feet of perpendicular height, which it presents to Spain in a conical form. These beds, or strata, are of various thickness, from twenty to upwards of forty feet, dipping in a direction from east to west, nearly at an angle of thirty-five degrees. In some parts of the solid mass of this rock testaceous bodies have been found entirely transmuted into the constituent matter of the rock, and their interior hollows filled up with calcareous spar; but these do not occur often in its composition, and its beds are not separated by any intermediate strata.

“In all parts of the world where this species of rock constitutes large districts, it is found to be cavernous. The caves of Gibraltar are many, and of considerable extent; and I intend Edward, that we should explore them together, and as the day is fine and temperate, we will begin our excursion immediately.”

They accordingly set off, accompanied by two guides, for St. Michael's cave. St. Michael's cave is situated upon the southern part of the mountain, almost equally distant from the Sugar Loaf and the Signal Tower. Its entrance is above 1000 feet above the level of the sea, and is formed by a rapid slope of earth which has fallen into it at various periods, and which leads to a spacious hall incrustated with spar, and apparently supported in the middle by a large massy stalictal pillar. To this succeeds a long succession of caves of difficult access. And Dr. Walker and his pupil found it necessary to use great precaution in climbing up the scaling ladders that were placed for their accommodation in passing over the precipices, which no other means could enable them to scale. They descended many of these precipices to the depth of 300 feet from the cave; but at that depth the smoke of their torches became so disagreeable, that they

were obliged to give up their pursuit, and leave the remainder of the caves unexplored. In these cavernous recesses, the formation and process of stalactites is easily to be traced, from the flimsy quill-like cone, suspended from the roof, to the robust trunk of a pillar three feet in diameter, which rises from the floor, and seems intended by nature to support the roof from which it originated.

The variety of form, which this matter takes in its different situations and directions, renders this subterraneous scenery strikingly picturesque. The stalactites of the caves when near the surface of the mountain, are of a brownish yellow colour; but as they descended towards the lower caves, they found them begin to lose their darkness of colour, which by degrees shaded off to a yellowish white.

The only inhabitants of these caves are bats, some of which are of a large size. The soil in general, upon the mountain of Gibraltar is but thinly sown; and in many parts that thin covering has been washed off by the heavy autumnal rains, which have left the superficies of the rock, for a considerable extent, bare and open to inspection. In those situations, an observing eye may trace the effects of the slow but constant decomposition of the rock, caused by its exposure to the air, and the corrosion of sea salts, which in the heavy gales of easterly winds are deposited with the spray in every part of the mountain. Those uncovered parts of the mountain rock, also expose to the eye a phenomenon worthy of some attention, as it tends clearly to demonstrate, that however high the surface of this rock may now be elevated above the level of the sea, it has once been the bed of agitated waters. This phenomenon is to be observed in many parts of the rock, and is constantly to be found in the beds of torrents. It consists of pot-like holes of various sizes, hollowed out of the solid rock, and formed apparently by the attrition of gravel or pebbles, set in motion by the rapidity of rivers, or currents in the sea. One of these which had been recently laid open, our travellers examined with attention. They found it to be five feet deep, and three feet in diameter; the edge of its mouth rounded off as if by art, and its sides and bottom retaining a considerable degree of polish. From its mouth, for three and a half feet downwards, it was filled with a red argillaceous earth, thinly mixed with minute particles of transparent quartz crystals; the remaining foot and a half to the bottom contained an ag-

gregate of water worn stones, which were from the size of a goose's egg to that of a walnut, and consisted of red jaspers, yellowish white flints, white quartz, and blueish white agates, firmly combined by a yellowish brown stalactal calcareous spar. In this breccia I could not discover any fragment of the mountain rock, or any other calcareous matter, except the cement with which it was combined. This pot is nine hundred feet above the level of the sea.

On the west side of the mountain are found quartz crystals colourless, and perfectly transparent. These crystals are composed of eighteen planes disposed in hexangular columns, terminated at both extremities by hexangular pyramids; the larger of these does not exceed two-eighths of an inch in length; they in general adhere to the rock by the sides of the column, but are easily detached. Their great degree of transparency has procured them the name of Gibraltar diamonds. In the perpendicular fissures of the rock, and in some of the caverns of the mountain (all of which afford evident proofs of their former connection with the surface) a calcareous concretion is found of a reddish brown ferruginous colour, with an earthy fracture, and considerable induration inclosing the bones of various animals, some of which were formerly supposed to be human; but the celebrated Dr. Hunter, ascertained that they belonged to some quadruped. These bones are of various sizes, and lie in all directions, intermixed with shells and snails, fragments of the calcareous rock, and particles of spar, all of which are still to be seen in their natural uncombined state, partially scattered over the mountain. These having been swept by heavy rains at different periods from the surface into the situations above described, and having remained for a long series of years in those places of rest, exposed to the permeating action of water, have become cemented and surrounded by the calcareous matter which it deposits. The bones in the composition have not the smallest appearance of being petrified; and if they have undergone any change, it is more like that of calcination than petrification, as the most solid parts of them generally admit of being cut and scraped down with the same ease as chalk. This mountain is very much infested with monkeys.

Our travellers having explored the caves and other natural curiosities of Gibraltar, they proceeded to take a view of its fortifications, which are upon a most extensive scale;

and with the skill of the brave general Elliott and his valiant troops, resisted the united attack of France and Spain. Gibraltar derives its name from a Moorish chief of the name of Tarek, which compounded with the Arabic word Gebal, signifying mountain, Gebel Tarik became in time by corruption, Gibraltar. From Gibraltar they proceeded to Grenada.

SECTION VIII.

JOURNEY THROUGH SPAIN.

“WHEN we have dined we will visit the Alhambra, said Dr. Walker, as they partook of their first repast in Grenada, the most perfect, though according to historical accounts, not the most splendid of the Moorish palaces. There was one in the neighbourhood of Cordova, called the palace of Zehra, which surpassed all description. The Moors to this day put up prayers daily for the restoration of this part of the kingdom. When the last Moorish king caught sight of its glittering domes and turrets, he burst into an agony of tears, exclaiming, ‘O God omnipotent!’ his mother who was with him, indignantly replied, ‘You do well to weep as a child, for what you could not preserve as a man.’ Grenada is indeed a most delicious spot, and worthy the regrets of a monarch.

Upon entering the oblong court of the Alhambra, which is 150 feet long and 90 broad, they were struck by the singularity as well as beauty of the scene. In the middle was a marble bason of water 100 feet long, surrounded by a flower border. From this court they passed into that of the lions, so called because the fountain in the middle is supported by thirteen lions. It is adorned with a colonade of 140 marble pillars. The royal bed-room has two alcoves, adorned with columns, and a fountain between them in the middle of the room. Adjoining to this are two hot-baths. The great hall is about forty feet square and sixty in height, with eight windows and two doors, all in deep recesses. All the apartments have fountains and are paved with tiles or marble in chequers.

“The idea of the ceilings is evidently taken from stalactites,” observed the Doctor. “Look, Edward, that roof

reminds me of many we have seen in natural caverns." The view from this palace is exquisitely beautiful; vineyard and olive gardens surround it on every side; it stands in a luxuriant plain, which is bounded by hills; beyond which to the south, the Sierra Nevada lifts its venerable head, and forms a grand outline to the scene.

From Grenada our travellers proceeded to Cordova, formerly the capital of one of the Moorish kingdoms.

Cordova has several superb palaces and churches. The neighbouring mountains produce groves of citron, orange, fig, and olive trees. The best horses in Spain are to be met with here. It trades in wine, fruits, silk and Cordovan leather.

There is a stone bridge over the Guadalquiver of sixteen arches, built by the Moors, and the remains of a Moorish palace, which is now converted into stables.

EDWARD.—"What a transition."

DR. WALKER.—"There are some in Paris which are more striking than this metamorphosis."

Quitting Cordova they continued their journey in a north eastern direction, and passing through Bayleu, where the French were so completely beaten by the patriots of Spain; they at length entered the parched and arid plains of La Mancha, so celebrated for the exploits of the renowned Don Quixote.

DR. WALKER.—"Can you not almost fancy, Edward, you see the knight of the woeful countenance mounted on his Rozinante, and his doughty squire Sancho Panza, and his favourite Dapple, traversing those cheerless plains?"

"Almost," replied his pupil. "I am always sorry for Don Quixote and Sancho too, they get treated so very ill."

"All persons," observed Dr. Walker, "who step so completely out of the usual track of human life must expect it; so I would advise you not to attempt any kind of knight-errantry, and studiously to avoid all singularity."

Our travellers now continued their journey without stopping at any place, until they came to Toledo, and here they resolved to stay a short time. Toledo is situated among rocks, eminences, and precipices, which are adorned with luxuriant spots of vegetation; the mountains of Toledo they had traversed previous to their reaching the city, were indeed bleak, barren, and sterile; and the doctor and his pupil were not a little rejoiced at taking up their quarters in a tolerable

inn, and enjoying those comforts which are seldom to be met with in the villages of Castile. The cookery of the Spaniards, such as they have received from their forefathers, is liked by very few strangers. Their palate requires high seasoning. Pepper, pimento, the juice of the *tomata*, or love apple, saffron, &c., colour or infect almost all their dishes. A single one has found favour with foreigners, which is called in Spain *olla podrida*, and is a kind of *pôt-pourri* of all sorts of meat boiled together. The Spanish cooking is seldom plain, but with obscure families who are attached to ancient customs. French cooks have in many houses entirely supplanted the natives and our travellers more than once had reason to rejoice at this innovation, for to them these highly seasoned dishes of the country were very disagreeable. The cathedral of Toledo is particularly magnificent, and the treasures contained in one of its chapels, that called Sagiaro, are almost incalculable, at least they were so *formerly*. Several of its gates are bronze, and it stands in the middle of the city, adjoining to a handsome street. Toledo contains many religious houses, some hospitals, and a great number of churches.

It is said the inhabitants have recovered the art of hardening sword-blades, for which they were formerly so famous, and which had been lost for many ages. The manner of trying these blades, was by striking them several times with great force, against an iron head-piece; if they received the smallest notch by this operation, they were considered imperfect. Our travellers passed through Aranjuez, where there is a royal palace, on their way to Madrid, and where they arrived full of expectation, and eager to take a survey of the palace and stately buildings which generally adorn the capital of an extensive kingdom; they were in some degree disappointed, for the houses are chiefly built of brick, and have rather a mean than a splendid appearance. It has however fifteen gates of granite, above one hundred churches, and a noble bridge over the Mançanares, which in the summer is but an insignificant streamlet; when however it is swelled by wintry storms it becomes a rapid river. The vicinity is a large plain, surrounded by mountains. Here are royal manufactures of tapestry, cards, saltpetre, and china.

The new palace first engaged their attention, to which they advanced by a steep ascent.

It stands detached upon an eminence, without a terrace,

a park, or a garden, and bears a greater resemblance to a citadel, than to the habitation of a monarch. But, on a nearer survey, the opinion of this palace will be greatly changed. It is of a square form; spacious porticoes encompass the inner court. The offices and apartments assigned to the principal persons attached to the court, occupy the ground-floor. You ascend by an elegant marble stair-case, the balustrade of which is highly ornamented. The royal apartments are of the most magnificent dimensions. The hall in which the throne is placed, denominated *et salon de los reynos*, extorts admiration even from those who have seen the gallery at Versailles. Tiepolo, a Venetian, has depicted the different costumes of the Spanish monarchy on the ceiling. Beautiful vases, little statues, and antique busts, are arranged on all the tables. Almost the whole of the furniture is of Spanish manufacture; the mirrors, perhaps the largest in Europe, and the glass of the windows came from St. Ildefonso. The tapestry was made in a manufactory near the gates of Madrid. The various quarries of the peninsula furnished the marble for the tables and walls.

The palace of Madrid is entirely new. The former palace, occupied by Philip V. having been consumed by fire in 1734, that Prince was desirous to have it rebuilt in the same place. A Piedmontese architect presented a magnificent plan, the model of which is preserved in a neighbouring building. Philip V. startled at the magnificence of the design, adopted one more simple, which, however, proved equally expensive in the execution, and is not yet finished. For more than twelve years past, they have been employed in building two additional wings to the palace, which will give it a less massive appearance, but will likewise hide the principal front.

On your way to this front, you traverse a large irregular place, at the extremity of which, is the *armeria*, or arsenal, comprizing a collection of ancient and foreign arms, disposed in fine order, and preserved with great care. The armour, said to belong to the ancient American warriors, is more worthy of attention than the wrought armour set with precious stones, or the complete suit of mail of some of the kings of Spain, and in particular of St. Ferdinand.

The sword of Francis I. which was so long exhibited in this place, as one of their proudest trophies, was seized by Bonaparte and it is now in Paris.

The collection of paintings in this new palace, is one of the most valuable in Europe.

Dr. Walker was contented with viewing the outside of the palace of Buen Retiro, for never had a royal residence less the appearance of a palace. It is a very irregular building, and exhibits nothing majestic in any one point of view. It comprehends, however, a long suite of apartments, which at a small expense might be made commodious. The gardens which they over-

look are ill supplied with water, are in a ruinous condition, and serve at present for a public walk. It contains one picture among many which deserves to be noticed: it is an accurate representation of the Auto da Fé, held in 1680 in the Plaza Major at Madrid, in the presence of the whole court of Charles II. The balconies are crowded with spectators, attracted by motives of pious curiosity. The tremendous tribunal appears elevated in the middle of the square. The judges there await their victims, who with haggard and disfigured countenances, being dressed out in the emblems of their punishment, approach to hear their doom. Some are attended by monks, who administer their last exhortations; others are seen staggering and fainting on the steps of the tribunal.

“ Shall we go and see this picture,” said the Doctor to his pupil? ” “ No, Sir,” replied Edward. “ I have not the least wish to look upon any thing so horrible.”

DR. WALKER.—“ Have you any objection to hear the history of one of its victims? ”

EDWARD.—“ None at all, Sir, if he were not burnt; but really I cannot endure the recital of the barbarous cruelty exercised by that dreadful tribunal.”

DR. WALKER.—“ He was not burnt, but died in his own country, in the year 1803. So I presume I may begin my story.”

SECTION IX.

JOURNEY CONCLUDED IN SPAIN.

“ Don Publo Olivadé, a native of Peru, had been raised by his abilities to fill one of the most important offices in the kingdom, that of Intendant of the four kingdoms of Andalusia, and Assiente of Seville. The distinction he acquired by these high dignities excited a considerable degree of envy, but the king (Charles IV.) convinced of his abilities, gave him a further opportunity of signaling his patriotic zeal.

“ Charles IV. had conceived a plan to bring into cultivation, and people that part of the Sierra Morena, through which passes the road from Madrid to Cadiz, a district formerly inhabited and cultivated, but now overgrown with wood, and become the haunts of robbers and of wild beasts. This district is now infested by bands of guerillas in such vast numbers, that they threaten almost to subvert the government. This commission he intrusted

to Olivadé; who accomplished it with consummate ability: but he could not avoid the rock on which great enterprizes usually split. He created enemies. He exposed himself in particular to the animosity of father Romuald, a German capuchin, who, being provided with a patent from the Director-general of his order, by which he was declared prefect of the new missions, he affected the most absolute authority in every thing that had the most distant reference to religion. His designs were strenuously but mildly opposed by Olivadé, who gave him however a polite reception, and received him upon a footing of intimacy. The disappointed ambition of the monk meditated revenge. Some expressions, which had inadvertently escaped Olivadé, furnished the means of vengeance. He fomented the discontents of some of the settlers, who were his own countrymen, and employed them in order to discredit the new establishment and its director. The memorials which they transmitted to the Council of Castile, contained the most grievous accusations against Olivadé; and the latter was suddenly recalled to court in the month of November, 1775, to confer concerning different objects relative to his mission.

“Whilst he resided at Madrid in the most perfect security, he accidentally discovered the snares that were laid to entrap him. He learned from intercepted letters, that father Romuald had concerted his ruin, and that he was buoyed up with expectations of patronage from a great court.

Through another channel he was informed, that this vindictive monk had preferred an accusation to the prime minister against him, of having manifested a contempt of religion, and of having forbidden books in his possession; nay, that he had even made a similar report to the Inquisition.

“During his residence at the capital for more than a year, his conduct had been highly exemplary; but nothing could hush the storm which was impending over his head.

“On the 14th of November, 1776, a Spanish grandee, acting in the capacity of *alguazil mayor* of the inquisition, accompanied by the ministers of justice, came to arrest and conduct him to the prisons of the holy office, whilst at the same time, his effects, books, and papers, were seized at Carolina, where his wife resided, and at Seville, his ordinary residence. From that instant he was altogether lost to his wife, to his relations, and friends! During a period of two years they were totally ignorant in what part of the world he resided, or whether he was yet alive, and at last they relinquished all hopes of ever beholding him again.”

EDWARD.—“What a refinement upon cruelty.”

DR. WALKER.—“The judicial proceedings against Olivadé, were conducted with the most profound secrecy. At length his fate was decided, after a close imprisonment of two years and seven days, during which period his intercourse with the world was wholly suspended,

“ On the 21st of November, 1778, a convocation was held in the hotel of the Inquisition, to which were invited forty persons of different orders, among whom were several Spanish grandees, some general officers, priests, and monks.

“ The delinquent made his appearance appavelled in yellow robes, carrying a green wax taper in his hand, being accompanied by two ministers of the holy office. All the details of the procedure were read before him. The most interesting document was a circumstantial narrative of his own life, which he had composed himself. In this narrative he frankly confessed that on his travels he had cultivated the society of superior geniuses, of Voltaire and Rousseau in particular; moreover, that he returned to Spain strongly tinctured with prejudices against the clergy, and persuaded that the opinions and privileges of the Romish church were hostile to the welfare of nations: that, since he had superintended the colonies of the Sierra Morena, he had frequently, in a rash and inconsiderate manner, declared his sentiments concerning the obstacles which retarded their progress concerning the infallibility of the Pope, and the tribunals of the Inquisition.

“ Next came the depositions of seventy-eight witnesses, who accused him of having frequently held the language of free-thinkers; of having ridiculed the fathers of the church, &c. &c. The delinquent confessed many of these accusations, and denied others: alleging, moreover, that the expressions imputed to him were derived from the purest of motives; that, in some instances, his object was to arouse the industry of the colonists committed to his care, whose indolence often disguised itself under the external rites of religion: lastly, that, when he declaimed against the inconveniences of celibacy, his sole view was to encourage population, which is so necessary to the welfare of the state.

“ But his defence was in vain; the tribunal judged him guilty of all the crimes laid to his charge, and pronounced sentence upon him, by which he was formally declared to be a heretic. He interrupted the ceremony in order to appeal against this denomination. This was the last struggle of his fortitude; he fainted away, and fell from the bench on which he was seated, On the recovery of his senses, the reading of the sentence was continued. It denounced the absolute confiscation of all his property. This too is a thing of course. Declared him incapacitated from holding any office, banished him to within twenty leagues of Madrid, from the royal residences, from Seville, the theatre of his lost power, from Lima, his native country, and condemned him to be confined for eight years in a monastery, where he was to read certain godly books, which would be prescribed to him, and to make confession to the priest once a month. After this, he made a solemn recantation, and was absolved from the censures he had incurred with all the formality prescribed by the canons.

“ It is asserted that the monarch, nay even that the grand in-

quisitor mitigated the rigor of his sentence ; some of the judges having voted for death, and others for at least a public and opprobrious punishment ; that the royal confessor, in particular, had supported the alternative of severity, consistently with his ferocious and bigoted disposition, which inclined him to suppose that this crime could not be otherwise expiated than by a signal vengeance.

“ Scarcely had Olivadé commenced his confinement, in a convent of La Mancha, when a representation of his impaired health procured him permission to visit the mineral waters in the vicinity : soon after, he was allowed to make an excursion to those of Catalonia, which he thought would be more efficacious. These, being near the frontiers, he easily eluded the vigilance of his guardians, a circumstance which was doubtless foreseen, and bidding adieu, as he supposed, for ever to his country, he went to France, where his reputation had long preceded his arrival, and where he was received as the martyr of intolerance.

“ Some months after his flight, the king of Spain, nominally yielding to the suggestions of his confessor, whose appetite for persecution was not yet appeased, demanded his surrender from the court of Versailles. A conciliatory answer was sent in return, that the offences of Olivadé, however heinous they might appear in Spain, were not included among those political crimes, the authors of which are mutually delivered up to each other by civilized nations ; and the court of Madrid did not persist in its demand.”

EDWARD.—“ And it did wisely ; I am surprised that any Christian nation can tolerate such cruelty.”

“ So much,” added Dr. Walker, “ for M. Olivadé.”

“ The theatre of the Retiro is in a good state of repair : the pit is small, but planned with much taste. The theatre, which is very spacious, opens at the further extremity upon the gardens of the palace, with which it stands on a level. This frequently afforded an opportunity of heightening the effect of theatrical illusion, by extending the view to an immense distance, and permitting the display of troops of cavalry. But all these illusions are vanished, the house is forsaken, and its decorations are mouldering in the dust. Within the circuit of the gardens of Buen Retiro, is a china manufactory, to which every person has hitherto been denied access.”

In the evening our travellers joined the numerous assemblage that crowded the Prado, a fine public walk, where the citizens flock from all parts to enjoy the shade of the long alleys, which are adorned with many fountains, and perfumed with the fragrant exhalations of the flowers which beautify the botanical gardens that border this celebrated walk.

The churches of Madrid are numerous, and are all

adorned with costly paintings. While they were in the Spanish capital, they were invited to a *Tertullia*, an entertainment which resembles our assemblies; and the following evening they went to a christening, and the entertainment given upon this occasion was called a *Refresco*.

When the guests arrived, the ladies were conducted to one apartment, the gentlemen to another; the former were received by the lady of the house on a sofa under a canopy, called *estrado*, and etiquette required that they should remain in these distinct societies until all the company was assembled; at which period the *refresco* was introduced, and the two sexes joined. The conversation then became animated, and the company was entertained with an abundance of sweets, confectionary and dainties of all kinds; upon the appearance of which a scene took place which astonished our travellers extremely. The guests not only eat profusely of the good things which were set before them, but absolutely filled their handkerchiefs and even hats, with the dried cakes, fruits, &c. &c. This entertainment was concluded with a dance, in which the Spanish ladies displayed all those graces in the cotillion for which they are so celebrated.— Having visited the theatre, and every thing in Madrid worthy of notice, Dr. Walker resolved on an excursion to the Monastery of the Escorial, which was built by Philip II. in the form of a gridiron, and dedicated to Saint Laurance, who is said to have suffered death upon that instrument. Every door and window about this monastic palace is embellished with gridirons of different dimensions.

The west front has an elegant portico of the Doric order, half sunk into the wall; through this portico our travellers passed on their way to the church, which is in the form of a Grecian cross, surmounted with a dome. The architecture is simple, but majestic. The ceiling was painted by Luca Giordani, and the high altar, the ascent to which is by a flight of twenty steps, contains three different orders of architecture, ranged one above another, in the form of a truncated pyramid; no expence has been spared in its decoration. Richness and elegance are united in the tabernacle. Its columns are of the most costly marble; the intermediate spaces are enriched with paintings by Lucas Cambiaso and Pellegrino Tibaldi. Yet the whole has something diminutive in its appearance, which forms a contrast with the majesty of the edifice. On the contrary, the two monuments erected here, are really beautiful; they perfectly correspond with the first order, which consists of fluted Doric columns. On one side is that of Charles V., on the other that of Philip II. These two

monarchs are represented in the attitude of kneeling and paying their obeisance to the King of kings. They occupy the fore part of a sort of chamber, which opens towards the altar, and is lined in the inside with black marble. These two monuments combine at once the properties of magnificence and solemnity. On beholding them, a species of religious awe insensibly stole upon our travellers. "Here then," said the Doctor, in a low whisper to Edward, "repose the ashes of the mighty emperor Charles V., and his son, Philip II. Men, who during their lifetime, thought mankind lived only for their pleasure, and the world for their profit!" The whole of the edifice is built of a kind of granite, hewn from a neighbouring quarry, which furnished blocks of such dimensions, that three stones were sufficient to form the cases of the largest doors, and every step of the principal staircase is composed of no more than one of them. The whole of the apartments are embellished with fine paintings by the first masters.

The one sacristy (there are two) contains in huge drawers, the most costly sacerdotal ornaments, chandeliers, sacred vessels, &c. which evince the magnificence rather than the piety of the Spanish monarchs.

The descent into the Pantheon, the royal sepulchre, is by a door, in the passage conducting from the church to the sacristy. The staircase leading into the gloomy mansion is entirely covered with marble, as is also that building itself. It is divided into several chambers, each of which is appropriated to some particular purpose. One is called *Podridero*, or the place of putrefaction. Here the bodies of kings and their families are consigned to the first ravages of corruption. In another are deposited the bodies of all the Spanish princes and princesses who have not ascended the throne.

The real Pantheon is exclusively consecrated as the last asylum for the kings and queens of Spain; it is illumined by a superb lustre suspended from the cupola, which is only lighted up on extraordinary occasions; but generally a torch assists the inquisitive traveller in exploring this dumb and motionless assembly of sovereigns. By its wavering light you discern, opposite to the principal entry, an altar and a crucifix of black marble, on a pediment of porphyry. The whole is in a style of mournful magnificence. The cases which contain the corpses of the kings and queens, are arranged on each side of the altar in three rows, one over another, in different compartments formed by fine fluted pilasters of marble. These cases are of bronze, of a simple yet noble figure. Several of them, still empty, are ready to open and receive their deposits. A salutary yet awful lesson which kings have not refused to receive from the bold designs of an able architect,

Philip II. reposes in the highest tomb of the first division. It was this prince who laid the foundation of the Pantheon, but it

was not completed until the reign of Philip IV. It has only afforded a receptacle to three sovereigns of the house of Bourbon; the young king Louis I. who ascended the throne in 1724, and died the same year; Queen Amelia, consort of Charles III. and Charles III. himself.

From the Escorial they proceeded to St. Ildefonso, which was built by Philip V. who brought with him from France the magnificent taste of his grandfather Louis XIV. The gardens of St. Ildefonso, are upon the plan of those of Versailles, and are adorned with exquisitely beautiful fountains. That of Andromeda is very fine; but the most remarkable is certainly that dedicated to the God of the Ocean, who is surrounded by his marine court. His attitude, his menacing air, and the direction of his trident, shew that he is imposing silence on the boisterous waves; and the calm which reigns on the water, the tranquillity produced in the air by the triple wall of verdure with which he is surrounded, announce that he has not issued his mandate in vain.

There are some other fountains which well merit the attention of the curious; such is the fountain of Latona, whose limpid streams, some perpendicular, others crossing in every direction, issue from the hoarse throats of the peasants of Lycia, half transformed into frogs, and are discharged in such abundance that the statue of the goddess is concealed from view by one vast mantle of liquid crystal. Of this description also is Diana bathing, surrounded by her nymphs: in the twinkling of an eye the whole chaste assemblage is concealed beneath the water; you imagine that you hear the shrieking of the aquatic birds, and the roaring of the lions, who vomit forth by a hundred channels, this transitory deluge. Such is, lastly, the fountain of Fame; it is formed of a single *jet d'eau*, which rising 132 feet, displays to the distance of several leagues, the efforts of art to subdue nature, and falls in gentle dew upon the astonished spectators.

The state apartments of St. Ildefonso resemble those of all other palaces. Costly furniture, paintings, and statues, adorn its stately walls.

St. Ildefonso is upwards of twenty-eight leagues from Madrid, and one half of the road leading to the capital, which begins at Guadarama, lies through a thick cluster of ragged and barren mountains, which however are highly valued by sportsmen.

In the district of St. Ildefonso, stands the Carthusian monastery of Paular, one of the most wealthy convents in Spain, and celebrated for its wool; it is situated in a delightful valley, irrigated by a large rivulet, which gently glides through groves and vast meadows; at the foot and on the opposite side of those steep mountains which overlook the palace of St. Ildefonso. This stream drives a paper-mill, the noise of which, is the only sound that interrupts the solemn tranquillity of the beautiful scene.

Dr. Walker on his return to the capital staid but one day, and

passing through Guadalaxara, they at length arrived the second day after their departure from Madrid at Saragossa.

“ Saragossa is said to have been built by the Phœnicians,” said the Doctor, as they entered the city; “ observe, Edward, the houses are from three to six stories high, and the public buildings very magnificent: the streets are long, broad, and well paved. Here is an university too, a court of inquisition, 17 large churches, and 14 monasteries.

EDWARD.—“ There is a court of inquisition every where, I think; but Saragossa has erected for itself a more lasting edifice of fame, than that which is founded upon its magnificent buildings of any kind.”

“ True,” replied his friend. “ In the year 1809, Saragossa was attacked by the French, and sustained one of the most memorable sieges recorded in the annals of war. Under the command of Palafox, soldiers, priests, ladies, and children, all united and fought in its defence. The bravery of the females, especially the heroines Augustina, Renita, and Monulla Sancho, will long reflect honour on Saragossa. These noble women employed themselves in bringing provisions to the weary soldiers, serving at the guns, or fighting with muskets. The last fell in the hottest of the fire; Benita headed a corps of ladies, and after rendering many important services, rapidly died of a broken heart, on hearing that her daughter had been shot. Augustina, after the surrender, eluded the vigilance of the centinel, and fled to the patriots, and finally to the English fleet, which was then lying before Cadiz.”

They staid but a short time in Saragossa; and directing their course eastward, they passed through Lerieza and Cervera, and at length arrived at Barcelona.

Of all the people of Spain, the Catalonians are perhaps the most industrious and enterprising.

The port of Barcelona exports silk stuffs, middling cloths, cottons, chintzes, wines and brandy, all the production of the country; and to know what share the Catalonians have in this trade, it is sufficient to say, that in 1782, of 628 vessels which entered Barcelona, 317 were Spanish.

Many prohibited goods, however, are smuggled into this port, particularly salt fish, for which England receives nearly three millions of piastres annually.

“ A remarkable circumstance this,” said the Doctor, “ in the history of commerce, that a nation of heretics should supply a Catholic kingdom with an eatable which they alone know how to prepare for the taste of the consumers, take from their coasts the salt with which the fish are cured, and catch those fish near the same island of Newfoundland of which they made the discovery. It would seem as if this dependence was an irrevocable decree of fate; for the attempts made to substitute fish caught on the coasts of Biscay and the Asturias have been in vain, and only

served to prove that laws, policy, interest itself, disappear before the caprice of taste.

“ And now, Edward, we must, I think, take leave of our Spanish friends; and as I hear there is a vessel bound for Marseilles, which will sail to-morrow, I intend going by that to Nice, and so on to Turin.

CHAPTER XVII.

TRAVELS IN ITALY.

SECTION I.

THE SOUTH-EAST OF FRANCE.

OUR travellers had a most agreeable sail, and arrived at Marseilles early in the morning, but did not go on shore till mid-day. Marseilles was founded by a colony of Greeks. It is an ancient and flourishing port, at the head of a gulf, in which are several islands. For variety of dress and language it has been called Europe in miniature. The environs are beautified by about 5000 country residences of the opulent citizens.

Here our travellers were tempted to remain some little time, during which they joined a French family, to whom they had letters of introduction, that were going to Aix, their usual place of residence.

“ Aix,” observed Dr. Walker to his pupil, “ was founded by the Romans, and it has yet, I understand, the remains of a triumphal arch, erected by Marius, to commemorate his victory over the Ambrons and Teutones, in which two hundred thousand men were slain.”

They were charmed with the beauty of this place, and lingered some time in its environs, in order to enjoy the lovely scenery which met their view on every side. Aix has a public walk, a mile in length, 120 yards in breadth, and shaded by four rows of trees; at each extremity is a cold fountain, and two hot ones in the middle. It has also extensive manufactories of linen and woollen cloths, and trades in the products of the adjoining parts, viz. in olives, oil, brandy, silk, raisins, figs and prunes.

Having returned to Marseilles, they hired a boat to carry them to Toulon, one of the most celebrated sea ports in France. It is divided into two parts, the old and new town. The latter owes

its foundation to Louis the 14th. A spacious oblong square, adorned with trees, and serving as a delightful promenade, embellishes the new town; it has three harbours; and along that called the Merchant's Port, extends a noble quay, and the town-house, which are protected by two moles. The new haven owes its construction to Vauban, the celebrated engineer of the reign of Louis the 14th. In the front of this haven stands the rope-house, built wholly of free-stone, 620 feet in length, containing three arched walks, and above these there is a place where the hemp is prepared. The galleys are now kept in a basin at this place, and Edward's indignation was excited at seeing the slaves chained to the oar under a burning sun.

"You should recollect," observed the Doctor, "that many of these men might possibly have been condemned to death by the laws, and their present punishment is an amelioration of the sentence."

This port was taken by the English and Spaniards, during the late war, but with infinite loss, and finally but little profit; for they were soon obliged to abandon it, and 4000 of the inhabitants, who had joined the invaders, were shot by order of General Fréron; and Buonaparte was appointed to see the sentence carried into execution.

"Pray let us take a peep at Frejus," said Edward, "for however insignificant it may appear in itself, Buonaparte has immortalised it by his daring and romantic return to France in the year 1814."

"Have you yet to learn," replied the Doctor, "that Frejus is in itself a place of interest; nor did it need Buonaparte's presence to give it renown. It was the Forum Julii of the Romans, and had then a sea-port, which is now a mile and a half distant from it. And we shall then have the pleasure of inspecting an aqueduct, an amphitheatre, statues and inscriptions innumerable, the magnificent remains of its former splendour. The south of France contains many precious relics of antiquity. At Nismes, capital of the department of Gard, there is a public fountain, a mausoleum, and a magnificent amphitheatre, built by the Romans; but the *Maison Carrée*, is a temple of the Corinthian order, of the most exquisite taste, erected by the inhabitants of Nismes, in the year 754, to the memory of Caius and Lucius, sons of Agrippa, and grandsons of Augustus*."

EDWARD.—"Are there not some Roman remains at Montpellier, Sir?"

* An Italian artist upon seeing some parts of this *Maison Carrée* mended by a *French mason*, exclaimed with indignation, "What do I see? the hat of Harlequin placed on the head of Augustus!" Cardinal Alberoni was so astonished at its beauty, that he said, it deserved a covering of gold to preserve it from injury.

DR. WALKER.—“ No.”

“ Montpellier, is rich and beautiful; it has long been in public estimation: for what is of more importance to mankind than even Roman antiquities, I mean its school of medicine and its botanic garden: the garden was the first of the kind established in Europe. The air is exceedingly salubrious, and a great number of invalids come hither to recover their health. It trades in silks, blankets, cotton goods, hides and liquors.

“ To-morrow, we shall, I hope, reach Nice, and then adieu to France for a time.”

From Frejus they started early the next morning, and they had again a peep at the arcades of an aqueduct, and some ruins which appear to have been temples. The arches of this aqueduct are small and low, without either grace or ornament, and seem to have been calculated for mere utility. Having passed these ruins, they shortly began to ascend the steep mountain of Estrelles, which is eight miles over. This mountain was formerly infested by banditti; but it is now tolerably free from the depredations of those gentry. The road which, though good, runs in many parts along the edge of a precipice, creates fears of another kind in timid minds, which are needless; and our travellers enjoyed the romantic beauty of the scenery extremely. Amidst the dark pines which cover the surrounding rocks, the cherry laurel displayed its shining foliage and brilliant fruit. In the middle of this mountain is the post-house, presenting the most chilling aspect; but what was the surprise of Edward upon strolling round the inn, when upon turning suddenly to the south, he discovered orange trees richly loaded with fruit, and a garden filled with fine vegetables; while on the north side of the house an eternal winter appeared to reign! Their journey in the afternoon was peculiarly pleasing; for on one side of the hill is a natural plantation of beautiful evergreens: pines, firs, laurel, cypress, sweet myrtle, tamarisc, box and juniper; these, interspersed with marjorum, sweet thyme, lavender and sage, at once enchant the sight and regale the smell. On the right hand the land shot up into agreeable cones, forming long vistas, through which our travellers caught fine views of the Mediterranean, which washes the foot of the rock; while in a valley between two of the mountains glided a purling stream, whose soft murmurs threw a soothing charm around. They slept that night at Cannes, and on the following day they arrived at Antibes; from thence crossing the river Loup, they reached the village St. Laurent. Their road now lay along the sea-shore, which was covered with white polished pebbles; and on their left sweet olives and myrtles as large as our white-thorn bushes, adorned the road. From Antibes, where they next stopped, and where they passed the Var, (the ancient boundary of France,) the road is far from disagreeable, and they entered Nice in high spirits, anticipating the pleasure they had to come in their journey through Italy.

“ Before we commence our excursion to Turin,” said the Doctor, “ we will rest a few days.”

“ I think, indeed, replied Edward, from what little I could observe of Nice through the dusk, it appears a charming spot, and that a short time spent here would be very agreeable.”

Edward was up the next morning with the sun, and strolling to the rampart, he remained motionless with astonishment. The small extent of country which he saw was one continued garden full of orange, lemon, and bergamot trees; between these were planted peas and all other kinds of vegetables; to these were added plots of roses, carnations, ranunculus, anemones, and daffodils, all blowing with such vigour and perfume, as no flower in England ever exhibited: behind the town rose stupendous mountains, the most distant covered with snow; and before him stretched the magnificent ocean. The morning being extremely clear, a fisherman, who was pleased with the astonishment imprinted on his countenance, joined him, and pointed out in the distance the shores of Corsica. He also invited him to his hut, and presented him with some fine carnations, large quantities of which he said were shipped off for Turin, Paris, and even London, every autumn. They are packed up in boxes, without any preparation, one pressed upon another: the person who receives them, cuts off a little bit of the stalk, and steeps them for two hours in vinegar and water, when they recover their full bloom: they may then be placed in water bottles, where they are screened from the severity of the weather, and they will continue fresh and unfaded the greater part of a month.

Edward returned home to breakfast, delighted at the thoughts of sending carnations to England; and detailing to his friend the particulars of his morning excursion, he proposed packing up the flowers immediately, and dispatching them to his mother. “ What a climate this is, Sir!” continued he.

“ And did you meet no disagreeable amidst the profusion of sweets you have described?” enquired his tutor.

“ Why, yes, I did certainly,” replied Edward, “ the lizards annoyed me a good deal in the gardens, and I was stung to death with gnats and flies.”

DR. WALKER.—“ And last night did you feel no inconvenience from fleas, &c. &c.”

EDWARD.—“ I confess I did not sleep much, although I had gauze curtains to my bed.”

DR. WALKER.—“ And see what a swarm of flies covers every article of your breakfast. You are strangely altered methinks; and as you are become so well satisfied with all these inconveniences, put on your hat and we will go and see the ruins of the ancient city Comenelion, now called Cumia. The hills are, I understand, infested with snakes, and some few scorpions; but to us, who are now philosophers, these animals will only present a study for natural history.”

There are the remains of an amphitheatre at this place, and of an aqueduct, and in defiance of the various disagreeables they met with, our travellers were highly pleased with their little excursion.

The natives of this place are extremely fond of festivals, and much of their time is lost in entertainments, which somewhat resemble an English fair. There are a great many noblesse in this part of the country; but they are very poor. Smollet says that a friend of his having taken shelter for the night in a cottage belonging to one of these noble families, the next morning he heard the father address his son in the following extraordinary manner: "*Chevalier, as tu donné à manger aux cochons.*"

"I have hired mules and guides to conduct us to Turin," said the Doctor, "and to-morrow morning we start; but mind, Edward, we set off extremely early, in order to avoid meeting the long string of mules in the mountains, which pass daily between Coni and Nice. L'Escarene was the first village they met with, and from thence passing the mountain called Brans, which took up four hours, they reached Sospello, where they slept a few hours only. After passing one other mountain, not quite so high as Brans, they fixed their quarters for the night at La Giandola, a tolerable inn. These mountains are infested with smugglers, and our travellers were under some little apprehension, lest they should be attacked, as they observed two or three extraordinarily dressed figures in several parts of the mountain, the Doctor fired his pistol, hoping that the reverberation from the neighbouring mountains might induce them to suppose their party was large, and divert them from making any attack upon them; but he forgot that the mountains were covered with snow; and that his pistol, though well loaded with powder, would make no more noise than a pop-gun. An involuntary laugh followed this tremendous explosion, and the gentry who had excited his apprehensions disappearing, they proceeded merrily on, till they came to the natural cascades, formed by the little river Roida, which runs in a bottom between frightful precipices. Here there was noise enough, for there was little or no snow on these mountains, and every sound echoed from rock to rock, and produced a surprising effect. The Col de Tende was a more formidable undertaking than they had supposed; and when they reached the inn, called La Ca, which is about half way up the mountain, they hired fresh guides to assist them in ascending. These men carry a kind of hoe to break the ice, and make a sort of step for the mules. When our travellers were near the top, they were obliged to alight and climb the mountain, supported by two of their guides, (Coulants as they are called,) who from habit ascend these snowy regions with as much ease as if they were traversing an even grass plot. The summit of the Col de Tende presents no object either of interest or beauty, and without delay, therefore, they seated themselves in a kind of sledge, called a Léze, made of

two pieces of wood, which are carried by the *coulants* for the accommodation of passengers. One coulant stands behind, and the other before, as conductor, with his feet paddling in the snow, in order to moderate the velocity of the vehicle. Limon stands at the foot of this mountain, and in a very short time our travellers entered the beautiful plain which extends to the very gates of Turin, the chief city of Piedmont. Turin is seated at the foot of the Alps, and at the confluence of the Doria and Po. It is extremely elegant, and the citadel is a master-piece of architecture. Our travellers entered this city by the gate of Nice, and passing through the elegant Piazza di San Carlo, they took up their quarters in one of the principal inns in the great square called La Piazza Castel. The regularity of the streets of Turin is remarkable, and in order to preserve this, no inhabitant is allowed to make any alterations and repairs, but on a uniform plan, laid down by the government. The walks along the Po in its environs, are extremely picturesque, and the city itself presents from thence an imposing appearance. The fortifications are regular, and are kept in excellent repair. The king's palace stands at the end of the Strata di Po: it consists of two magnificent structures in a simple but noble style of architecture, joined together by a gallery, in which are several pictures, statues and antiquities of great value.

“Why,” said Edward, as they sat down to breakfast the morning after their arrival, the clock strikes five, and I am sure my watch is right, and it is by that nine.

DR. WALKER.—“Know you not, Edward, that the Italians count the commencement of the day at sunrise, and conclude it at sunset? That their clocks strike in general twenty-four hours, and that the sun having risen to the inhabitants of London this morning at 4 o'clock, (it being the 19th of July,) your watch must necessarily be nine; though the clock here has struck five, for as the day commences with sun-rise, and as that took place at 4 o'clock, it must needs be five. Some of their clocks go no further than twelve, and some not beyond six, and then begin again.”

EDWARD.—“This mode of reckoning appears to me to be attended with much inconvenience. When it strikes three times in the four and twenty hours, how are people to know what three it is?”

DR. WALKER.—“That is rather a simple question, but not more simple than the people are who adopt that mode of reckoning time. It reminds me of the savages who count by moons. The height, however, of the sun, and the general aspect of the day, of the pursuits that are going on, and so forth, these would to all those who are accustomed to make use of their eyes, indicate which of the three it was; and as for strangers, why they must make use of their eyes too, if they have not watches of their

own; but let us now take a stroll through the city, and see what the people are doing at this hour."

As they quitted the inn, a funeral passed by, and it being the first they had seen in Italy, their curiosity induced them to follow the procession. The body, as is customary in this country, was dressed, with the face uncovered, and it was laid upon an open bier; all this they expected; but they were not prepared to see the corpse tumbled headlong into a grave without a coffin. Upon enquiry they found the custom very general; and they were informed that every parish church was furnished with a vault, and that numbers of bodies were often precipitated together into this common receptacle of fallen man. This disgusting custom is sometimes productive of serious consequences, and many epidemic disorders are frequently caused by the noxious effluvia of these places.

SECTION II.

GENERAL VIEW OF ITALY.

UPON their return home, Dr. Walker desired Edward would bring out their Atlas, that they might skim the geography of Italy.

"Italy," continued the Doctor, "is longitudinally divided by the Appennines, and was anciently called 'the Garden of Europe;' and it still merits that title in a certain degree; but the dreadful ravages of the Huns converted many of its fertile plains into deserts; the pools of such places became stagnant, and the atmosphere insalubrious. Where the ground is high, and well cultivated, the air is dry and pure, and the weather in general serene, though liable to violent rains. In summer the heat is so great in the south, that it would be intolerable if it were not tempered by cool breezes from the Appennines and the sea. The northern confines are varied with lakes and the towering Alps. Mount Gorgona, the spur of the Appennines, adorns the Gulf of Manfredonia.

The subterraneous treasures of this beautiful country are no ways inferior to those which adorn and enrich its surface. Its rivers are not numerous; the Po is the principal; it rises in Mount Viso, one of the highest of the Alps, and after receiving upwards of thirty rivers, as it flows to the eastward by Turin, Casal, Valenza, Placenza, Cremona, it falls into the Adriatic by seven mouths. Its course is about 300 miles. The Arno rises in the Appennines, visits Florence, Pisa, and

falls into the Mediterranean. The Tiber's course is south by west; it runs about 150 miles, passes Orta, and 10 miles below Rome mixes with the Mediterranean sea. The Adige runs south and east, passes Verona, and empties itself into the Adriatic, just above the Po.

The principal islands are Corsica, Sardinia, Sicily, Ischia, and Elba.

EDWARD.—“The marbles of Italy are very valuable, I think, Sir. I have heard of the Florentine marbles, and those of Carrara, as being much valued by architects.”

DR. WALKER.—“The Carrara marble is highly esteemed by statuary, and the Parian, which is considered the purest of all, are indeed denominated *statuary marbles*. Carrara also produces a deep blue-coloured marble, called Bordiglio, which in texture resembles the white from the same place.

“Cipolin is also a statuary marble, traversed by veins of mica.”

EDWARD.—“I do not quite comprehend what mica is.”

DR. WALKER.—“You have seen the Aberdeen granite, with which many of the streets of London are paved. You have observed, I dare say, that there is a bright sparkling about it. Those bright particles are mica, the pale blueish substance is quartz, and the darker material is feldspar. The superiority of the Parian marble over that of Carrara is this—the latter is intermixed at times with a considerable portion of quartz; while the former is composed almost solely of carbonate of lime. Lumachella, (in English, *small snail*, this marble being principally of shells,) is a beautiful marble of a greyish brown colour, containing shells that still retain their polish. Bleyburg, in Carinthia, produces the finest of this kind: the base is a greyish brown compact limestone, in which are implanted shells of a fine colour and beautiful iridescent hues.

“The Florentine marble is composed of a very compact argillaceous limestone, of a grey colour, with designs of a yellowish-brown, representing architectural ruins.”

“That must be the most interesting of all,” interrupted Edward.

DR. WALKER.—“Then there is the yellow Sienna and the Campan, the Verde Antico, Verde de Corsica, and many other varieties. There are a mixture of granulatory foliated limestone, calcareous spar and serpentine, with threads of the asbestos. I believe I mentioned to you some time ago, that there was an elastic marble; I have since discovered that it is phosphoric: that is to say, it emits an iridescent light, under particular circumstances. This property is not confined to the *elastic* marble, for some on being merely rubbed in the dark, and others on being previously exposed to a strong heat, emit this phosphoric light. Of these kinds of phosphorescent stones, that generally denominated the Bolognian stone is the most curious. A casual disco-

very made by Vincenzo Cascariolo, a shoe-maker of Bologna, about the year 1630, was the first circumstance that attracted the notice of philosophers on this curious subject. This man, whose mind it seems was more bent upon making discoveries in alchemy, than on the art of making shoes or mending soles, was induced to calcine a parcel of Bologna spar, which he had procured from Monte Paterne, in the neighbourhood of the city. He observed that when any of this calcined substance was placed in a dark room, after having been exposed to the sun, it continued to emit faint rays of light for some hours afterwards. In consequence of this discovery, the Bolognian spar acquired considerable repute, and the family of Zagoni supplied all Europe for a time with phosphorus. The process employed by this family, is not now known; but Kircher says, that if the spar be finely pulverised, and then beaten up into a paste, with white of egg, or linseed oil, and calcined in the fire, it will, after exposure for a minute in the light exhibit its phosphorescent quality. I cannot help making one observation, which is, perhaps, rather irrelevant to our studies, at least as far as concerns Italy. It is a singular fact, that in New Holland no *limestone* of any kind has hitherto been discovered; in consequence of which the builders are obliged to employ coral, or the shells of shell-worms for their mortar, which they collect in prodigious quantities along the sea-coast. It is perhaps equally singular, that the siliceous particles called *flints*, are seldom found in Norway, and that in North Wales, in the county of *Flint*, they are scarcely ever to be met with."

EDWARD.—“ That is indeed extraordinary; for its name would lead one to suppose that it contained an abundance of those peculiar stones. Pray, Sir, is not the Asbestos found in Italy?”

DR. WALKER.—“ In Corsica it is found in such large quantities, that Dolomien used it to pack up other minerals. It is of various kinds, and has of course various names; for instance, the most flexible is called *mountain flax*; other species known are mountain cork, mountain leather and elastic Asbesios. It is, as you know, extremely flexible and incombustible; in consequence of this latter quality, it was used for wrapping up the bodies of the dead previous to their being burned. In the island of Cuma, which is in the bay of Naples, a tomb of the family of Pavilia, being opened not very long ago the bones of four corses were discovered in four pieces of stone: they were covered with a cloth of amianthus, which had become calcined by the salts of the earth, in consequence of which this cloth was very brittle, and could only be taken up in pieces: it was proved to be Amianthus, by putting it in the fire, where it remained unchanged.

“ The usual colour of *mountain flax* is greenish white, passing into leek green: it is also found of a silvery white, yellowish white, ochre yellow, pale flesh red, and occasionally but very

rarely of a light-blue colour: it sometimes lies in separate bundles: but most generally in irregular fibrous masses. Its lustre is glimmering, or slightly shining, and is either weak, pearly or shining. It is easily divisible into long slender fibres, may be scratched by the nail, and has somewhat of a soft greasy feel."

EDWARD.—“ It must have the appearance of spermaceti, from your description, Sir?”

DR. WALKER.—“ So it has indeed. It is generally opaque; but sometimes is translucent on the edges. This mineral is said to contain magnesia, silix, alumine, lime, and oxide of iron. The value of the cloth made from it has of yet been but small; but it has engrossed the attention of philosophers very much: and Ciampini of Rome, in 1691, published the following as the best way of preparing the incombustible cloth. Having previously steeped the Amianthus in warm water, divide its fibres by gently rubbing them between the fingers, so as to loosen and separate all the extraneous matter; then pour on repeatedly very hot water, as long as it continues to be the least discoloured, Nothing will now be left but the long fibres; which are to be carefully dried in the sun. The bundles of thread are to be again divided by very fine cards, and the long filaments thus obtained, are to be steeped in oil, to render them more flexible. A small quantity of cotton or wool is to be mixed with it, and by means of a thin spindle, the whole is to be drawn out into a thread, taking care that in every part, the amianthus may be the principal material. The cloth being then woven in the usual manner, is to be placed in a clear charcoal fire to burn off the cotton and oil, when the whole remaining tissue will be pure white amianthus. The shorter fibres that are incapable of being woven, are sometimes made into paper by the same process as that employed for common paper, except that a greater proportion of size or paste is necessary. After having been made red hot, however, this paper becomes bibulous and brittle. Amianthus threads are also sometimes used as perpetual wicks for lamps, and although they require to be cleared occasionally from the soot that collects about them, and the fibres are apt to run together, on the hottest part of the flame, so as to prevent a due supply of oil, yet I am rather surprised it has not been more generally applied to that purpose. It is found in Elba and Crete, in Saxony, Sweden, Cornwall, Anglesea and Portsay in Scotland.”

SECTION III.

JOURNEY IN ITALY.

“ BUT we have wandered strangely from Italy. Let us enquire of our landlord if there is any thing worth seeing in the environs of the city.”

Their host told them, that at about 16 miles distance, there were the remains of a Roman city, called *Industria*, at a village called *Monteu*.

"It will be a pleasant excursion for this afternoon," replied the Doctor, "so my good friend procure us somebody that will immediately attend us." In a very short time they were accommodated, and in about two hours and a half they reached the spot, and were shewn vestiges of an ancient fabric, which from various inscriptions upon this and several other places, it was declared to be a part of the remains of the celebrated city *Industria*, mentioned by *Pliny*. Several medals and inscriptive plates were also discovered, and a tripod of the most exquisite beauty, adorned with fine alto relievos. The pillars which support it are each adorned with four small figures. The first is a *Venus*, the second a *Victory*, the third is a *Harpy* with a woman's face, and the fourth is a *Setenus*. These pillars are joined together by little bars of metal, fastened by rivets at the top, and rings at bottom, in such a manner that they may be closed together, or drawn asunder at pleasure. When they are extended to their utmost, the size of the tripod is twenty eight inches.

"*Casall* was supposed to have been the ancient site of this city," said the Doctor; but the learned, in general, are now of opinion that *this* is the spot on which *Industria* stood."

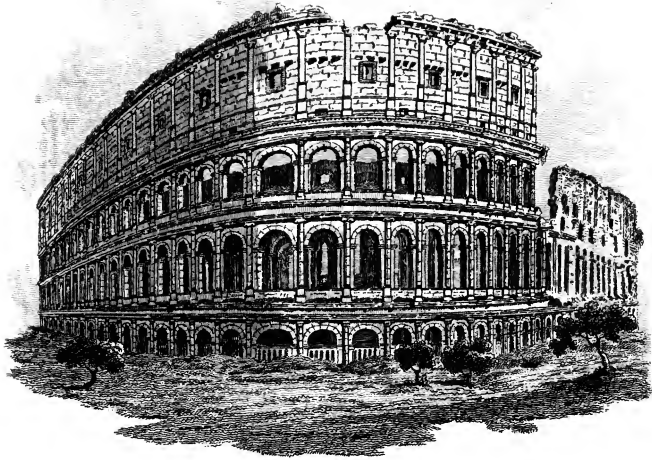
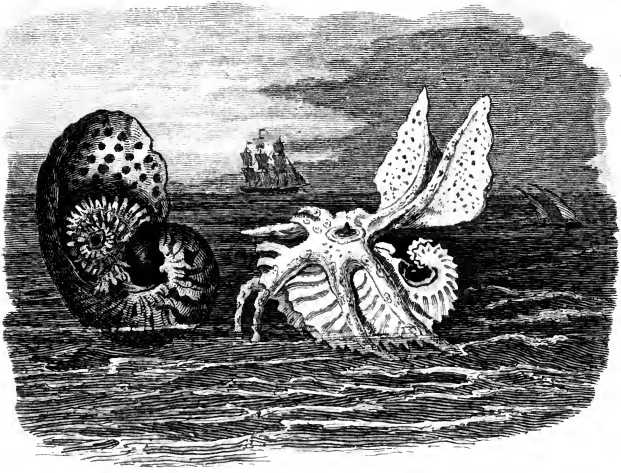
It was late in the evening when they again entered *Turin*, and having packed up as far as they could, in order to resume their journey on the ensuing day, they retired to rest.

"*Milan*," said the Doctor, as they approached that city, was the former capital of the kingdom of *Lombardy*, and was founded by the *Gauls* about 584 years before the *Christian* æra. It is about 10 miles in circumference, and called, by the *Italians*, '*Milan the Great*.' It has an extensive cathedral, entirely built of marble, except the roof, which is only surpassed by that of *St. Peter's*, in *Rome*. The soil of this part of *Italy* is, as you must have observed, *Edward*, extremely fertile in corn, wine, fruit, rice and olives, and it abounds also with cattle.

"In the *Milanese* are *Pavia*, formerly the chief city of the *Lombards*. *Como*, a rich town, which gave birth to *Pliny the younger*. *Lodi*, noted for the desperate conflict between the *French* under *Napoleon Buonaparte* and the *Austrians*, and *Cremona*, on the *Po*, a large, rich and strong city."

The first day of their arrival, they visited the Cathedral; and were in some degree much disappointed, for the interior of the edifice, is so completely disfigured by the smoke from the innumerable lamps which it contains, that all idea of its being *marble* vanishes, and the *English traveller*, who is accustomed to see the cathedrals of his own country, which are built of much inferior materials it is true, preserved with the nicest care, and as clean as it is possible to keep them, feels at first a disgust at entering the magnificent and noble Cathedral of *Milan*.

Pearl Nautilus -- Paper Nautilus.



Coliseum.



“ It is said there are eleven thousand statues in this church, if so, this enumeration must include figures of every size and denomination. Among the principal, is that of St. Bartholemew, with his skin hanging over his shoulders as a drapery. The execution of this statue is exquisite: but the subject is so shocking that our travellers scarcely gazed upon it long enough to remark the lines inscribed on its pedestal. They are in Latin, and in English run thus :

‘ Lest at the sculptor *doubtfully* you guess,
’Tis *Marc Agrati*, not *Praxiteles*.’

“ This statue is reckoned worth its weight in gold.

“ Just at the entrance of the choir is a little subterraneous chapel, dedicated to St. Charles Borromeo, where they saw his body in episcopal robes, lying upon the altar in a shrine of rock crystal. This little chapel is richly adorned with silver work. There are two noble brass pulpits in this cathedral, each of them running round a large pillar of the same metal. They were shewn an innumerable quantity of relics; and some of the bones of their countryman Thomas à Becket, formed a part of this valuable collection. He appears to be a great favourite in Italy; for few of the principal cities are without some part of his remains.

“ St. Ambrose was bishop of Milan,” observed the Doctor, as they passed out of the cathedral; “ and in a convent of Celestines they will shew us the gate that this bishop had the hardihood to shut against the emperor Theodosius; refusing to admit him to the holy sacrament, until he had atoned for his cruelty to the Thessalonians. We will visit this convent, for the library contains many fine pictures. Of the books I can say but little, for the Italian libraries generally contain more paintings than MSS. more statues than folios.” This they found was the case in the present instance; they were shewn a few very valuable and ancient MSS. and busts of many learned men. Edward eagerly looked for those of Locke, Newton, Milton, &c. &c. but in vain. I see no Englishman at all,” said he, as he looked at the different busts. The Librarian pointed out one of *Fisher*.

“ Who was this learned Fisher, Sir?” said the youth, addressing Dr. Walker, “ I never heard of him.”

“ What! have you never heard of Bishop Fisher!” replied his friend, “ whom Henry the VIIIth put to death for not acknowledging his supremacy? Now, although, I pity Fisher’s fate, I cannot but smile to see him placed here as a learned man. Do you recollect Cowper’s lines on seeing some names of little note recorded in the *Biographia Britannica*. He compares the

‘ Attempt to give a deathless lot,
To names ignoble, doomed to be forgot.’

to the sparks of fire: but you shall have it in his own words.

‘ So when a child, as playful children use
 Have burnt to tinder a stale last year’s news,
 The flame extinct, he views the roving fire;
 “ There goes my lady, and there goes the squire;
 “ There goes the parson—Oh, illustrious spark,
 “ And there, no less illustrious—goes the clerk.”

And so Mr. Fisher ought to be much obliged to these good people for placing him as one of the *learned* men of England!

“ If they had made a martyr of him I should not have been at all surprised,” said Edward.

The following day our travellers made an excursion to a Carthusian monastery, near Pavia, where Francis 1st was confined, in order to view its fine Gothic architecture. The country round Milan is extremely picturesque, and this little journey gave them the most unalloyed pleasure. The monastery is spacious and beautiful, and the chapel, contrary to the usual custom of this order, is curiously adorned in a Gothic style of architecture. Upon quitting Milan, they passed through many luxuriant and well-watered fields, on their way to Lodi, whose neighbourhood is celebrated for the making of Parmesan cheese. As the meadows are parcelled out among many proprietors, and the smallest cheese manufactory requires the milk of at least fifty cows, different individuals are usually associated in one concern.

Binasco, which Buonaparte caused to be burnt, lies on the road between Milan and Pavia; indeed the part of Italy they were now traversing, was most interesting. The whole of it having undergone many revolutions during the late war. From Lodi they continued their journey to Cremona, so celebrated for its violins, and Bozelo; but they made no stay in either of these places, and continued their journey till they arrived at Mantua, after traversing innumerable windings over an extensive plain, which is unenlivened by any variety whatever. When Buonaparte invaded Italy, and had subdued Mantua, as well as a great many other places in its vicinity, the inhabitants were no sooner freed from his presence, than they revolted and imprisoned those persons who had been appointed by him to support the *free* government he had established in the city. His rage was unbounded when he heard of these proceedings, and returning to wreak vengeance on the inhabitants, he declared, ‘ that if a single hair of any of his people had received the least injury, he would level Mantua with the dust, and erect a pillar on its ruins with this inscription—*Here stood Mantua*; fortunately all his people were in good health, and when he saw them in good spirits. A monument to Virgil was erected in Mantua during the consulship of Bonaparte. The bust of the poet is placed on a high column, supported by four iron swans, which are covered with plaister of Paris. The plaister has already begun to fall off, and the whole has a most pitiful and mean appearance: indeed

our travellers were much disappointed upon entering Mantua, and quitting it for Padua much sooner than they expected, they entered that city, after passing through Porto and Este. Their first visit, the next morning, was to the church of St. Justina, the most handsome disencumbered building in the inside they had yet seen; indeed it is esteemed by many artists as one of the finest works in Italy. The long nef consists of a row of five cupolas; the cross one has, on each side, a single cupola deeper and broader than the others. The martyrdom of Saint Justina, painted by Paul Veronese, hangs over the altar. In front of this church is a wide area, called the Prato del Valle, where booths and shops are erected for all kinds of merchandise during the fair. The ornaments of the church consist principally of Mosaic work, of marble of various colours. Dr. Walker and his pupil were pestered on all sides by beggars, even in the church; as it is the case indeed throughout the whole continent of Europe. Having relieved one or two, they were soon surrounded by a crowd, who were clamorous beyond all description. "No," said the Doctor, who was irritated at their noisy importunity, "neither St. Anthony, nor Saint Francis will serve your purpose; not a single sol will I give to any one of you. I am astonished," continued he, as they quitted the church, "that these vagrants should be allowed to molest and torment strangers in such an abominable manner. Kotzebue says, and I perceive how justly now: 'Whoever wishes to see a model of a wretched police, let him only visit the towns of Italy.'

"Padua has an university, which was formerly very famous, but it is now on the decline like its cloth manufactory, and many other excellencies of which it formerly boasted.

"Suppose," said the Doctor, "we make an excursion to Verona, and take a peep at the celebrated Amphitheatre, which Mr. Du Bourg has so faithfully represented in his cork model; and which is exhibited in London."

The proposal was warmly seconded by Edward, who anticipated much pleasure from the inspection of a place of such great antiquity, and of which they had heard so much. Their journey was extremely pleasant, for between Padua and Verona the country is thickly planted with rows of white mulberry trees, which are much cultivated in this neighbourhood, on account of the great number of silk-worms which the inhabitants rear; these are fed upon the leaves, while the poultry and swine consume the fruit. The trees themselves serve at the same time as stays for vines, which hang in luxuriant festoons from branch to branch; and between their several ranges lie fields of corn, which ripen much better in this warm climate, when screened a little from the intense heat of the sun, by the luxuriant foliage of the mulberry trees, than when exposed to its burning rays. The rich luxuriance which such a country must present, inspired our travellers with extreme delight.

“The country about Verona,” said the Doctor, as they approached that city, “has been considered as a great natural cabinet, in which a number of extraneous bodies have been preserved, some belonging to sea, and others to land animals. A short time ago there was found in the environs of this city, a tusk about thirty inches in circumference at the root, and from twelve to thirteen feet in length. I am almost sorry we did not prosecute our journey from Turin along the Po, we should then have seen the Lago del Garda, the ancient Benacus, which Virgil so beautifully describes; do you remember the lines, Edward?”

“EDWARD.—“ In English, I do, Sir.”

‘ Here vex’d by wintry storms Benacus raves,
 Confus’d with working sands and rolling waves;
 Rough and tumultuous like a sea it lies
 So loud the tempest roars, so high the billows rise.’

Verona stands on the Adige, and our travellers entered the city with mixed emotions of admiration and regret. During the late war this fertile country was the scene of many hard fought battles; and Bonaparte, whose exploits in Italy would fill a volume, ceded one-half of the town to Austria, and attached the other half to his kingdom of Italy. The celebrated amphitheatre at Verona, is, however, greatly indebted to the exertions of Buonaparte, for he caused the area to be excavated, which had been for many years filled up even as high as the lowest row of seats for the spectators. The doors are now visible through which the wild beasts used to enter, and the whole is in a high state of preservation. Many of the lower arches are fitted up as small shops. The high walls and corridors that went round it are not quite perfect, but the different rows of seats, and those at the two extremities, which the Emperor and his guards used to occupy, are all entire. Besides the amphitheatre, there is a triumphal arch erected to Flaminius, where the pillars are Doric, without any pedestal or base.

Among the more modern buildings of Verona, the church of St. George is the handsomest. The martyrdom of the saint is in a fine style, and was the work of Paul Veronese. Verona contains also the statues of Pliny the elder, and Cornelius Nepos, both of whom were born here. The silk and woollen manufactures in this town employ above 20,000 persons; next to these are gloves and leather, which are sent to all parts of Italy.

SECTION IV.

JOURNEY TO VENICE.

DR. Walker having seen all that was remarkable in Verona, and in its neighbourhood, proposed returning to Padua, from whence they were to continue their journey to Venice.

Not far from this place is Vicenza, which gave birth to the celebrated architect Palladio; it contains above 20 palaces from his designs; here are also 60 churches, many fine public buildings, an academy for the improvement of the Italian language, and another for agriculture. It manufactures damask and taffeta; and its machinery, on the banks of the river, for winding silk, is said to be unrivalled. Its university is in great repute, especially for medicine. Here Titus Livy, the Roman historian, was born.

Venice makes a very noble appearance at a distance, its stately buildings and lofty steeples appearing to rise from the bosom of the sea. The *Laguna*, or marshy lake, which divides the city from the continent, is five Italian miles in breadth, and our travellers having crossed this, landed in the middle of the city, and took up their abode at one of the principal inns in the place. The very evening of their arrival, they joined the numerous assemblage of persons in the Place of St. Mark. Here many persons were in masks, many in their ordinary dress, and some few had a mask stuck in their hat, wearing a black cloak trimmed with lace of the same colour thrown over their shoulders. The mask in the last instance, is an apology for an undress; and a person in this costume is sufficiently adorned for any assembly in Venice. The scene was new, and highly diverting to our travellers, for the Piazza being illuminated, and the shops in the adjacent streets been lighted up, the effect was very brilliant. Italian music too added its charms, while Mr. Punch, enacted his ancient and doleful tragedy, and went through all his evolutions with wondrous eclat. They had more than once been amused since their entrance into Italy with the puppet shews, which are conducted with great ingenuity.

The inhabitants of every district of Italy are passionately fond of this sort of spectacle: and the theatres of the *Burattini* are always crowded with men of all ranks and ages. Here are performed tragedies, comedies, operas, and even pantomime ballets, which are truly extraordinary for the richness of their accompaniments, the rapidity of change in the decorations, and the singularity of the transitions. The figures are generally very small, but the wires are so arranged as to be capable of executing

all possible movements with astonishing quickness : the effect of the pantomimes is particularly striking.

On the following evening they went to one of the play-houses, where a harlequin entertainment, of the most ludicrous kind, delighted the audience extremely, who appeared as much pleased with the buffoonery of Signor Arlequino, as an English audience would be with that of Joe Grimaldi, under the same circumstances. One piece of *wit* drew forth the most clamorous tributes of applause. A stutrer having in vain endeavoured for a length of time to name the place where Columbine was hid, Harlequin patted him, fanned him, soothed him, scolded him, and caressed him : he then unbuttoned his waistcoat, untied his neckcloth, but all to no purpose, the unfortunate word still stuck in the stutrer's throat, and almost choaked him : he gasped for breath, and appeared on the point of expiring, when Harlequin considering that desperate diseases require desperate remedies, suddenly thrust his head violently against the stomach of the unfortunate stammerer, and the word instantly popped out with such violence as almost to startle the audience. The effect was beyond all description ridiculous : and for a length of time

“ Unextinguished laughter shook the” *house*.

The extraordinary *alteration* in the man's countenance ; the sudden transformation of his inflated figure into its original size, the antic joy of Harlequin upon having succeeded so well in his design, kept up the roar of laughter, and more than once the performance was partly interrupted by the mirth which this scene had produced.

Edward returned home delighted with Harlequin, and regretted that he could never describe this scene to his mother, so as to excite more than a smile. Among those customs which struck him as singular at the theatre, was this. Between the acts, the company, particularly the ladies, walked about with their cicisbeos, and amused themselves with spying at the company through their glasses. As they are all masked, and in general dress very much alike, they can pursue this amusement without fear of being recognised. Indeed the Venetian ladies who are of rank, dress in the same style : they are not permitted to wear jewels, except the first year after their marriage ; their robes are always *black*, and a gold chain, or a string of pearls round their wrists is their only ornament.

“ The ancient constitution of Venice,” observed Dr. Walker to his pupil, “ was most powerfully aristocratic : the people had no share whatever in it ; but justice was perhaps no where so impartially administered, nor any where so inflexible. Among the proofs brought forward to establish this fact, I shall recite one only.

“ Foscarì, son of the Doge of the same name, was taken up on suspicion of having murdered one of the *Council of Ten* ; being unable to prove his innocence, he was banished to Caudia. He

repeatedly wrote to his family to interfere in his behalf; but they could not, consistently with the established laws and customs of their country, do any such thing. One of the laws of Venice makes it a capital punishment for any subject of the republic to claim the assistance of any foreign power. In despair, Foscarì resolved on addressing the Duke of Milan, well knowing that the bearer would carry his letter to the Council of Ten, and that he should be called to Venice in order to undergo a new trial. This was what he wished, and when brought before his judges, he declared that he had written to the Duke, not hoping that any alleviation of his fate would follow this breach of the laws of his country; but solely that he might once more be permitted to see his father and mother, a pleasure for which he had languished day and night.

The Council of Ten unmoved by the excess of feeling and anguish, which this speech betrayed, sentenced him to one year's imprisonment, and banishment for life. In an interview he had with his parents in the Ducal palace, he entreated his father would endeavour to soften so harsh a sentence. "My son," said the aged and broken-hearted Foscarì, "submit to the laws of your country, and do not ask me what is not in my power to grant." His courage supported him thus far; but overcome by the poignancy of his feelings, he immediately fell into a state of insensibility. The feelings of a mother upon such an occasion, who shall attempt to describe? A few years afterwards, when some of the principal senators, touched with the woes of this illustrious house, had hopes of procuring his pardon, the melancholy news arrived, that the unfortunate youth had breathed his last. The elder Foscarì survived his son long enough to enjoy the satisfaction of knowing he was proved *guiltless*. A Venetian nobleman having confessed in his dying moments that he had committed the murder for which young Foscarì had suffered so unjustly and so severely!"

EDWARD.—"Oh, what a cold, hard-hearted wretch was that Venetian! I could almost have pardoned him the murder had he not caused so much misery to the innocent Foscarì."

The famous Rialto, the principal of the Venetian bridges is ninety feet wide, on a level with the canal. It consists of one arch which is twenty-four feet high, and which is composed of marble. The view from this bridge is delightful: indeed it is the only one which merits attention in Venice. Magnificent palaces and churches border the canal over which it stretches, and its surface is always varied if not enlivened by boats and gondolas; but these being generally lined with black, their appearance is rather mournful. The architecture of the church of St. Mark, is mostly Gothic: but it contains also some Grecian orders. The outside is encrusted with marble, and every part of the interior is adorned with the finest specimens of marble also. But a bad taste pervades the whole, and it is so gloomy and dark

that much of its rich adornings is lost upon the spectator. In the front are five brass gates, over the principal one stand the four restored horses which Buonaparte had carried to Paris. They have, however, resumed their former position.

“ They have been great travellers,” observed the Doctor; “ for they are said to have been the work of Lysippus, and were originally destined to be harnessed to the chariot of the sun. They were given to Nero by Tiridates king of Armenia; the Roman emperor placed them on the triumphal arch erected to him; they were afterwards carried to Constantinople, when Constantine removed the seat of empire to Byzantium, and there adorned the Hippodrome. In the beginning of the thirteenth century the French and Venetians took Constantinople, and these horses were then conveyed to this city, where they remained the pride and glory of Venice, until they went on their Parisian trip. The ducal palace is almost composed of marble; but though an immense building, it possesses no striking feature of beauty, except the spacious stair, called the Giant’s Stair: which obtained this name, from two colossal statues which stand on the top of it, the one of Mars, the other of Neptune. Under the portico are the gaping mouths of lions, to receive any anonymous accusation or letters.”

“ There is a covered bridge from the palace, to a state prison on the opposite side, called Ponte del Sospiri, over which the prisoners pass to and from the courts of justice.”

“ Ponte del Sospiri!” repeated Edward, as the bridge was pointed out to him, “ It makes one sigh to hear of it.” There is an opening to the sea upon St. Mark’s Place, on which stand two lofty pillars of granite, between which criminals condemned to suffer death privately, are executed.

SECTION V.

FERRARA, BOLOGNA, THE APENNINES.

Having satisfied their curiosity with regard to Venice, our travellers embarked on board a barge, and proceeded along the Brenta as far as Paglio; they then entered a canal, and finally the river Bachiglione, which brought them to Padua. The shores of this beautiful river are richly adorned with the villas of the Venetian nobles, over which the trembling aspen, and the light foliage of the birch, the larch, and various other trees, throw a pleasing and grateful shade. They staid at Padua but to sleep, and the next morning early they set off for Ferrara. The magnificent buildings and fine streets of Ferrara, evince that it was once rich and flou-

rishing. - The province was formerly one of the finest in Italy, but it is now overrun with marshes, the inhabitants being too few to drain them, and the air consequently very unwholesome. This place was formerly famous for the manufacture of sword blades, and the name of one of its ancient manufacturers, that of *Andrew di Ferrara*, is well known to the highlanders of the present day, for the usual appellation of a well-tempered blade among that warlike people is still an *Andrew Ferrara*.

Upon first quitting Ferrara, they found the roads extremely bad, but as they approached Bologna, from which it is distant about twenty-five miles, they were again charmed with the beauties of Italian scenery. The farm-house, where it is large, is surrounded by arcades; the villa is surrounded with cypresses, which harmonize happily with the building, and make a pleasing break between its formal lines, and the dishevelled foliage of the middle ground and distance. The church is such as would form the ornament of a city in England and France; and the oratory, under trees by the road side, with its *fresco* paintings, completes the scene. The remote origin of this elegance seems to have been the magnificence of the Italians, when "wealth was theirs;" and the impulse would appear to have continued after the cessation of the cause. Many circumstances have seconded this; and hence, perhaps, architecture has survived so many of her sister arts. One of the most obvious is the abundance of materials, which are furnished by stream and mountain, and the cheapness of manual labour. Other causes, too, have indirectly contributed to this effect. Thus the proprietors, (at least in the plains,) being almost always rich, naturally seek to give stability to their farm-houses, and to adapt them to the purposes which they are to answer. These purposes themselves, come in aid of architecture; for here porticos, or arcades, form the cheapest and pleasantest apartment during the greater part of the year, and are moreover conducive to the purposes of husbandry; as such, for instance, afford a place of deposit for the pods of the Indian corn, where it is laid to dry, and afterwards beat out for use. But more must, after all, be referred to the more general principle, the hereditary passion of the Italians for architecture, and their local monuments.

Amidst such scenery, with the lofty Apennines as a background, who could travel unmoved? Not our travellers, who entered Bologna when the setting sun threw his slanting, glowing beams athwart the lovely scenery.

Bologna, on the river Remo, is connected with the Po by means of a canal; it ranks next to Rome for its architecture and paintings, and the silks and velvets made here are in great estimation: its river turns 400 mills for the works of the former.

Bologna contains many palaces and halls for the courts of justice. In the middle of the area before the *Palazzo Publico*, is a

superb marble fountain. The principal figure is a statue of Neptune, eleven feet high, with one hand extended, and the other holding a trident. The God of the Ocean is surrounded by tritons, dolphins, and syrens, all in bronze, of the most exquisite workmanship. The city is very regularly built, and on each side the streets are adorned by arcades. Its university was formerly very famous, but its reputation is considerably decreased. In the gallery of Sampini there are many fine pictures; that which they most admired was one by Bellini, the master of Titian. The subject is Mary holding the corpse of her son. The living is distinguished from the dead only by the half-closed weeping eye. Her lips are pressed to his as if to be assured the vital spark had fled. The ceiling of this gallery is painted in fresco, by the three Caracciis. The subject is the achievements of Hercules. The palaces of Rambeccari, Caprara, and Bentivoglio, contain many valuable pictures.

On quitting Bologna, they prepared for a picturesque journey, and upon arriving at Fiorenzaela, they exchanged their horses for mules, and hiring a vetturino, they at length began to ascend that chain of mountains which runs through Italy. The lower part of the Apennines is covered with vineyards, interspersed with chesnut woods; these are succeeded by the more hardy oak; and as our travellers ascended still higher, they found a low shrubbery usurped the place of the monarch of the forest. Vegetation now became more rare; here and there tufts of fern appeared, but the highest points of these picturesque mountains terminate in rocky barren peaks. Dr. Walker and his pupil frequently alighted, the better to enjoy the beauty of the scenery. It was the middle of autumn, and the vineyards and chesnut woods were filled by people of all ages; some were busily plucking the luscious grape; others were less pleasantly, though scarce less profitably employed, in picking up the prickly chesnut with small wooden tongs.

The first night they rested at an inn on the summit of the Apennines, and were hospitably entertained by their host; they were shewn into a comfortable bed-chamber, where the bed though hard was clean, and the walls were decorated with many pictures of saints and holy angels. At dawn of day they were roused by the tinkling of the mule bells and the gay carolling of their vetturino. As they descended the western side of the mountains, the noble cypress and the olive, in addition to those trees which adorn the eastern side of the Apennines, diversified the scene.

“Did you ever hear, Edward,” said the Doctor, “of the inflammable exhalations that were seen on the summit of the Apennines in the middle of the last century? The flame was extremely bright, covering at times a surface of about three yards by two, and rising sometimes to about four feet; but when there had been a great fall of snow or heavy rains, the flames often extended nearly nine yards in diameter. This curious phenome-

non was attributed to the extrication and inflammation of hydrogen gas, similar to that which is kindled in coal mines, under the name of fire-damp.

The muleteer, who was an intelligent fellow, listened with attention to this description, and then asked Dr. Walker if he had observed on his journey, a light on some stones on the banks of the Rioverde, about ten miles to the south of Bologna. Being answered in the negative, he said, he had seen it many times, and he described it thus: "The light appeared to him," he said, "about two feet above the stones, and not far from the river. It was between eight and nine in the evening when he last saw it; and it being rather dark and cloudy, the flame appeared exceedingly strong and bright, so much so, that he could distinguish by its light, the shape and make of the surrounding stones, the hedges, and the motion of the water. Upon approaching nearer to it, it became a pale red, then a faint yellow, and thus gradually disappeared as he came close to the spot where he had marked it. Surprised at its disappearance, he retreated, and as he drew back it became progressively visible, till at length it assumed its brightest tint, when he arrived at his first spot of observation."

This is one of those unaccountable phenomena which puzzle philosophers much, as it has been always observed in the very *same spot and in the very same shape*; that of a parallelipidon, somewhere about a Bolognese foot in length, and about half a foot high; its largest side parallel to the horizon. It was once observed coming out of a neighbouring hollow, and then settling itself into the figure already described. That light known in England as Will-o'-the-whisp, and which is very common in various parts of Italy, particularly in the neighbourhood of Bologna, is supposed strongly to resemble that phosphoric light which burns in the dark without injuring any thing; for in its peregrinations over moor and mountain, it would be strange indeed if it should not meet with any combustible matter which it could ignite, if it had the common properties of flame; its not being affected by damp is another reason which supports this conclusion. This however, and the light of the glow-worm, as well as that of the fire-fly, &c. &c. has never been decidedly defined.

SECTION VI.

JOURNEY TO FLORENCE, &c.

As they descended the mountains, and drew near what may be denominated a plain when compared with the mountains they had just traversed, the scenery became more beautiful but less

sublime. The landscape was enlivened by domestic and rural objects. The picturesque appearance of the Tuscan peasant girls in their round hats, adorned with flowers tastefully placed a little on one side, delighted them much; and after passing the villa which was formerly inhabited by the Medici family when they were merchants only, Florence burst upon them in all its splendour.

“What a prospect!” exclaimed Edward; “what a lovely scene! I long to enter that magnificent city.” He was soon gratified, but a heavy shower of rain falling just as they entered the city; his ideas of its magnificence abated in some degree. The gutters of the roofs project so far into the streets, that the carriage though in the middle of the street, were deluged with the dirty water which had cleansed the tops of the houses. “Magnificence,” he observed, “was not always attended with comfort, and he marvelled much that the inhabitants of Florence should tolerate so great a nuisance.” The next day, however, the weather being fine, his admiration for the numerous splendid edifices this famous city contained, absorbed every other idea, and he forgot the projecting roofs and dirty gutters.

The church of the Holy Cross, is the Pantheon of the Florentines, and here our travellers contemplated with respect the tombs of Michael Angelo, Galileo, and Alfieri, the Tacitus of dramatic poetry. Here too rest the bones of Machiavel and Aretus. The burial chapel of the Medici family is one of the most splendid and beautiful structures of its kind; it was begun by Michael Angelo, but it is not yet quite finished. He has adorned it with four exquisite figures of Morning, Day, Twilight, and Night. The arms of the Tuscan cities adorn its walls; they are blazoned in their proper colours with precious stones, admirably arranged. The doors of the church of St. John, are of bronze, and were pronounced by Michael Angelo to be perfect. This is the only church in Florence in which all the children born in and about the city can be baptized.

The palazzo *Petti* was built by a Florentine merchant, of that name, about the middle of the 15th century, who ruined himself in erecting this superb fabric, which is now the ducal palace.—The court of the palace is formed by three sides of an elegant square, with arcades all round, and the rustic work which constitutes the lower part of the building, gives it an air of strength and magnificence that is very striking. In this court there is a fine fountain, which in this warm climate forms almost a necessary as well as agreeable ornament. The admirable statue of Hercules, supposed to be the work of Lysippus also adorns this area.

The apartments of this palace are generally small and dark; they contain nevertheless many powerful attractions. But the *gallery of Florence* which was formerly the private property of the Medici family, and which afterwards was transferred to

the grand Duke Leopold, and by him declared the property of the *State*, is the most valuable treasure in Florence. Perhaps the complete assemblage of the Roman emperors and their families, gave our travellers as much interest as any part of its rich and celebrated contents.

Many of the statues which Buonaparte sent to Paris, have resumed their former station, and the Venus de Medici again graces the octagon hall, as well as many other rare specimens of sculpture and painting.

Having made a much longer stay at Florence than they supposed they should, it was near the middle of December when they left that city for Sienna. The country between these two places is composed of naked rocks and mountains, with scanty marks of vegetation. Here and there a solitary tree is now and then seen, adding rather to the desolation of the prospect than the heightening of its beauty; for they look so forlorn, and so unconnected with the surrounding scenery, that our travellers compared them to a shipwrecked mariner thrown on a desert coast.

Of the animals that enlivened the scene, small flocks of sheep, and asses laden with sand, and labouring up the mountain, were all they saw. Here too they were again assailed by a host of beggars, for no sooner was their carriage seen, than the neighbouring shepherds and peasants flocked in crowds demanding alms with the most noisy importunity.

Dr. Walker and his pupil had, however, become callous to this sort of entreaty, and they pursued their journey to Sienna, without having opened their purse to any one of these vociferous beggars, except once, and that was upon the following occasion.

Amongst a shoal of ragged urchins, half squalling and half laughing, who had accompanied them from the village where they had last stopt, one boy, a lad about fourteen years old, though the rest had in despair given up the pursuit, kept up with them for two miles, when the muleteer, in that spirit of charity which characterizes all tribes and classes of Italians, having ascertained that he was bound to Sienna, the town where they were themselves to pass the night, offered him a place upon the roof of his carriage. Our travellers now fell into conversation with him, and having asked him the motives of his expedition, were told that he was going to *beg* at Sienna, a place which he imagined, afforded a better field for his operations than his native village, or even the highway. Dr. Walker remonstrated with him on the nature of his project, and asked him why he did not attempt to procure some honest service; but he appeared to have weighed the matter well, and taken his resolution upon the maturest deliberation. He told them that he had left his home on account of the poverty of his parents; that it *was* his intention to seek service, but, as he could pretend to little *yet*,

he meant to maintain himself by begging till he was of age and strength to ensure a sufficient salary.

There was no answering such reasoning as this, and Edward mechanically put his hand into his pocket, and gave him a trifle. So much, indeed, were they pleased with his manner, his intelligence, and his lively disposition, that the Doctor was half inclined to take him with them. They had missed Colin very much, and though they always hired a *valet de place* when they meant to make any stay, as at the capitals for instance; yet they wanted some one about them at all times.

“Try him, Sir,” said Edward, “at least while we are in Italy.”

The Doctor paused, but at length his feelings got the better of his judgment, and the young Antonio was informed of their good intentions towards him. The poor lad did not at first comprehend them, but when he really was made to understand that they intended taking him with them to Rome, he was almost frantic. When he was a little composed he entreated he might acquaint the muleteer of his future prospects, “to whose kindness,” he said, “he was indebted for such unlooked for good fortune,” and to whom they afterwards found he had given half the money he had already scraped together by begging.

This act of generous gratitude failed not to increase the favourable impression he had already made upon his new friends; and Antonio became in the sequel, a useful servant and a favourite attendant.

They were not a little pleased when they entered Sienna, and as the road they were about to traverse was by no means celebrated either for its safety or convenience, they lingered two or three days in this town, which contains little worthy of notice. Sienna is about four miles in circumference; its university is in great repute, and the Italian language is taught here with so much purity that a great many foreigners frequent it on that account. Its Gothic church, built of black and white marble, and paved with Mosaic work, is much admired for its architecture. Mulberry trees are numerous in its neighbourhood.

Antonio entreated they would visit the house which St. Catherine of Sienna inhabited. They complied with his request, and were shewn her chamber, the stone which served her as a pillow, her ring of affiance, &c. &c.

“St. Catherine of Sienna,” said the Doctor to Edward, “was born in that city, and at eight years old; she took the Dominican habit, pretending to extraordinary revelations; she was distinguished by her piety and charity, and so powerful was her influence, that she effected a reconciliation between the Florentines and Pope Gregory the Eleventh; she died in the year 1380, at an advanced age, and was canonized in 1461, by Pius II.”

SECTION VII.

JOURNEY TO ROME.

FROM Sienna they proceeded by wretched roads to Buonconventa, from whence they ascended with much difficulty, the hill on which the village of Radicofoni stands : here they were lodged in a large, cold, uncomfortable inn, and early the next morning they again started, and having passed Aqua Pendente, an inferior town situated on the top of a rock, from whence there is a romantic cascade, and from which the town derives its name, they arrived, but not till night, without any interruption at Bolsena, notwithstanding the dreadful forebodings of their muleteer, who apprehended, and with some reason, that they should be attacked by banditti.

The country beyond St. Lorenzo is so interspersed with caves and ruins, and is in other respects so desolate, and dreary, and so well calculated for the concealment of robbers, that Dr. Walker was not a little pleased when they did reach Bolsena. Antonio more than once had pointed out these projecting points as well calculated for making a stand ; and once with a colourless cheek, he exclaimed *Signor!* The object of his alarm, was, however, only the stump of an old tree, with a little branch or two just springing from its top, these he mistook for military feathers, for the evening was drawing in before they had quite passed this terrific looking place. For the last thirty miles their road lay along the shores of the beautiful lake of Bolsena.

“ Near this place, Edward,” observed the Doctor, “ stood Volsinium, which was the birth-place of Sejanus, the odious minister of Tiberius’s will.”

In their way to Viterbo, where they next halted, they passed through Montefiascone, so celebrated for its wine called *Est*. The mountain of Viterbo is covered with beautiful plantations and villas, belonging to the Roman nobility, who retire here in the summer months when Rome is deserted by that part of its inhabitants who have the power of quitting the Campagna di Roma. They were ill accommodated at their inn or post house at Viterbo, although the town is well built ; it also contains many churches and convents, but they remained there but one night, and the following morning, after having passed the mountains of Viterbo, the Clyminus of the ancients, they entered a beautiful country diversified with hills and dales, woods and glades, enlivened by Italian sunshine. After passing some few inconsiderable towns, they at length entered the desert looking country of the Campagna di Roma.

“ Where,” said Dr. Walker, as they traversed these once

fertile plains, "where has the genius of cultivation fled, which once adorned these celebrated fields with every beauty?"

Antonio's expectations about Rome had been raised to the highest pitch, and his disappointed eye turned on every side to seek for some of those objects of grandeur with which his fancy had so largely stored the surrounding country, in which stood Rome, the capital of the papal dominions. Dr. Walker absorbed in solemn reflection, had ceased to speak. Edward, who had eagerly looked for the *hills* on which it stood, and who now saw only a dreary flat before him, had sunk into silence also; and Antonio, whose garrulity had often amused his master appeared to have suddenly lost the power of speech.

"Roma," said the postillion, pointing to the distant dome of St. Peter's, and turning round at the same time to look into the carriage.

Every eye was directed eagerly forward, and *Roma!* was repeated three times in three different tones.

Upon approaching near to the ancient capital of the world, the countenance of Antonio brightened. In his eye Roma was still a magnificent city, and in those of Dr. Walker and his pupil it was more, for it still retained its august and imperial appearance. They entered the immediate territory of Rome by crossing the Ponte Molli, formerly called *Pons Milonis*. This bridge was built by Æmelius Censor; it was the road by which so many heroes and conquerors; so many kings and captives; so many ambassadors and envoys, had entered this celebrated city: and Dr. Walker, as they continued their journey over a part of the ancient Via Flaminia, which formerly extended to Rimini, meditated in silence upon those events which passed rapidly before his imagination, presenting a faithful tabular of the rise and fall of the Roman empire.

Having taken up their abode at an inn situated on the *Collis Hortulorum*,

———"Where once a garden smiled,"

Sallust's Garden too; they resolved on calling on an English gentleman to whom they had letters of introduction. Antonio was permitted to accompany them on condition, that while they paid their visits, he should not ramble far from the house where his master stopped. Delighted and charmed with all he saw, the lad promised obedience, and they accordingly set off. They were fortunate in finding Mr. B. at home; this gentleman had fixed his residence at Rome for some time, he received them courteously and proposed as their time was limited, that they should immediately begin their perambulations.

"Shall we visit St. Peter's or the Coliseum first?" said he addressing the Doctor.

"The Coliseum, by all means," replied Dr. Walker, "majesty in ruins is always more interesting than when in full splendour."

The gentleman ordered his carriage, and said he would accompany them on this excursion, as from frequent visits to the spot, he had made himself acquainted with the principal places in its environs.

“What shall we do with Antonio?” said the Doctor.

“If Antonio is your servant, pray let him mount the carriage,” replied their new, but friendly acquaintance.

When they arrived at the site of the Coliseum, a spot which has no equal in the world, astonishment for a time absorbed every other feeling. ‘The human eye, scarcely measures its height,’ says Ammian, ‘it is above sixteen hundred feet in circumference. The walls are supported by four rows of pillars, the Doric, the Ionian, the Corinthian, and Composite, which rise one above the other, the bottom tier is, however, sunk low in the earth, or rather, we should say, the earth has accumulated so much as to be now even with the base of the second tier. The building was erected by thirty thousand Jews, under the command of Vespasian, who caused it to be built where there was formerly a lake attached to Nero’s golden house. It was calculated to contain from eighty to ninety thousand spectators; and in the first grand combat of wild beasts which was held within its spacious area, five thousand animals were all let loose at once, after which the whole was laid under water, and a sham sea fight took place. A post of honour was assigned to the vestal virgins, and they were the only women who were accommodated with seats in the Coliseum; in the centre of the circular range was a box for the emperor and his courtiers. Eighty entrances, called vomitorios, admitted the spectators who, according to their rank occupied the different rows of seats; the commonest people taking their station on the top of the building, where they stood guarded by a balustrade. As such an immense number of people crowded together might have produced a close, unwholesome smell, sweet water from above was showered upon them, and sometimes wine and saffron*.’

This vast building escaped the outrages of the Goths but to fall a sacrifice to the barbarism of later times. Pius II. caused a great part of it to be levelled, that he might employ the materials in building the Place of St. Mark. Cardinal Riario followed his example, and erected the Chancery with its precious relics;

* An uncommon fine model of this Coliseum was exhibiting for one season in Bond Street, but the owner and architect received so little encouragement, that he scarcely cleared his expences for the room which contained it. The Coliseum therefore disappeared, and was replaced by a marvellous little dog, which in less than a month repaid his master almost a hundred fold for the very handsome and fashionable apartment he had hired for his accomodation.

and the Palace of Farnese was composed of the same invaluable materials by the order of Paul the Third.

It was with pleasure our travellers observed that an attempt was begun to hollow out the earth as at Verona, and so much of this work is done as to enable them to pronounce the concealed part of the edifice as no ways inferior to the superstructure. After contemplating this venerable remains of Roman grandeur, Dr. Walker asked Edward, if any other feeling besides that of admiration had arisen from the contemplation of this stupendous structure.

“Yes,” replied his pupil, “those of pity and horror; who could read that inscription, ‘Defiled by the impure worship of the heathens; purified by the blood of martyrs,’ without shuddering at the cruelty of the Romans, who could in this very spot make the primitive Christians fight with wild beasts. Who could by way of sport see hundreds of their fellow-creatures massacring each other in cold blood; who could blindfold their slaves, and placing knives in their hands command them to attack each other in this defenceless state. The Romans were a cruel people. I like the Greeks best, they never, till they were conquered by the Romans permitted the show of gladiators; and then many of their principal cities refused to comply with this Roman fashion.”

“Most true,” replied the Doctor, and “*most true*,” was echoed by Antonio, who had listened with the deepest attention to all that had been said.

“And now,” said their English friend, “let us pass up the *Via Sacra* of the ancient Romans, and proceed over the Roman Forum, now called the *Cow-field*. Strange transition this! That,” continued he, pointing to what was now a mere ruinous wall, “that was formerly a well, from whence the water used to rise up through a hollow pillar and gush out on every side. Here the Romans used to taste the cooling spring as they returned from the theatre. That old wall will mark the spot for a time, but it will soon disappear. That triumphal arch on our left was erected to Constantine. This street we are now entering was called by the Romans *Vicus Sandalarius*, it was noted as being the place where the authors used to assemble, because in it, the *booksellers* of Rome resided; but it is graced by a prouder memorial, and needs no other proof of its former importance; yonder stands the triumphal arch of Titus, which celebrates his victory over the Jews: of this there needs no farther proof than the inspection of its ornaments; there you see, is the candlestick with seven banches, the shew-bread and the trumpets.

“Those three arches to the right are the remains of the temple of peace, and within its sacred walls private persons deposited their most valuable treasures, authors their most valuable manuscripts, and conquerors the choicest of their spoils. The golden candlestick of the Jews, their golden table, and their

book of the law, were deposited in it. In the reign of Commodus this beautiful building was nearly destroyed by fire, and all its precious contents perished. Several other relics of antiquity appear on either side : the temple of Remus, of Antonius and Faustina ; but the Via Sacra was adorned with various temples and palaces, now known only by description, among which Numa's house, Cæsar's palace, the triumphal arch of Fabius were conspicuous ; but all these are vanished, and not a trace is left of them, except in the historic page. The rise of this fallen city, majestic even in ruins, was marked by industry, temperance, and fortitude ; her zenith by oppression and corruption, and her decline by superstition and apathy. The splendid remains of her former greatness do but increase one's regret that a people so capable of acquiring power, should have so little sagacity to preserve it for the glory and greatness of their posterity."

Our travellers returned home delighted with their first day's excursion. Dr. Walker being informed that the execution of a murderer was to take place on the following day, and wishing his pupil to witness the manner of executing justice in this country, he entreated their friend would place them where they might see the procession pass by, and would inform them of those proceedings which they could not witness.

"This criminal," replied their friend, "has conducted himself with much propriety, and I understand, much contrition ever since his apprehension, and as I am intimate with the Father Confessor of the prison in which he is confined, you shall see every thing, execution and all, if you like it."

"No," replied the Doctor, "I have no wish to see the last part of the ceremony, but I am anxious to witness the effect of such a melancholy catastrophe upon the Italian people."

Early the next morning they went to the prison, where they witnessed the confession and absolution of the prisoner. On his way to the place of execution he entreated the prayers of the populace, who in vast crowds witnessed the awful ceremony, with feelings of the profoundest awe. The culprit was accompanied by a number of Capuchin friars, bearing torches and crucifixes ; and here our travellers quitted the procession and retired into the church, whither they were soon followed by all the friars, and persons who were in any way connected with the execution. A mass was now performed for his soul with much devotion, which took up the time allotted for the body to hang. They then returned to the gallows in procession, with a coffin covered with black cloth. Two persons in black masks and black gowns mounted the ladder, and cut the rope, while others received the body and carefully put it into the coffin, when it was committed to its parent earth. The solemnity and decorum of this mournful ceremony, made a strong impression upon Edward, and for once in his life a comparison with England was

not in favour of the latter. Antonio had been affected even to tears, and had joined most fervently in prayer for the soul of the deceased, as indeed was the case with the immense crowd which was collected upon the occasion. Deeply impressed with the solemnity of the scene, and warmly admiring the sensibility displayed upon the occasion by the people of Rome, they returned home in silence, and devoted the remainder of that day to those reflections, which naturally arose from the contemplation of this impressive ceremony.

SECTION VIII.

ROME.

THE Pantheon is the most perfect structure of ancient architecture, its proportion is exquisite, nor can the reader who has not seen it, better understand its beauty than by fancying himself in the centre of an immense sphere, one half of which is visible only, the imagination may then picture to the understanding the immense circular hall of the Pantheon. Edward contemplated its vast dome with silent wonder, and it was some time before he could attend to those minor beauties which still remain of its former magnificence, so absorbed was he in the grandeur of this imposing structure. Between the eight niches where the principal deities formerly stood, are now eight altars, and the floor still retains traces of its costly pavement.

The contemplation of this venerable temple furnished them with conversation for the rest of the day, and on the morrow they were so fortunate as to witness the ceremony of the Pope's blessing the people (this being jubilee year) in the front of St. Peter's.

"Pray, Sir," said Edward, "what is the jubilee year?"

DR. WALKER.—"The jubilee is a public festival celebrated at Rome, originally once in every hundred years, wherein the Pope grants plenary indulgences to all sinners, especially such as visit the churches of St. Peter and St. Paul at Rome: it was first established by Boniface VIII. A.D. 1300. Clement VI. reduced it to fifty years; Urban VI. to every twenty-fifth year: and Sixtus VI. to every twenty-third year."

They had by this time reached the area of St. Peter's, where, by the assistance of their friend they obtained a good place for seeing this imposing ceremony.

The great court was completely filled with pilgrims from all

countries, who waited with anxiety for the arrival of the holy father.

He at length made his appearance in a large window which opens into a balcony in front of the church, dressed in his pontificals. The papal chair in which he sat was so completely covered with silk hangings and gold trimmings that the bearers of it were invisible, and his advance had therefore a singular effect, for it seemed as if he sailed on the air self borne. The bells from every church in Rome, the cannon from the castle of St. Angelo, and the shouts of the populace announced his appearance, to those who were not present.

When his Holiness rose from his seat these noisy acclamations subsided, and were succeeded by a solemn silence. The multitude instantly fell on their knees, with heads and hands uplifted, while the Pope in the most solemn manner, with outstretched arms conferred his paternal benediction on the prostrate beings before him.

The ceremony over, the happy multitude dispersed in every direction, and Dr. Walker and his pupil returned home highly gratified, but Antonio's joy knew no bounds at being present at this joyful jubilee, and he seemed light as air.

St. Peter's was the next place they visited, and here they were lost in the magnificence of every description which adorns its stately walls. Its stupendous dome, its superb portico, its unrivalled altar, and its elegant arcades, altogether form a coup d'œil unequalled, perhaps, in the whole world.

The most wonderful part of this magnificent temple is the cupola. The dome which is viewed within the building, and that which is viewed on the top of the building are not the same, for between the two there is a stair-case, which winds up to the ball. St. Peter's, viewed from the roof, presents fresh subject for admiration, for the immense dome there appears as it really is, stupendous.

The Vatican was of course visited by our travellers. As they had an introduction to the librarian, they were indulged with a view of many of its curiosities, which they could not otherwise have seen. The apartments of this palace are very magnificent, and the library contains upwards of four thousand volumes, which are, however, closely kept under lock and key. The pillars of Trajan and Antonius claimed their due award of praise and astonishment from our travellers, who spent a month in the city of Rome with much pleasure and profit, for almost at every step they met with the remains of some pillar, or statue, or the site of some spot familiar to their imaginations.

They failed not to visit the Catacombs, where M. Roberts, a French artist, was lost for a considerable time, and whose fate is so admirably described by De Lille, the elegant translator of Milton.

Having viewed all that they deemed worthy of engrossing

their time and admiration, they resumed their journey and proceeded on the high road to Albano. Antonio soon became the pupil of Edward, and the Doctor often smiled as the latter explained to his attentive auditor those phenomena of nature with which he was acquainted, or recited to him the exploits of the heroes of antiquity. The intelligence of the young Italian, the fire which he displayed when listening to deeds of heroism, or the lore of ancient times, induced his kind protectors to treat him not as a servant, but with that sort of kindness which drew from his grateful heart, the most lively expressions of gratitude. His taste for music was excellent, and having one day taken up an old violin that lay in the window of an inn, he touched it with so much pathos, that Edward said if his friend had no objection, he would purchase one for him. This purchase quite overwhelmed the poor boy, and he all at once burst into an extempore effusion of gratitude which shewed he was no inferior improvisatore.

On the road to Albano he frequently, at their request, amused them with his violin; his fears, however, sometimes interrupted his performance, for he could not forget the numerous banditti that were said to haunt this part of the country. They were, however, fortunate in escaping their attacks, and as the day was not near closing when they entered Albano, they resolved, if possible, on reaching Velletri that evening. Velletri, which is now a dirty and inferior town, was formerly the capital of the Volscians. They took up their quarters in an inn which was ornamented with the head of Augustus as a sign, for it is said that emperor was born in this town. It contains many remains of its former magnificence, the wrecks of villas of the emperors, and temples of the gods, present themselves on every side.

When they quitted Albano they took an escort, for the depredations which had been committed on the road they were about to traverse, rendered this precaution necessary. They had not proceeded far, when they saw a party of banditti, dressed in a wild looking but regular uniform, sally from behind the steep rocks which encircle Terracina. The muleteer immediately began to cross himself; their guard drew their swords, and a scuffle ensued, in which Dr. Walker received a slight wound, and Edward and Antonio, who rushed to his assistance, were taken prisoners and immediately conveyed away by the banditti. The Doctor, after having been rifled of all that he possessed, was allowed to proceed, the guards who had been extremely lukewarm in the cause, having fled shortly after the beginning of the contest. The muleteer made the best of his way to Terracina. Dr. Walker had not arrived in the town more than an hour, when after having bound up his wound, he was proceeding to take the advice of the authorities upon this late misfortune, when a letter was delivered to him, stating that the two youths would be properly taken care of, and that upon the payment of

a ransom, for the receipt of which they would appoint one of their fraternity, they should be liberated. The bearer waited for an answer. Dr. Walker, whose mind had been on the rack promised the payment of the stated ransom for Edward, but said that they were not aware that they were asking a ransom for his companion, which, as he was a servant, was enormous. The following day Edward rushed into the room, but with tears in his eyes, he told the Doctor that Antonio was detained a prisoner, that upon learning he was only their servant, the chief had declared he had taken a liking to the youth, and therefore should not part with him. He added that their joint entreaties were in vain, and that fearful of aggravating Antonio's captivity he had at last desisted, for the captain said positively he did not chuse to relinquish his prisoner. This separation from the poor Antonio whom they might never see again, threw a gloom over his two patrons, and the beauties of Terracina were partly lost upon them.

Terracina stands upon the sea shore, where the rocks rise to an immense height; the town itself is intermingled with gardens of citron and palm trees, while the surrounding country is adorned with the myrtle, and an endless variety of flowering shrubs; the sea shore crowded with fishing boats, the islands of Ischia and Capri, with Vesuvius in the distance, present a scene so lovely, to which nothing but their late misfortune could have rendered them insensible. They lingered for some time in this town, hoping they might hear some tidings of Antonio, but in vain, and Dr. Walker resolved on continuing his journey to Naples by sea, rather than run the chance of being a second time attacked by the banditti.

Hearing that a small vessel was about to sail for Naples, they embarked with a gentle breeze, which however did not serve them long, and by the time they were off Gaeta a dead calm had succeeded, and Dr. Walker, who was anxious to visit the site of Cicero's villa, finding that the owner of the little vessel intended to lay at anchor till the breeze sprung up, hailed a little fishing boat, and for a trifle he was soon put on shore in the midst of orange and lemon groves. Having knocked at the door of one of the largest gardens, the owner opened it, and politely entreated they would walk in. Here they were charmed with all the sweets of nature, amidst which, intermingled with fragments of departed grandeur, arched passages, ruined walls, and subterraneous vaults, now overgrown with moss and other parasitical plants, bespoke the remains of a Roman building of consequence. A bath in tolerable perfection, the sides of which were adorned with many flowering shrubs, particularly pleased them, "and this was Cicero's bath," said Dr. Walker, "you know his untimely fate, Edward, and in this spot, as tradition asserts, the elegant orator fell a victim to the ambition of the triumvirate."

Upon a rock at the extremity of the garden, they seated themselves to enjoy the beauty of the surrounding scenery, and the many pleasing ideas which such a site was calculated to excite. They were aroused from their reverie by the freshness of the breeze, which having suddenly sprung up, they hastily quitted their situation, and again entering the fishing boat, they reached their vessel just as the master was heaving his little anchor. A brisk wind soon brought them to the bay of Naples, perhaps the finest in the world; it was a lovely evening, and as they approached this fine city, which is fifteen miles in circumference, and in the form of a vast amphitheatre, sloping from the hills to the sea, they declared they had seen no view at all to compare with it, except that from the Calton hill at Edinburgh. "You have one which surpasses it yet to see," said the Doctor, "and that is the approach to Constantinople."

The island of Ischia with its rocky capital, its vine clad mountains, its luxuriant vallies, and purling streams, stands at the northern point of the bay; while Capri, to the south, fertile though mountainous, conjures up a thousand flitting scenes of horror. From this romantic island the monster Tiberius, sunk in every kind of luxury, issued forth his sanguinary commands, which his infamous minister, Sejanus, carried into execution. The blood runs cold at viewing this lovely island polluted by the atrocious deeds of such a disgrace upon human kind.

"Let us turn from the contemplation of this fateful island," said the Doctor, "an object not less so indeed, but which reflects no disgrace on heaven's noblest work—Man; look at Vesuvius, Edward, do you observe that small cloud of smoke which rises from the crater; and see now, as the evening becomes more dusky, you may discover the flame occasionally gleaming through it."

It was night before they landed, and having settled themselves comfortably in one of the best inns, they soon retired to rest. Early the next morning, they began their perambulations, through the city, and the first thing which struck them, was the appearance of industry which the streets presented. Tables and stalls of every description were placed outside the doors; mechanics and artisans all following their respective avocations with the utmost diligence, were seen in every part of the city, but they were soon convinced that this was a deceitful picture, for the inhabitants of Naples are more celebrated for eating and drinking than working. Of this our travellers had proof in less than an hour, from the innumerable apparatuses which are fitted up in the streets for the gratification of these two appetites. Large kettles of macaroni scattered over with cheese of the most insipid kind, beans and pease, maize boiled without any other preparation, and great quantities of sea fish of various kinds, are all to be seen in abundance. Water-sellers stand at every corner of the street, and our travellers taking their stand

by one of them, were exceedingly amused with the dexterity of its owner, who tipping his barrel first to the right, then to the left, then squeezing a little lemon juice into the glasses, rinsed them, took the money, and all in the twinkling of an instant. These stalls at night are always lighted by ten or twelve lamps, and the crowds which surround them in hot weather would afford a good subject for the pencil of a Teniers, a Wilkie, or even a Hogarth.

Fruit-stalls, where the grapes are piled up in huge baskets, and ornamented with rosemary branches, figs, medlars, lemons, oranges, apples, pears, pomegranates, chesnuts, which are here as common as potatoes in the north, melons, and the delicious pine nuts roasting in the streets, for the purpose of stripping off their firm husks, invite the passer by to partake of this luxuriant display of nature's bounties.

Among the luxuries of the poor, is a dough of maize flour sweetened with honey. The way of making this dainty dish is as follows: the maize being mixed with the honey, which is very dark coloured, it is pulled into a very long roll, it is then struck violently against a long iron nail which projects from a pole fastened to the stall, till it becomes first yellow then white. This change in its hue being effected, it is cut into small pieces and thrown into a pan of boiling oil, and in a few moments it is sufficiently fried. These stalls are always surrounded by numbers of the poorer sort of people, who greedily devour it. Every kind of vegetable is to be found in this fertile country. These stalls are sometimes in great danger, from stray asses, hogs, and calves: the latter are, however, let loose upon the inhabitants by the monks of St. Francis, who, painting a figure of their Saint on a piece of board, and attaching it to the forehead of the animal, it is licensed to ramble where it pleases, eat as much as it pleases, and sometimes do as much mischief as it pleases, no one dare molest them.

The noise in the streets of Naples exceeds all description, and the lingua Italiana with all its sweetness, becomes in the mouths of the beggars and lazzaroni absolutely discordant. Kotzebue describes the noise to be heard in Toledo-street, to that of mills and waterfalls, nay, he says the most noisy of the latter are inferior, are mere humming noises when compared to the vociferations of the Neapolitans. Begging too, is here most annoying, and our travellers turned with disgust from the many objects of misery which obtruded themselves at every step upon their notice. It is not simply begging, it is the most importunate and impudent entreaties that greet the ear, combined with every exhibition repulsive to our better feelings.

"Strange," said the Doctor, "that in the midst of so much disgusting misery, the Neapolitans should be so very blind as to tell the world, 'to see Naples and die.'"

EDWARD.—"Is it possible, Sir?"

DR. WALKER.—“ Yes, very possible, and not very unnatural either perhaps. Your passion for England is scarcely inferior to that of the Neapolitan for Naples; and now let us return home, for the sun is intensely hot, and I really want my nap.”

In the evening they took a stroll on the sea shore. “ Look, Edward,” said the Doctor, “ at Vesuvius, see those light clouds of smoke which issue from its crater, in the shape of trees, they seem greatly to increase, and surely there is a slight trembling of the earth.”

“ Ah!” exclaimed Edward, “ it is now very sensible. I hope Sir, we shall have no earthquake nor eruption of Vesuvius.”

“ I hope not,” said Father Benedict, an intelligent monk with whom they had become acquainted, “ for the eruptions of Vesuvius are indeed terrific.”

“ You do not recollect one surely,” said the Doctor.

“ No,” replied the Father, “ but I have often heard the last described by a brother of our convent, who was at that time in a monastery at the foot of the mountain.”

Edward was all anticipation for this account, which the monk was on the point of beginning, when a messenger arrived from his convent to say he was wanted.

“ Some other time will do,” said the Doctor, as the Father took his leave.

“ Before we quit the environs of Naples,” said the Doctor, “ we will make an excursion to Baiea and Puzzoli; and as the day is fine, we had better seek an intelligent guide and set off immediately.”

In their Benedictine friend they found the person they wanted. Fortunately he met the Doctor at the door, who asked him if he could recommend any one as a pleasant companion in their intended ramble. The monk smiled, and said, had it not been for the word *pleasant* he would have recommended himself, as that part of the country was well known to him, “ but,” added the Father, “ I am almost afraid to offer my services, for though I might flatter myself with being a *useful*, I cannot promise to be a pleasant companion.”

Dr. Walker said he should be most happy if the reverend father would accompany them, and having exchanged civil speeches they hired a boat, and after a delightful sail they landed amidst the ruins of Baiea, once the seat of imperial splendour, and the resort of all the great and opulent which Rome contained.

“ It still abounds,” said Father Benedict, “ with medicinal and hot springs, and to the luxuriant Romans its balmy atmosphere and luxuriant vegetation presented, in addition to these every thing that was needful to the gratification of their voluptuous style of living. Baiea from being a place of inconsiderable note, progressively became the seat of luxury and opulence. The stately palace and the luxuriant bath supplied the place of the homely cottage, and the costly remains of marbles, stucco,

Mosaic pillars, and other fragments of these enchanted palaces, proclaim aloud that Baiea, scarcely yielded in splendour to imperial Rome itself. But, when the barbarians rushed from their northern fastnesses like an overwhelming torrent and swept before them almost every precious relic of antiquity, Baiea shared the universal fate. Neglected and forsaken, stript of its inhabitants, it soon became a prey to the encroachments of the deep. The mole and buttress yielded to its resistless fury, and beneath its briny waves tessellated pavements and stuccoed floors form now perhaps, shall I say," continued the Father with a smile. "the basements of the hall of Naiads. Nay, here too, they may even find antique ornaments to confine their braided hair, for many persons in the summer time employ themselves in dragging the bottom of the sea with small baskets, and they seldom fail of finding among the sand a cameo or medal, which repays them for their labour.

At the bottom of the bay and at the foot of the steep rocks which serve as a foundation to the ruins called Nero's house, are some dark caves of great depth, leading to the hottest of all the vapour baths: nobody can remain long in them, or indeed penetrate to the end without an extraordinary degree of strength and resolution. The springs at the bottom of the grot are so hot as to boil an egg hard almost instantaneously. These caverns seem to be the very spot where nature has opened the readiest access to the very focus of a volcano, which has been within the two last centuries most outrageous in its operations; for to these must be attributed the overturning of the adjacent country, and the total alteration of its surface, by the birth of Monte Nuovo, which now blocks up the valley of Averno, and part of the Lucrine lake. In the year 1538 after previous notice by repeated quakings, the convulsed earth burst asunder, and made way for a deluge of hot ashes and flames, which being shot up to an immense height into the darkened atmosphere, fell down again all around, and formed a circular mound four miles in circumference, and one thousand feet high, with a large cup in the middle. Immediately after the explosion the wind rose furiously and wafted the lighter particles over the country burning and blasting all vegetation in its progress, wherever these ashes, impregnated with poison, adhered to the grass, death became the immediate lot of all the beasts that browsed upon it. The terrors occasioned by this phenomenon threatened the abandonment of the whole district; scarcely a family dared to remain even within sight of this horrid heap, which had overwhelmed a large town, filled up a lake, and buried under it a very extensive tract of cultivated lands.

Part of Monte Nuovo is however now cultivated but the larger portion of its declivity is wildly overgrown with prickly broom and rank weeds that emit a very foetid sulphureous smell. The crater is shallow, and is in the inside clad with shrubs, but the

little area at the bottom is planted with fig and mulberry trees: a long neck of land prevents the waves from washing into a sedgy pool, the poor remnant of the Lucrine lake, once so renowned for the abundance and flavour of its shell fish, of which large beds lined the shallows, while a deep channel in the middle afforded riding and anchorage for vessels, and a passage into the inner bason of the Avernus; a small canal now serves to discharge the superabundant water.

Our travellers were delighted with the beauty of this spot, and although Father Benedict assured them the road to the lake Avernus was equally interesting, they quitted it with regret. They now entered a shady walk between Monte Nuovo and a thicket of reeds, which led them to the banks of Avernus. Here the landscape is confined but it is extremely pleasing; the dark blue surface of these unruffled waters, said to be three hundred and sixty feet deep, strongly reflects the tapering groves that cover its sloping inclosure; wild fowl skim its dusky waves, and the king-fisher shoots under its shady banks. A large octagon temple in ruins advances majestically to the brink; it has long been stripped of its marble ornaments, but its shape and size still render it a noble and commanding object.

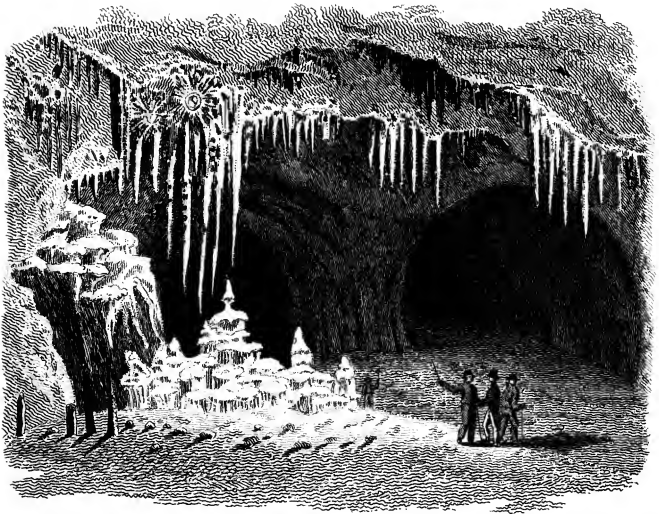
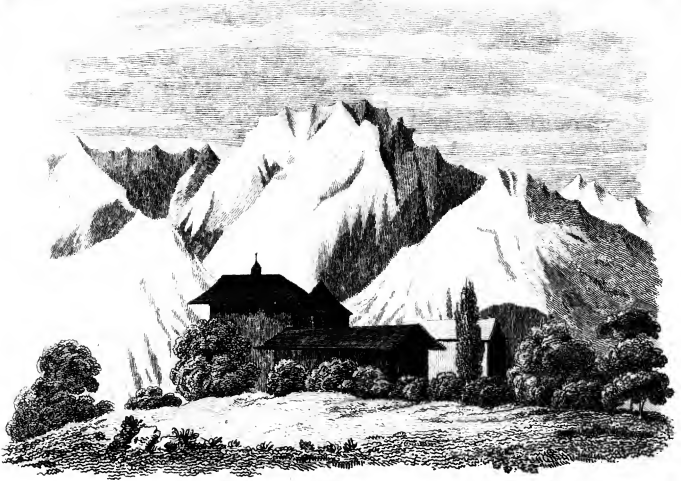
"This temple," observed Father Benedict, "was most probably dedicated to the worship of the infernal gods, to whose adoration these solemn scenes were consecrated. In those days of darkness the monarchs of the forest stretched their thick foliage over the sombre waves, and produced a gloom not to be penetrated by the mid day sun."

"While mephitic vapours rising from the volcanic heat to which the whole of this part of the country is subject, more or less floated along its surface in poisonous mists, produced horrors, appropriate to such gloomy deities. A colony of Cimmerians, cut dwellings in the bosom of the surrounding hills, and officiated as priests of Tartarus. Superstition always delighting in dark ideas, early and eagerly seized upon this spot, and hither she led her trembling votaries to celebrate her dismal orgies: here she invoked the manes of departed heroes; here she offered sacrifices to the gods of hell, and attempted to dive into the secrets of futurity.

"After a long reign of undisturbed gloom and celebrity, a sudden glare of light burst upon Avernus; the horrors which had formerly enveloped this now beautiful spot vanished, and with them its sanctity. Its lofty and impenetrable woods disappeared at the command of Agrippa; the sleepy waters, disturbed by numerous vessels, assumed a new appearance; the noxious vapours fled with the surrounding gloom, and Avernus became clear and serene."

"A strange metamorphose indeed," replied Dr. Walker, "do the two lakes of Lucrine and Avernus present, the former once the scene of every luxury and extravagance is now a slimy bed

Mount Olympus.



Grotto of Antiparos.

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of rushes, while the latter blooms with fresh beauty, possessing every requisite for a repetition of the gay scenes of festivity which used to grace the deep blue waves and luxuriant shores of the Lucrine lake."

On every hill, in every valley in the environs of Avernus, appear the ruins of extensive villas, once embellished with all the elegancies of art combined with those of nature: mouldering walls and marble fragments point out the site of many a stately edifice; and here again our travellers were flattered into the belief that they were treading the ground formerly consecrated by the presence of Cicero.

SECTION IX.

MESSINA—SCYLLA AND CHARYBDIS.

AFTER wandering amidst these pleasing remains for some time they returned to Puzzoli by moonlight, and there they passed the night. Edward was early on foot the next morning, and having strolled to some little distance from the town, he seated himself on a mossy ruin and contemplated with delight the effect of a rising sun and an Italian sky on the lovely scenery which surrounds Puzzoli.

He was aroused from his reverie by the tasteful touch of a violin, he listened, started from his seat; the tones ceased, when a suppliant voice from behind him entreated charity. Edward turned briskly round, and in an instant he found himself encircled in the arms of Antonio.

"Oh mio Caro Padrone," said the youth, bursting into joyful tears, while again and again he grasped the hand of the astonished Edward, "Oh mio Caro Padrone."

"I will not ask you how you escaped," said the no less delighted youth, as he affectionately returned the pressure of the joyful Antonio. "Let us immediately join Dr. Walker." "Indeed, Antonio," continued Edward, "We lingered in Terracina longer than we should have done, indulging hopes that we should hear of you. Forgetting that he was shoeless, and in fact almost without clothes, Antonio kept close to his young master who equally regardless of the shabby appearance of the youth, continued to express the utmost delight at their fortunate meeting as they passed through the town of Puzzoli.

Dr. Walker was not up when they arrived at the inn, but Father Benedict was just returned from a neighbouring convent and was enjoying himself at an open window which looked towards the sea.

He was surprised at the appearance of Edward's guest; but when informed of the particulars of their acquaintance, he congratulated Antonio upon his good fortune. Scarcely could Edward prevent the young Italian from rushing into the Doctor's room; but he was at length persuaded to await his rising. Doctor Walker's joy was not less than that of Edward, at again seeing the poor youth; and when they had breakfasted, Antonio was desired to tell how he had escaped from the banditti.

"For the two or three first weeks, he said he had been very unhappy, for the thieves confined him in a cave during the greater part of the day and night, except when the captain wanted his personal attendance. One day his master had desired he would go to such a particular place, where he would find two of his men, and tell them to return with him directly, threatening at the same time to pursue him with the utmost vengeance if he dared to make any attempt to escape. I went," continued Antonio, "to the spot, delivered my message, and returned as I was desired. Finding all idea of escaping myself to my lot; but I lost my spirits and my appetite, and consequently became thinner every day. The captain, who treated all his prisoners with great humanity, and was in many respects a kind hearted man, at length called me to him, and giving me my violin, he bade me begone; 'But mark me, Antonio,' said he, 'you are an ungrateful boy, I could have loved you, would have made you my heir; but those English friends have engrossed your whole affections—you are at liberty to join them, if they are still in Italy; if not, return to me. As he said this, he gave me a small purse of money, and with a grateful heart, and tearful eye, I left him. I had not, however, gone far, when I was attacked by two of his soldiers, as he calls them, who had overheard our conversation. They took my little purse from me, declaring that if I returned to that neighbourhood, they would murder me. I therefore begged my way from Terracina, except when I could earn something by playing on my violin. I intended going to Naples to seek you, my dear master; but I lost my direct road, and got to Puzzoli. Ah, how fortunate! if I had gone straight to Naples, I should have missed you, and then what would have become of poor Antonio!"

The Doctor expressed much delight at such a fortunate combination of circumstances, and bidding Antonio hold himself in readiness to accompany them to Naples, desired he would withdraw. After he was gone, the Doctor launched into many praises of the ingenuous warm-hearted youth; declared his intention of taking care of him while he lived, and if he proved deserving to place him in easy circumstances after his death.

Upon arriving at Naples, they took leave of Father Benedict, and immediately began to make arrangements for their journey; for which purpose they first strolled down to the sea side, to make

enquiries for a vessel that would take them to Messina, and were so fortunate as to hear of one that was to sail on the following day.

Here they were amused with listening to the recitations of two or three men, who mounted on a high seat, read aloud to the surrounding people a wonderful tale, full of the marvellous, containing the history of a Prince Rinaldo, who by his doughty prowess, subdued magicians, sorcerers and witches, in short he was the very acmé of knighthood. On another spot was a mountebank, cheating the people for the great love he bore them, giving them many infallible recipes *gratis*, while he excited their generosity by his example, and so contrived to gain a very good living.

A little further on was an improvisatore, who was extemporarily praising Naples, and the liberality of its inhabitants, and a little beyond him was a priest exhorting the multitude to reform their lives, by forsaking all their evil ways; his tone was in the highest degree authoritative, and many a trembling sinner, quitted the circle, resolving to lead a better life. None passed this itinerant monk without taking off his hat, and when he descended his rostrum, a road was opened for him to pass through.

They embarked the next day for Messina, and early the next morning they passed the Lipari islands. The Lipari isles, twelve in number, are all of volcanic origin; they produce great quantities of alum, sulphur, nitre, cinnabar, pumice, also raisins and figs in great perfection. Stromboli, the most northern, has a volcano that burns without ceasing.

“ Stop up your ears, Edward,” said the Doctor, “ and Antonio I would advise you, who are so fond of music to follow my advice likewise, for we are approaching the coasts of Sicily, where the Syrens used to draw to them all passengers by the sweetness of their voices, and then devour them. Even the wise Ulysses would have become their prey, had he not been fast bound to the mast. The danger he incurred as he approached the Syren shore, he thus describes, at the court of Alcinous—

‘ Sunk were at once the winds; the air above,
And waves below at once forgot to move!
Some demon calm’d the air, and smooth’d the deep,
Hush’d the loud winds, and charm’d the waves to sleep.

— — — — —
While to the shore the rapid vessel flies,
Our swift approach the Syren quire descries;
Celestial music warbles from their tongue,
And thus the sweet deluders tune the song:
Oh stay, oh pride of Greece! Ulysses stay;
O cease thy course and listen to our lay!

But I refer you to the 12th book of the Odyssey, for the conclusion of this his adventure, which you may read to Antonio, while I take my afternoon’s nap.”

He was awakened by his pupil, who wished him to see the beau-

tiful scene before them. The coast of Calabria on one side is high and covered with the finest verdure, that of Sicily low, but beautifully variegated. The rock of Scylla on the Calabrian coast, and the celebrated Straits of Faro, which divide Sicily from the peninsula of Italy. The weather was fortunately calm, and as soon as the ship entered the current, they were rapidly carried to Messina. Antonio, whose mind had conjured up a thousand horrid fantasies, respecting Scylla and Charybdis, was pale with fear as the vessel passed rapidly along. During the whole of this dangerous passage he had chaunted his hymn to the virgin; nor was it till he sprang on shore, that he ceased, when he fell on his knees and returned thanks for his preservation.

“That is an example worthy of imitation,” said the Doctor, as he gazed on the youth who, with folded hands, and uplifted eyes, his fine countenance glowing with the most heartfelt devotion, presented a picture worthy the study of a Guido or a Raphael.

Our travellers staid a very short time at Messina, when they had viewed the quay, which is extremely beautiful, being built in the form of a crescent, and surrounded by magnificent structures four stories high, and exactly uniform for the space of an Italian mile. The walk here is one hundred feet wide, and may be pronounced one of the finest in the world.

SECTION X.

SYRACUSE, &c.

HAVING heard that it was necessary to have guards in order to traverse the country between Messina and Syracuse, our travellers preferred another aquatic excursion, and accordingly embarking for the latter place with a gentle breeze, they had a fine view of the adjoining coast.

“See,” said the Doctor, “you have not once observed Mount Etna, which is in the form of a frustrum or cone, and covers a space of 63 miles in circumference. The lower regions have a fertile surface, and are adorned with grapes and forests; the top is covered with snow, except the crater, from which smoke, often mingled with flame, is continually ascending, and at intervals, eruptions of fiery matter roll desolation over the villages and cities in its vicinity. The whole mountain, and the neighbouring regions, appear to have been formed of the accumulating substances that have been ejected. In 1787, there had been 33 eruptions: the effects of one in 1693 were by far the most terrible. That

very deluge was accompanied with a most awful earthquake ; during four minutes the earth shook, one fourth of Syracuse was destroyed ; Catania annihilated ; nearly every city on the eastern coasts of Sicily lay in ruins, and 60,000 people perished !

“ See where it lifts its majestic head towering above the clouds, and there stands all that remains of Syracuse, the ancient capital of Sicily. This city was originally founded by a colony from Corinth ; its walls were formerly 22 miles in circumference : but the earthquake of 1693 proved so fatal, that the present circuit is only about two miles. You know Archimedes, the great mathematician, was born here ; a man of admirable sagacity, who laid the foundation of almost all those inventions, which later ages glory in having perfected. You have heard, Edward, how he discovered the quantity of silver that was mixed along with the gold in the crown of king Hiero ? ”

“ No, Sir.”

“ Well, then, listen attentively, and I will explain this curious discovery to you.

“ Having reasoned upon that principle, that all bodies immersed in water, lose just so much of their weight, as a quantity of water equal to them in bulk, weighs—for example, a pound of tin, because it is lighter than gold, would be also larger in bulk ; therefore it would necessarily displace a greater body of water than gold, the water thus displaced by the tin, allowing that these metals could float, would of course be more in quantity than that displaced by a pound of gold, and would, therefore, weigh more. Do you understand this ? ”

EDWARD.—“ Perfectly.”

DR. WALKER.—“ Hence Archimedes drew the conclusion, that gold being more compact than silver, it must lose less weight in water, and that a mixed mass of both, must lose in proportion to the quantities mingled. Weighing, therefore, the crown in water and in air, and two masses, the one of gold, the other of silver, equal in weight to the crown ; he thence determined what each lost of their weight, and so resolved the problem.

“ This wonderful man defended the city of Syracuse, by opposing to the efforts of the Roman general, the numerous resources he found in his creative genius. By means of many different machines, all of his own construction, he rendered Syracuse inaccessible to the enemy. Sometimes he hurled up on them enormous stones, sometimes flights of arrows ; even their ships could not escape his ingenious vigilance ; for when they attempted to approach the fort, he seized them by the prows with grapples of iron, which he let down upon them from the walls, and shook them to pieces, or plunged them in the deep.

“ You have heard of the wonderful galley he built for Hiero, king of Syracuse, which was looked upon as one of the wonders of the world. This galley had twenty benches of oars ; three large apartments, and all the conveniences of a large palace. The floor

of the middle chamber was inlaid, and represented in various colours the stories in Homer's Iliad. In the uppermost apartment, there was a spacious gymnasium, or place of exercise, and walks with gardens and plants of all kinds disposed in most beautiful order. Pipes made, some of hardened clay, and others of lead, conveyed water all around to refresh them. But the apartment of Venus, was the finest of all; the floor was inlaid with agates and other precious stones; the walls were of cypress wood, the windows were adorned with ivory, paintings and small statues. In this chamber was a library and a bath with great coppers, and a bathing vessel made of one single stone of various colours, and containing two hundred and fifty quarts: it was supplied with water from a great reservoir at the head of the galley, which held a hundred thousand quarts. This vessel was adorned on all sides with fine paintings, and had eight towers of equal dimensions, two at the head, two at the stern, and four in the middle. Round these towers were parapets, from whence could be flung immense stones against the enemy. Each tower was constantly guarded by four young men completely armed, and two archers. An engine was fastened to the side, which threw a stone of three hundred weight, and an arrow of eighteen feet the distance of an hundred and twenty-five feet."

EDWARD.—“What a magnificent vessel!”

Antonio asked if they should see it.

“Oh no, replied Doctor Walker, many hundred years have elapsed since this vessel was constructed; and even if it were in existence, we must go to Egypt to gratify our curiosity; for Hierosent it as a present to Ptolemy king of Egypt. What river is that?” enquired the Doctor of one of the mariners.

He was told it was the river Gioretta, and that the ruins near it were those of Morgantio, near the mouth of that river, continued his informer, large quantities of amber are found, which are carefully collected by the peasants, and carried to Catania, where it is manufactured into beads, crosses, and so forth. That is the city of Augusta you see so well fortified, and not far from it is little Hybla, so famous for its honey. See,” continued he, “look at those turtles which are asleep on the surface of the water, if we attempt to touch them, they will be out of sight in a moment. Syracuse was anciently composed of four cities. Ortigia, Tycha, Achradina, and Neapolis; the former alone remains; the site of the other three is now covered with vineyards, orchards, and corn fields.”

Our travellers visited the amphitheatre, the theatre, the catacombs, the Latomie, and the famous ear of Dionysius.

“The ear of Dionysius is a huge cavern, cut out of the rock in the form of the human organ of hearing. Its perpendicular height is about eighty feet, and its length is not less than two hundred and fifty. This magnificent, ingenious, yet cruel cavern was so constructed, that the sound from any part of it was col-

lected into one focus, called the tympanum. Exactly opposite to this the tyrant had a small aperture, which communicated with an apartment where he used to conceal himself, and where he could distinctly hear, it is said, every word that was uttered in the cavern below."

"What a cruel, cowardly contrivance?" said Edward, as they quitted this frightful abode.

"But what will you think of Dionysius," rejoined the Doctor, "when I tell you that this curious cavern was no sooner completed, than the tyrant put all the workmen to death whom he had employed in its construction, and then immediately peopled it with those whom he suspected of being his enemies."

"What a monster!" exclaimed Edward and Antonio at the same moment.

The Latomie now forms a luxuriant garden, in which oranges, lemons, bergamots, pomegranates, olives and figs grow to a very large size. Most of it is one hundred feet below the surface of the earth, and is one of the most romantic spots that can be imagined.

In this garden there are several recesses, in one of which a Capuchin friar has taken up his residence; he was discovered by Antonio, whose glancing eye had caught sight of the crucifix, to which he eagerly advanced, when the father advanced from his grot, and surprised the youth by his unexpected appearance. Not far from this spot they were shewn the Arethusa, and at a little distance from this stream is a large spring of fresh water that boils up in the sea, called Occhi di Zilica, or Alpheus.

"You know the story, Edward, tell it to Antonio."

EDWARD.—"Arethusa was the daughter of Nereus and Doris, who flying from the pursuit of Alpheus, who was in love with her, she was changed into a fountain, and according to the poets, this fountain or river, which runs under ground, near Olympia in Greece, after traversing between five or six hundred miles under the sea, rises in this place. Alpheus too was turned into a river, and that fountain called Occhi di Zilica, and sometimes by his name, is also supposed to have made the same long and wonderful journey. Virgil, in his tenth eclogue, thus apostrophises this poetic spring—

'Thy sacred succour, Arethusa bring
To crown my labours, 'tis the last I sing—
So may thy silver streams beneath the tide,
Unmix'd with briny seas securely glide.'

"Vastly well, Edward," said the Doctor: "remember always Antonio, to ask your young master whether what he tells you is true. You understand that the whole of this story is a fable."

"Si, Signor," replied the youth, "like the story of Rinaldo on the beach at Naples."

CHAPTER XVIII.

MEDITERRANEAN ISLANDS.

SECTION I.

MALTA—THE NAUTILUS.

“I SEE nothing to detain us here,” said the Doctor, as they returned home, “so the first vessel which sails for Malta, we will pay our respects to that celebrated and eminent island.”

The next day they again embarked on board a Maltese vessel, and after a most delightful sail, they anchored in the port of Valletta; the whole island of Malta is richly cultivated, and our travellers, who had been very ill accommodated at Syracuse, were delighted at finding themselves comfortably settled in an excellent inn. They staid some time in the island, visiting its numerous villages, which, though small, are all adorned with a magnificent church. St. Valetta, the capital of Malta, is really a fine city, for the streets are spacious, and the houses are built of white stone. The island itself consists of three peninsulas, which are separated from each other by channels capable of receiving large fleets. It produces large quantities of lemons, cotton trees and vines. Grain is imported from Sicily.

After the taking of Rhodes by the Turks, the emperor Charles V. gave this island to the Grand Master of St. John of Jerusalem, It was attacked by the Turks in 1566, who were obliged to abandon the enterprise, with the loss of 30,000 men. The Knights of Malta formerly consisted of eight nations, but the English, since the reformation, have ceased to form one of them. They are obliged to suppress all pirates, and be at perpetual war with the Turks and Mahometans; they are inadequate to the first, and the second is unbecoming a society of Christians. This is supposed by some to be the island where the apostle Paul was wrecked, though others say it was one now called *Melede*, belonging to Ragusa in the Adriatic. The inhabitants, however, shew near Melita a small church dedicated to St. Paul; and near it a statue of the saint with a viper in his hand, supposed to be placed on the very spot where he shook the venomous animal from his hand. The Maltese believe the island was freed by his power from all noxious animals; very true it is that none will live in this island. The

heat at Malta is very great; the sky, as in Italy, is sometimes perfectly cloudless for a length of time together, and the atmosphere is so clear, that Mount Etna, though two hundred miles distant, is plainly to be distinguished from the middle of the island. Our travellers were surprised at seeing several Turks walking about, and more so when they were informed these men had a mosque in the capital.

An English vessel, bound for the republic of the Seven Isles, having been driven into Valetta by a strong gale of wind, Dr. Walker gladly embraced this opportunity of being conveyed thither as it would be easy to get on terra firma in Greece, when they were so near. There were two or three Venetian vessels that were ready to sail; but our travellers had no wish to meet with a Turkish galleon, nor had they any desire at present of visiting Tunis, Algiers, or Fez, particularly in company with any of the natives of those places, who might perhaps be upon the look out for such visitors as the Doctor, his pupil and servant. An English vessel, therefore secured them from all such fears, and they joyfully embarked.

While they stood watching the gentle motion of the waves, Edward pointed to a nautilus, which floating on the smooth sea, its sail extended, and its oars at work, wound its easy way, directing its course by means of its rudder (the tail). It passed gently on, but when one of the sailors, who espied it, threw something into the water towards it, the sudden splashing of the water alarmed it, in an instant the sail was taken down, the oars drawn in, and the little terrified animal sunk to the bottom of the sea.

“Poor little thing,” said Antonio, “I am sorry the sailor frightened it.”

A favourable breeze soon brought them to the fertile island of Corfu, to which the vessel was bound. Upon landing, they were charmed with the beauty of the scenery, which displayed a profusion of nature's choicest fruits and flowers.

“You know,” continued the Doctor, “that the ancient names of this island were Scheria, Phoecia, Corcyra and Drepano. Corfu, with Cephalonia, Zante, Cerigo, Lucidia, and others, at present enjoy an independent government, under the protection of Great Britain.”

SECTION II.

PARGA, ZANTE.

THEY staid but a short time at Corfu, and proceeded eagerly to cross the small sea which separates them from the interesting

continent upon which stands Parga. It was evening when they landed at Parga, a considerable town, on a bold precipitous rock rising from the sea. One of their passengers being of this place, he took them to his garden, and gave them some remarkably fine oranges. Parga has been attached to the Ionian islands during their vicissitudes, and at present forms part of the septinsular republic. The inhabitants are Greeks, and have been able to resist both the open force and treacherous cunning of Ali, the Pasha of Joannina, who has for several years endeavoured to attach this important post to his dominions.

Parga never belonged to the Turks. The Pargiotes have ever distinguished themselves by their virtues and industry. They cultivated their native soil up to the very day that tore them from its bosom; and the thrilling scene then exhibited will live in the historic page, while time shall last. It forms a parallel with those exhibited at Numantia and Saguntum only, for the destruction of Carthage, and the banishment of its inhabitants, did not exhibit so cool, so determined, so self-possessing, so awful a resolution, as that evinced by the Pargiotes, and of which the following is a faithful account.

By Sir Thomas Maitland's orders, the officer commanding the British garrison at Parga, made known to the inhabitants, that in conformity to arrangements with Ali Pacha, a Turkish force was to enter their territory without delay, but that the English troops would remain for their protection along with the Turks, until they were able to arrange all their affairs, and complete the emigration. On receiving this intimation, which was confirmed by the approach of an Ottoman force, the Pargiotes, having held a consultation, sent to inform the commandant, that as such was the determination of the British government, they had unanimously resolved, that should one single Turk enter their territory before all of them should have had a fair opportunity of leaving it, they would put to death all their wives and children, and afterwards defend themselves against any force, Turkish or Christian, that should violate the pledge made to them, and that they would fight until only one should survive to tell the story. The English commandant, perceiving by their preparations, that this resolution was irrevocable, instantly dispatched information to Sir Thomas Maitland, at Corfu, who sent General Sir Frederick Adam to expostulate with them. That officer, on his arrival at Parga, observed a large fire in the public square, where the inhabitants had heaped together the bones of their ancestors, collected from the churches and cemeteries! All the male population stood armed at the doors of their respective dwellings; the women and children were within, awaiting their fate: a gloomy and awful silence prevailed. A few of the primates, with the Protopapa at their head, received General Adam on his landing, and assured him, that the meditated sacrifice would be immediately executed, unless he could stop the entrance of the Turks, who

had already arrived near the frontier, and effectually protect their embarkation and departure. Fortunately, Sir Frederick Adam found means to prevail on the Ottoman commandant to halt with his force. The Glasgow frigate, Captain Maitland, which had been sent from Corfu, having arrived, the embarkation commenced, and all the Pargiotes proceeded, under her protection, to Corfu. The Turks, on their entrance, found Parga a desert; and the only signal that marked their reception, was the smoke of the funeral pyre, in which its late inhabitants had consumed the bones of their forefathers. The unfortunate emigrants are now principally at Corfu, waiting, as houseless wanderers, the distribution of the miserable pittance of 48s. per head, obtained for them by their protectors.

“ There is a land, of ev’ry land the pride,
 Beloved by heaven o’er all the world beside;
 Where brighter suns dispense serener light,
 And milder moons emparadise the night:
 A land of beauty, virtue, valour, truth,
 Time—tutor’d age, and love—exalted youth:
 The wandering mariner, whose eye explores
 The wealthiest isles, the most enchanting shores,
 Views not a realm so bountiful and fair,
 Nor breathes the spirit of a purer air;
 In every clime the magnet of his soul,
 Touch’d by remembrance, trembles to that pole:
 For in this land of heaven’s peculiar grace,
 The heritage of nature’s noblest race,
 There is a spot of earth supremely blest,
 A dearer sweeter spot than all the rest.”

“ Where shall that *land*, that spot of *earth* be found?
 Art thou a man?—a patriot?—look around?
 O thou shalt find, howe’er thy footsteps roam,
 That land *thy* country, and that spot *thy* home *!”

Parga is curiously built, and stands on so steep a rock, that most of the houses are seen rising one above another. The streets are narrow and dirty. It contains but one church. The fort is in bad order, but might be made a place of some strength and importance. The Pargiotes are a remarkable handsome people. A small stream, about five feet broad, enters the port of Parga; the mountains from which it runs have a bold and savage aspect, and contain scenes of a wild and gloomy character, though their base is mottled with verdure and cultivation, cottages, vineyards, and orange groves, which, with the view of the town and its rock-bespangled bay, form a beautiful and curious picture. The sea which washes this coast is the Thesprotian gulph. The Pargiotes did not alone cultivate

* Montgomery.

olives that furnished them the means of subsistence, their fertile territory produces fruits of all sorts, with which all Epirus is supplied, and their citrons found their way even to Russia.

Having satisfied their curiosity in viewing this rocky insulated city, they again embarked, and keeping close in shore, they had an opportunity of viewing the adjoining coast. "There," said Dr. Walker, "are the plains of Actium, where Brutus and Antony were defeated by Cæsar; and we shall not be long ere we see a spot equally famous in modern times, by the defeat of the Turkish fleet, under the command of Hali, by Don John of Austria, in the reign of Philip II. of Spain. In this engagement Cervantes lost a hand. By the bye, Edward, in some of our solitary peregrinations, I will relate to you the particulars of his life; they are most interesting, but in our present immediate journey we shall have too many subjects bearing that title to permit us to ponder upon Don Miguel de Cervantes. There is rocky Ithaca, so long regretted and so dearly loved by wise Ulysses;" and, continued the doctor, as they doubled a small cape, "there stands Lepanto, built as you see, on a rock in the shape of a sugar loaf, on the top of which stands a castle."

The harbour of Lepanto is small, and the entrance so narrow that it can be shut up with a chain. The country which surrounds it produces corn, wine, oil, rice, Turkey-leather and tobacco. They staid here but one night. Having heard a vessel was to sail for Zant the next morning, they resolved on profiting by so favourable an opportunity of immediately continuing their journey.

Zante is a beautiful little island about twelve miles long and six broad; here our travellers were regaled with delicious fruits of various kinds, amongst which peaches, weighing eight or ten ounces, were conspicuous. Having strolled on the beach, they saw an old Greek fisherman preparing his little boat for his departure; for a trifle he allowed them to accompany him, and they were amused with his proceedings. Having rowed out to a sufficient distance, he poured oil upon the water, which calming the surface of the waves, he could more distinctly see the fish below him, which he very dexterously speared.

The poor animals were soon dead; and they returned to shore with almost as many as their boat would hold. The fisherman told them, that if they would accompany him the next day, he would shew them the most usual mode of fishing off the coast of Elis; they very willingly accompanied him, and after they had got to some distance from the land, he threw into the water the root of tithymal, which intoxicates the fish; and they soon begin to float on the surface of the water, when they are easily caught with the hand; but the fish caught in this way soon become putrid.

The fisherman also chopped some of the tree euphobia, and pushed it under the stones and into the caves along the sea

shore: having previously smoothed the water with oil, the octopodia and several rock fish soon emerged, and rose to the top in a state of intoxication. As they returned home, they once felt a singular movement in their little boat, as if it had been struck by a large stick. The sensation caused a few moments silence which was first broken by the Greek, who said it proceeded from an earthquake. "They are," continued he, "very common in Zante; and if you will please to observe, Sir, the trees on the island are considerably agitated; and now," continued the man, shuddering as he pointed, "those houses totter." This intelligence was but little pleasing to our travellers, and by the promise of a reward, they induced the man to stand out again from land. After an hour or two had elapsed, he assured them the danger must be long gone by, and accordingly begged he might row them back to Zante. The damage done was very trifling; indeed the houses are built low on account of the earthquakes, for scarcely a year passes without one. They however embarked the next day for Pyrgo, on the opposite coast, after having hired a Greek servant, who understood a little Italian, recommended to them by the English consul residing at this place.

Upon landing they proceeded for some distance along the beach, which was thickly scattered with a variety of shells. After having prosecuted their walk for about an hour, they were ferried over a small stream fringed with agnus castus, into a garden blooming with vernal sweets. Here they were hospitably entertained in a convent of Greek monks, who, although deprived themselves of all the good things of this world, provide them for those travellers who may visit their monasteries. "The rules of these monks, which are those of St. Basil," said the doctor, when the monks were retired to celebrate vespers, "are very rigid, for they wear sackcloth; they sleep without sheets, upon straw; they eat no flesh; they fast often, and till the ground with their own hands."

SECTION III.

THE MOREA.

FROM the convent they proceeded over a country presenting at the same time luxuriant valleys and lofty mountains. The lower part of the Arcadian mountains are covered with oaks, which produced the true misletoe of the ancients, called *Ioranthus europæus*, and from which great quantities of bird-lime is made. The hoarse screams of the jay repeatedly assailed their ears as they journeyed through this varied scene, and as they advanced into that part of the Morea, called Messena, the richness

of the soil was so evident as to be observed by the whole party, and their Greek servant told them, that the seed mostly yielded thirty fold; and that the peasant would often sow his second seed for corn, immediately upon getting in his first crop. "I should like of all things," said Doctor Walker, "to view the country of Maina. The Mainiotes are painted in the most terrific colours by the Greeks and Turks, but I cannot help thinking that they would view the independence of John Bull in the same light. Now for this reason, I do suppose that the Mainiotes are a free and brave people, who have preserved some portion of the original spirit of their ancestors."

Upon mentioning their wishes to their Greek servant, he changed colour, and entreated they would not think of such an undertaking. "Why," said Antonio, "they are civilized men; they are not a horde of American savages." Archelaus shook his head, and left them, but returned a short time afterwards, accompanied by the Aga of the place, who strongly seconded the arguments of the Greek; but his representations of death and slavery were listened to with politeness, but made none but an oral impression upon our travellers. And the doctor seeing that his servant was terrified beyond all description, told him he might return to Zante, if he did not chuse to accompany them. Terror and curiosity divided his feelings, but at length the latter was triumphant, and he was desired to procure a guide to conduct them to Calamata; he said he knew that road himself; and the next day they set off upon this excursion, and arrived late in the evening at Calamata.

Calamata is beautifully situated in the east of the extensive plain of Messena, not far from the sea. Here the richness of the soil, assisted by cultivation, produced a luxuriant scene. The prickly pear alternately divide fields of maize, olive grounds, vineyards, and groves of white mulberry trees. The inhabitants of this town are Greeks, and rear a great number of silk-worms.

A small stream now called Calamata, formerly *Nedon*, descends from the Taygetus, and its progress in the summer is sometimes to be traced by a bed of large stones and gravel, only about three hundred feet in breadth, which it had brought down by its violence in winter, when it is really a rapid torrent. In the neighbourhood of Calamata stood the ancient town of Pherae. Being greatly amused by the novel character of the scenery, they spent a day very pleasantly in rambling about in its environs, and took up their abode at Katchuk Maina, a town, or rather village, pleasantly situated in the midst of mulberry orchards, fenced in by the Indian fig. At this place the landscape glowed with all the tints of a Claude. As the following day was Sunday, they had made up their minds to stay at least a couple of days in this small but romantic town, which does not contain more than a hundred and fifty houses. The inhabitants are industrious, and at the doors the Grecian girls were spinning silk:

they were extremely beautiful; and as our travellers passed along, they had something agreeable to say to all of them. Early on the following morning, it was the 12th of April, they were aroused from their slumbers by the sacristan, who was calling the inhabitants to the celebration of the Paschal lamb. The service was performed in the open air, after which a general salutation followed; the men kissed the men, and the women paid each other the same compliment. As this festival had been preceded by a long fast, the peasants eagerly returned to their own homes, to enjoy the paschal lamb, for however poor they may be, they always contrive to procure a lamb upon this day. In the neighbourhood of Katchuk Maina, which stands near the Taygetus, they came to the ruins of a bath; it consisted of several arched chambers, some of which were for the purpose of heating water, which was conveyed through rows of pipes that still remained to different apartments. Not far from this bath is the village of Palæo Castro, standing in the midst of the ruins of former greatness; for on every side were fragments of departed grandeur. These are supposed to have belonged to the ancient town of Thuria. They returned to Calomata through a different road, and from the air of independence and ease of this peasantry, they perceived they were not far from the territory of the Mainiotes. Having procured the necessary information respecting their intended journey, they embarked for Myla, so called from two or three salt mills in its neighbourhood, worked by several copious salt springs. Here there was a square stone tower, the residence of a Mainiote chief, who was prepared for their arrival by a messenger they had sent before, and who seemed proud of this visit from English travellers. He received them courteously and entertained them hospitably; he partook of their repast, and this was the symbol of their safety, for the laws of hospitality among this curious people are inviolable. Having refreshed themselves, he proceeded with them, till they came to the ruins of Abia; and here he took his leave, placing them under the protection of two guards. They prosecuted their journey along the indented coast, in the creeks of which were many row boats, employed occasionally in piratical excursions, for the Mainiotes like the heroes of old, who inhabited these parts, were not scrupulous in attacking their neighbours, calling these predatory incursions honourable war. This coast is every where surrounded by rocks and exposed to winds, so that no vessels of any size can anchor there, and in this the safety of the Mainiotes consist; for when any vessel appeared off their coast with hostile intentions, the inhabitants withdrew for a short time to the villages at the foot of Taygetus, confident that no vessel can remain long off their rocky shore. The stone towers are however never forsaken, because from their summit the warriors throw different missile weapons upon their foes. The country they were traversing was rocky and barren, but the inde-

fatigable industry of the inhabitants collected all the earth that had been washed by rains and torrents from the higher parts, on platforms and terraces, and these were covered with maize, olive, and mulberry trees. Taygetus descends to the east in rocky slopes; indeed the features of the country, the independent air, "and godlike form erect," which characterised its inhabitants; their picturesque costume (of which we shall hereafter speak) threw a sort of indescribable charm on all around our travellers. Edward and Antonio fancied they were carried back to the ages of Romance; and Dr. Walker himself, as they approached the fortress of the Bey of Maina, could not help indulging in romantic illusions. The house consisted of two stone towers, resembling those still seen upon the borders of England and Scotland. As the armed attendants passed from the inner court, under an embattled gateway, the doctor could no longer forbear communicating his feelings to the two youths, who in silence contemplated the novelty of the scene. "Have you courage," said the good man, turning to them, "to follow me into this chieftain's fortress? are you prepared for deeds of prowess? Perhaps this castle may contain an enchanter and a captive damsel. To say the truth, unless that castle does contain a lady, the magic of the present scene would vanish. Who would have thought," continued he, "that in *modern Greece*, we should recal the *olden time*. But see, our guard returns, and with him the chief." They were received by the Capitano with the most cordial welcome; and there were ladies in the fortress, the wife and children of the chief, to whom they were introduced, and who in the old patriarchal style of simplicity, waited upon them during the first part of their dinner, and then retired; when a female servant attended upon them till their repast was concluded. When they had withdrawn to their chamber, they were invited to rest on beds, mattresses, and pillows, which were spread upon the ground; but these beds were not very congenial to our travellers, for the embroidered sheets composed of alternate broad stripes of muslin and silk, were rather rough; as the Greeks always sleep in their under garments, they are insensible of this inconvenience. Having enquired who inhabited the second tower, they were told it belonged to the Capitanessa, niece of the chief, to whom the surrounding district belonged. "The ladies here, I perceive," observed the doctor, "do not stand in need of any chivalrous prowess to defend them. It is only where slavery debases the mind, that women are denied the common privileges of human kind; or amidst the uncultivated wilds of America, where the savage looks upon his wife as a beast of burden." On the following day they were told, they were to be introduced to the Capitanessa, or as Edward called her, *the lady of the castle*. "I am all anxiety, Sir," said he, as the time approached for their introduction. "I wonder whether she is handsome." "Oh yes, to be sure," replied his friend, "and I suppose in order to com-

plete the romance of our present adventure, you will both fall in love with her; and we shall have a single combat in the court of the castle, unless perhaps you would prefer a lover's leap, à la Sappho.

They dined at half-past eleven with their host and his family, shortly after which the anxiously expected interview took place.

The Capitanessa was still young and beautiful though a widow; she alone was seated upon their entrance; her younger sister stood by her, and a numerous train of female attendants superbly attired, were ranged round the room. The dress (for who would omit the dress of so conspicuous a character in our travels) was composed of a light blue shawl gown, embroidered with gold; a sash tied loosely round her waist, and a short vest without sleeves of embroidered crimson velvet. Over these was a dark green Polonese mantle, with wide and open sleeves, also richly embroidered. On her head was a green velvet cap, in the shape of a coronet, embroidered with gold, and a white and gold muslin shawl fixed on the right shoulder, and passed across her bosom under the left arm, floated over the coronet, and hung to the ground behind her.

When the Capitanessa had ordered chairs for her guests, she invited her sister to be seated by her, and they were entertained with coffee and other refreshments.

Their visit over, they reluctantly took leave of their hospitable hosts, and accompanied by a guard they proceeded on their journey. Edward and Antonio declared, that this was the most delightful adventure they had yet had.

On leaving the village of Kistrees, they ascended a winding road, round a rocky promontory, which stretched itself about half a league into the sea. A number of small villages with their churches are scattered in the valley which surrounds it, beyond which appeared a dark chain of mountains, whose tops were covered with snow. As they passed along, the inhabitants came out on all sides to welcome them, men, women, and children. They prosecuted their journey over a barren stony soil to the shore, and then proceeding along the coast, they came to Cardamyla. The honey in this part of the country is nearly equal to that of Hymettus, and the numerous apiaries on the side of the hills have a pretty effect. At Cardamyla they were particularly entertained at witnessing the dexterity with which boys from eight years old and upwards, fired with a rifle gun. But what perhaps was still more amusing, was a group of girls and women slinging stones and bullets at a mark; their attitudes were graceful, nor were they less feminine in feature or demeanour than the Grecians of the other parts of the Morea. These games were succeeded by dances. In the evening our travellers embarked in a small boat, for the inland road was impassable. As they coasted the shore, the village of Luctra was pointed out to them, and at the entrance of a creek stood the tower of a chief to

whom they had been recommended. This Capitano was a man of most warlike and enterprising disposition, and seldom appeared in a dress much superior to that of his followers; but in order to honour his guests, the day after their arrival he exhibited the following splendid costume.

He wore a close vest, of white and gold embroidery, and a short black velvet mantle, with sleeves edged with sables. The sash which held his pistols was a shawl of red and gold. His light blue trowsers were gathered at the knee, and below them were close gaiters of blue cloth embroidered with gold, and silver gilt bosses to protect the ankles.

When he left the house he flung on his shoulders a rich cloth mantle with loose sleeves, which was blue without and red within, embroidered in gold in the front, and down the sleeves in the most superb manner. His turban was green and gold; and contrary to the Turkish custom his hair appeared below it. His sister was attired in a rich dress, resembling that of the Capitana already described. Indeed the dress of the different ranks in this country differ only in quality. The women do not wear trowsers but petticoats. They are extremely beautiful; for to the contour of an Italian countenance they add the complexion found in the more northern parts of Europe.

The feudal system, which in former times so basely enslaved the human mind, has had different effects in Maira; for the government, if such it can be called, is, strictly speaking, feudal. Every Capitano has his retainers and followers, over whom he exercises jurisdiction, and the most powerful of these is honoured with the title of Bey of Maina, but still his authority extends only over his own territory. He enjoys the post of honour it is true, and his authority receives the sanction of the Porte. And if war should be declared, either openly or not, he is expected to take the command. The Capitano, in whose house they now were, had been in several engagements, accompanied by his sister. Their piratical depredations were most extensive, and the sight of their *trattas*, as their long, narrow, canoe-like boats were called, spread universal terror.

SECTION IV.

APPEARANCE OF A NEW ISLAND.

THEY parted from the warlike chief with regret, and continuing their journey under the protection of his retainers along the foot of Taygetus, they at length reached the boundary of his domains, where they were met by fresh guides to conduct them down the opposite side of the Plutsa. Before their former guards

took leave, they fired their rifles over the heads of our travellers, as a mark of friendship and respect.

They now lost almost every trace of vegetation. Here the mountain of Taygetus is a continuation of naked crags. Not a tree, not a bush was to be seen, and our travellers rejoiced at reaching the town of Vitulo (formerly Cetylos) which is built along a rocky precipice at the foot of which is a deep creek of the sea. A mountain torrent rushing through a deep and gloomy glen falls into this creek not far from the town. Here they remained but one night, for except viewing the church, which contains some curious relics of architecture supposed to be taken from a ruinous temple in its vicinity, they saw nothing worthy of notice. The chief and his family, to whom they had letters of introduction, was absent; and although they experienced every attention, they resolved to proceed to Marathonisi, the capital of Maina, and with an escort of sixteen Mainiotes, they resumed their journey. The first part of their route was along a narrow road, which wound with the torrent along a gloomy dell, shut in by rocks and precipices. And now again the scene assumed the air of romantic novelty, for the armed Mainiotes looked more like banditti than guards. They had, however, experienced too much hospitality to be under any apprehensions, and at length emerging from this wild scene, they entered a more fertile tract of country, in which were scattered several hamlets; and as they again approached the sea towards the east, they saw the remains of a square Venetian fortress.

During their journey over this uncultivated plain, Dr. Walker asked their guards if they had seen in their nautical excursions the new island which had risen from the sea, near Sartorini. "Yes," replied one of them, "I have not only seen it, but was at Santorini when it first made its appearance." "Indeed," said Edward; "perhaps then you can tell us something about it." "Certainly," replied the Mainiote, "for I shall never forget it: it was on the 10th of May, in the year 1807, an earthquake was felt in Santorini*, and the next morning some sailors having observed what they thought was a wreck, rowed towards it, when to their great surprise they discovered rocks and earth. Terrified, they returned back to their island, and declared what they had seen: about two or three days after this, the curiosity of many of the inhabitants, (I was one of them) led them to visit this new island, but while we were pulling some oysters from the rocks, the ground rocked under us; upon that we instantly made a precipitate retreat. The island now increased considerably from several violent tremblings; but it often happened that as one part arose the opposite side was observed to sink. An immense rock we next saw rise from the bottom of the sea, at some little distance from the island, and after continuing visible four days, sunk,

* An island north of Candia.

and rose no more ; but several smaller ones appeared in its stead and remained immoveable. During these violent convulsions of nature, the sea assumed a light greenish tint ; it then became red and finally of a pale yellowish colour, emitting a most noisome smell. In July, a ridge of black stones suddenly rose from the bosom of the boisterous deep, about sixty paces from the island, where it was unfathomable, from which a prodigious smoke issued. These stones formed a separate island, and was called by the inhabitants of Santorini, *black island*, while the former they denominated the *white island*. Towards the end of the month several other rocks sprung up, and the island became every day larger, and immense volumes of flame issued from the burning mountains. The wind being calm, the smoke and flames shot up to so great a height as to be seen at Candia. The sea was covered with a yellowish and reddish froth, which emitted such pestilential effluvia, that the Santorines burnt perfumes in their houses, and kindled large fires in the streets to prevent infection. A sudden gale of wind dispersed the froth, but its beneficial effects were almost counteracted by its driving the smoke over the vineyards, which completely destroyed the grapes. The next phenomenon which attracted the attention of the observers was, that the sea was seen to smoke in two large circles near the volcanic island. It had the appearance of oil on the point of boiling, and many fish were thrown up dead on the coast of Santorini. This phenomenon lasted about a month, when it was followed by a hollow subterraneous rumbling ; this noise was succeeded by that which immense bodies of stones thrown into a deep reservoir of water would produce ; and this again by a noise resembling prodigious claps of thunder.

The fire now burst forth with redoubled fury, particularly from the black island : and the astonished spectators beheld the flames dart up three several times to a vast height, resembling so many immense sky rockets of a glowing red. In the night the scene was awful and sublime to a great degree, for these rockets and streams of fire bursting, fell upon the island as brilliant stars, so that it appeared all in a blaze.

“ On the 9th of September the two islands were united by an extraordinary convulsion, and four volcanoes appeared, from which issued columns of fire, with a variety of noises. After various concussions and alterations in the form of this volcanic isle, it was so violently shaken on the 21st of September, that part of the largest volcano came tumbling down, and huge masses of burning rocks were hurled headlong into the sea to a considerable distance : after this tremendous explosion all was still and quiet for three or four days, when the flames again burst forth with greater fury than ever ; and one clap of subterraneous thunder was so tremendous, that the people of Santorini crowded to the churches, supposing they were about to be engulfed in the general ruin which appeared to threaten the new and surrounding islands.

“ On the 10th of February a violent earthquake was felt at Santorini, and the burning island emitted huge volumes of smoke and flame, accompanied by its usual bellowing. The houses at Santorini shook from their foundation, and immense stones flew in every direction.

“ From this period till May, the inhabitants were kept in a constant state of alarm, and it was not till July following, that they ventured to take a survey of this terrific island ; they were then not able to view it closely, for the volcanic fires were still burning, and the sea still boiling. It was however computed to be about two hundred feet above the sea, and about one mile broad and five in length. They made an attempt to land on one part, but were glad to escape in safety ; for the largest furnace discharged such a profusion of volcanic matter, as threatened to overwhelm them, and consequently they hastily relinquished the undertaking. The heat of the water had melted so much of the pitch of their boat, that their little vessel leaked, and it was with difficulty they reached Santorini. This island continued encreasing for several succeeding years, but it has ceased for some time to emit flames.”

“ What an awful sight it must have been !” exclaimed Antonio. “ Yes,” replied the guide ; “ I never saw a scene more terrific ; nor can I describe the sensation we experienced when we first landed, and felt the island rock under us !”

Our travellers had by this time reached Marathonisi, which is composed of a single street only ; but in its neighbourhood were some few vestiges of glythum, such as marble, blocks, &c. which were interesting to our travellers, who were well versed in classic lore. “ This salt spring, which rises out of the rocks,” said Dr. Walker ; “ it is very probable was the fountain of Esculapius. Near this salt spring there are two large stuccoed tanks cut out of the rock for the supply of water. Beyond this is a long oblong apartment in which were niches for urns containing the ashes of the dead. Having viewed these ruins they prepared for their departure from this interesting country, and crossing a bay, they entered a plain, through which flows the Curotas. “ Was not this the country of the Helots, Sir ?” said Edward. “ Exactly so,” replied his friend ; “ and now, Edward, just explain to Antonio the origin of the Helots ;” and Edward began thus—

“ When the Lacedemonians first began to settle in Peloponnesus, they met with great opposition from the inhabitants of the country whom they were obliged to subdue one after another, by force of arms, or receive into their alliance on easy and equitable terms, as the paying them a small tribute. Strabo speaks of a city called Elor, not far from Sparta, which, after having submitted to the yoke as others had done, openly revolted and refused to pay the tribute.

“ Agis, the son of Euristhenes, newly settled in the throne, was sensible of the dangerous precedent of this first revolt, and

therefore immediately marched with an army against them, together with Soüs his colleague. Having subdued the rebels, he resolved to make an example of them, not by putting them to death, but by reducing them to a state of slavery, and from henceforth all the slaves of Greece were called from them *Elotæ*, or *Helots*."

SECTION V.

MISITRA—ARGOS—CORINTH.

As they advanced, their road became craggy and dangerous, not only from the natural causes, but from the roving parties of Bedouiniots, and the Turkish and Albanese borderers, who infest these mountains: their Albanian guides too, appeared as if they were almost inclined to betray their trust, and Dr. Walker was under some apprehensions lest their adventure should not terminate so happily as it had begun. One man alone of their company kept a watchful eye upon the surrounding country, and he, fortunately for our travellers, retained an air of confident superiority, to which his companions sullenly bowed. Upon their arrival at Misitra, (the ancient Sparta) he prevented his Albanese companions from retaining the letters to the Aga and the Greek primate, who inhabited the city; and although Dr. Walker expressed no suspicions of the fidelity of his guards, he could not help entreating this friendly Albanian to accept a valuable ring as a token of their gratitude for the important services he had rendered them.

The appearance of Misitra is picturesque; it is divided into four parts—the castle, which stands on a rock, the town, and two suburbs. Our travellers were much delighted with the Christian church *Perelipitos*, which appeared to them one of the most beautiful of its size they had yet seen, even at Rome. The Turks have many mosques, and the Jews three synagogues in this ancient town. At Misitra they were introduced to one of the superior Greek families, and received a polite invitation to be present at a Greek wedding. Dr. Walker and his young friends, thought this a most fortunate circumstance; and on the day appointed, they eagerly repaired to the house of the hospitable Greek, the father of the bride. The beautiful *Sappho* was most splendidly attired in the Grecian costume, and profusely adorned with jewels. Over her head she wore a *red veil*, which partially concealed her fine dark hair, which hung in tresses down her back. An immense number of attendants, a band of musicians, the blazing torch of hymen, and a host of female friends clad in

splendid attire, accompanied the youthful bride, who had but just attained the age of fifteen. Before the bridegroom and the bride were presented at the altar, they were each crowned with a chaplet, which, during the ceremony were changed from the one to the other by the priest. After the nuptial benediction a cup of wine was presented to the new married couple, and subsequently to the sponsors, and then to the remainder of the company. After the ceremony was concluded, the bride was conducted to her new home; her female friends taking particular care she should not touch the threshold of the door. The blazing torch was now consigned to the chamber of the new married pair, where it was to burn out. Its extinction before it is quite exhausted would be looked upon as a very bad omen.

The Grecian wedding furnished our travellers with ample scope for conversation the next day.

Having witnessed this festival, they staid but to procure proper guides and instructions respecting their route to Argos, and then proceeded to Tripolezza, a town of no importance, from whence they continued their route to Argos. "Do you recollect," said Dr. Walker, addressing Edward, "the celebrated contest between the Argives and the Lacedemonians, which took place near this spot, respecting the town of Thyrea, to which they both laid claim." "No," replied Edward, "I do not, Sir." "The two armies met," resumed his friend, "in order to settle the important question by force of arms; but in order to spare the effusion of blood, it was agreed that three hundred men from each army should decide the contest. Accordingly six hundred of the bravest soldiers were selected, who fought till three only remained, two of the Argives and one Lacedemonian, when night parted these combatants. The Argives returned to Argos to announce their victory; the Spartan remained on the field, and stripping the bodies of his former antagonists, conveyed the spoil to the Lacedemonian camp, and then returned to retain possession of the hard fought field. On the following day, both parties claimed the victory; the Argives from having had two combatants left, the Lacedemonians from their champion remaining on the field, while they declared his two opponents to have ignobly fled.

"There was now an end of all pacification, the combat became general; and fortune deciding in favour of the Lacedemonians, Thyrea was united to the Spartan dominions."

"It reminds one of the combat between the Horatii and Curiatii," observed Antonio, who had entirely ceased to be considered as a servant.

From Argos they made an excursion to all that remains of Corinth. Corinth, or Coranto, is now an inconsiderable place; the houses stand in a solitary manner in the midst of gardens and orange-groves, forming the appearance of a pretty village.—The castle, which is placed on an almost inaccessible rock,

commands a most extensive view. They returned to Argos deeply impressed with the passing greatness of all sublunary honours.

"I think," said Dr. Walker, "we should take a more regular survey of this classic country, if we were to *embark* for Athens; we might then visit some of the islands." His proposal was warmly seconded, and having hired a vessel to convey them down the gulf of Argos; the first island they touched at was Milo, the most fertile spot that can be imagined; heated by subterraneous fires, it almost exhibits an eternal spring and summer; wheat, barley, grapes, and delicious melons, appear in blossom and fruit at the same time, and nearly without any intermission throughout the whole year. It also produces a sort of alum in large lumps, composed of threads as fine as the softest silk, silvered over and shining very beautifully. It has the same taste as rock alum. Notwithstanding its fertility, it is thinly inhabited, for pestilence and oppression have united their equally baneful effects to depopulate a spot, which might serve as a model for the Elysian fields.

From Milo they proceeded to Naxis, where they landed in the midst of mulberry, orange, lemon, cedar, citron, pomegranate, and fig trees. The wine of Naxis is still famous. Scarcely could our two young travellers remember upon landing, that they were *citizens* of the *world*, and that consequently nought was to *astonish*, incommode, or molest them. The extraordinary appearance of the women was to them so novel and so astonishing, that they could hardly command their risible muscles, so far as to smile only. In the first place the Naxian ladies adorn their faces with innumerable black patches. "How ridiculous," said Edward to Antonio, "I should like to tell them that in our country a patch implies a pimple." "And observe," replied Antonio, "those heavy black velvet wings at their shoulders, and that huge circular shell which supports the ends of their lappets. Their stomacher too so heavily embroidered with pearls." "Now, I pray you, cease Antonio," interrupted the doctor, "you are upon ticklish ground, for in the picture at Elmwood, the English seat of your young friend, his grandmother wears just such a stomacher, as that which adorns the fair bosoms of the Naxian women."

At night they were amused with another fishing excursion. The air was still, the sea calm, and the night rather dark. Having proceeded to some distance from the land, in company with several other boats, their fisherman kindled the branch of a pine, and hanging it over one end of the boat, the fish began to assemble round them.

The strong reflection of this blazing fir upon the human countenances, upon the dark and gloomy deep, on the surface of which the finny tribe floated in great numbers, produced the most singular and pleasing picture. Many of the boats had lanterns fixed to a long pole; the effect of these scattered about in various parts was most amusing, and our travellers returned

home delighted with their nocturnal excursion. Upon entering the cottage where they had taken up their quarters they were lighted to bed by Grecian lamps fed with oil of mastic. This island produces great quantity of emery. They next touched at Paros, which produces excellent wine and the fine white marble called Parian marble. It gave birth to Phidias and Praxiteles, the renowned statuarys. The Arundelian marbles at Oxford were brought from this island.

The present inhabitants of this once celebrated island, have, however, no taste for sculpture, and their utmost production does not exceed a mortar or a salt-cellar. Even the fields bear testimony to the ancient genius of this island, to which its inhabitants are so insensible. Friezes, altars, and bas relievos, supply the place of hedges in this marble isle, and on every side, whether you thread the groves or pace the plains; whether you seek the populous city, or the lowly cot, columns and fragments of ancient sculpture greet your eye.

The inhabitants rear many sheep; and formerly their olive vineyards were very celebrated, but in the war of Candy the Venetians barbarously burnt them all.

"This island was anciently dedicated to Bacchus," said Dr. Walker, "on account of its highly flavoured wines. And now let us make enquiry for a boat to convey us to Antiparos. We must see the celebrated grotto."

"What a number of partridges and pigeons this island produces," observed Edward.

"Yes," replied his friend, "but they are not in such repute here as they were formerly."

"No," said Antonio, "nor as they now are at Modena."

"Formerly," resumed the Doctor, "the dove was sacred to Venus only, but mankind have pressed this peaceful bird into the service of Bellona, they have employed pigeons to carry messages of every kind, converting them into state couriers in the regular transmission of dispatches, but it is chiefly in besieged towns, that they have been employed to reveal the distress of the inhabitants, and to convey to them the tidings of comfort. It was thus that the consul Hirtius apprized Decimus Brutus, when besieged in Modena, of the succours which he was bringing to him. And this, I suppose, is the reason why the pigeon is in such estimation in Modena."

"Yes," replied Antonio, "for as a token of their gratitude the Modonese have perpetuated the practice of rearing carrier pigeons."

"Can you not recollect, Edward," rejoined Dr. Walker, "Anacreon's beautiful ode to his dove? Try what you can do."

"Tell me why my sweetest dove,
Thus your humid pinions move,
Shedding through the air in showers
Essence of the balmicest flowers,

Tell me whither, whence you rove,
Tell me all, my sweetest dove.

'Curious stranger! I belong
To the bard of Teian song;
With his mandate now I fly
To the nymph of azure eye;
Ah! that eye has madden'd many,
But the poet more than any.
See me now his faithful minion
Thus with softly gliding pinion
To his lovely girl I bear
Songs of passion through the air.
Oft he blandly whispers me,
Soon, my bird, I'll set you free,
But in vain he'll bid me fly,
I shall serve him till I die—
From Anacreon's hand I eat
Food delicious viands sweet;
Flutter o'er his goblet's brim,
Sip the foamy wine with him;
Then I dance and wanton round
To the lyre's beguiling sound;
Or with gently fanning wings
Shade the minstrel while he sings,
On his harp then sink in slumbers
Dreaming still of dulcet numbers.'

Having landed on the small island of Antiparos, the ancient Olearis, they eagerly advanced to the rock through which they were to descend to the celebrated grotto, the only attraction Antiparos possesses in the eye of a traveller. A lofty arch formed of craggy stones mixed with brambles and bushes forms the portal through which our travellers passed into a narrow passage glittering on each side as if it were set with diamonds. After they had advanced for some time, a cord was fastened round their waists, and they were then, one after the other, lowered down a frightful precipice; the torches carried by their guides threw an imperfect gleam around, and the awful scene cannot better be described than by applying to it Milton's expressive epithet of *darkness visible*.

After proceeding about fifty paces, a more terrific precipice presented itself, which they descended much in the same way as the former, but with more difficulty from the projections of the rock. They had now left the Stygian shades and entered upon Elysium. An arched passage about one hundred and twenty feet long, nine high, and seven broad, burst upon them with inconceivable splendour. The arched roof and the walls are composed of red and white glittering granite, polished as if

by art: at certain distances were columns of deep blood red porphyry, presenting altogether a scene, which so astonished Antonio, that in silence he followed his friends till they reached a slanting wall of purple marble, adorned with transparent crystals, many of which from the reflection of the lights carried to illumine this natural and splendid phenomenon, sparkled like amethysts.

Another slanting passage, the stalactites of which assumed a variety of grotesque forms, led them, at last, after descending a third precipice, by means of a ladder, to the object of their visit—the grotto. They were now about one thousand five hundred feet below the surface of the island.

The roof, which is in many parts one hundred and eighty feet high, is luxuriantly adorned with festoons of flowers, marble, ice, pendant icicles, and the most fanciful imagery, all of so brilliant a hue that the eyes of our travellers could scarcely gaze upon the resplendent scene. In the sides of the grotto, the petrifications have assumed the form of trees and shrubs, which rising one above the other, meet the icicles of the roof, forming the most beautiful and delicate trellis work. The ground work of this grotto is rough and uneven, being composed of crystals of various colours, intermixed with the crystallized white marble, which principally compose this fairy palace.

“How wonderfully grand,” at length exclaimed Antonio, whose eager eye and parted lip were strongly expressive of the astonishment he felt at contemplating this sublime work of nature; “I am lost in wonder and delight.”

“We have a grotto in England which equals it Antonio,” replied his young friend. “Do you not think so, Sir,” continued he, addressing Dr. Walker.

“It is not much inferior to it,” said the Doctor, “and I expected the comparison from you.”

SECTION VI.

ATHENS—ELEUSIS—CITHÆRON—THEBES—NEGROPONT.

HAVING ONCE more regained the face of day they passed one night on the island, and then embarked on board their little vessel, which after a pleasant sail conveyed them up the gulf of Egina, and late in the evening they landed in the interesting vicinity of Athens. The situation of Athens is picturesque to a great degree, for it stands on the brink of a precipice overlooking the sea.

Our travellers made several excursions in the neighbourhood of this once celebrated city, and none gave them more pleasure than that of the summit of Hymettus.

Having visited the spot called Acathymia, formerly the site as is supposed, of the ancient academy, they continued their walk, and were amused for some time by a shepherd playing upon a pastoral flute, which consisted of a single piece of the Donat, about a foot long. The next day, following the tract of the Illissus, which was nearly dry, and fringed with the oleander and the agnus castus, they proceeded to Hymettus, so famous for its honey. The lower part is planted with olive gardens, the kermes oak then appears, and several beautiful flowers adorn the upper part of it, among which a species of the colchium, and the beautiful Persian cyclamer, are very conspicuous. A variety of sweet herbs also adorn this celebrated mountain, and impart their aromatic flavour to the honey of Hymettus.

The view from their exalted situation was extensive and pleasing. They could discern the Cyclades, the straits of Negropont, the eastern coast of Attica, the numerous ports stretching towards cape Colonna, the Saronic gulf, the plains of Athens with its olive grounds, and the mountains of Parnes and Pén-deli in Attica.

“ Was not one branch of the Illissus called Eridanus ?” said Edward.

“ Yes,” replied the Doctor, “ though the Po in Italy be so called by Virgil. It was the river Eridanus into which Phaëton fell, when Jupiter melted the wax off the wings of that aspiring youth, when he presumed to guide the chariot of the sun.”

Having rested at the monastery which is about half way up the mountain, for some little time, they were anxious to taste the honey ; but this article belonged to the bishop, and so closely did he exact his due, that the poor monks could not present our travellers with the smallest quantity.

So little now remains of what Athens was, except the ruins of the Parthenon, in the Aeropolis or citadel, and the temple of Jupiter Olympus, that our travellers made but a very short stay within its walls, and hiring guides, and accompanied by their Greek servant whom they found very useful, they again resumed their journey, taking the direction of the route to Marathon.

“ Do you not feel yourself half transformed into a hero,” said the Doctor, addressing Edward, as they entered the plain of Marathon ; “ cannot your imagination picture the celebrated engagement which took place here between the Persians and Greeks, in this spot consecrated by the blood of heroes ? here Miltiades with his Athenians, Plateans, and slaves, rushed to the unequal contest. Here the superb Persians fled before their valiant opponents, and embarking in haste, doubled cape Lunium, directing their vessels to Phalerum, hoping to reach Athens before the Athenians were aware of their intentions. They

were, however, disappointed, for the conquerors at Marathon marched direct for the capital of Attica, as soon as the important contest was decided, and counteracted the designs of their proud and ambitious invaders. And now let us visit the village Morasana, I understand it is a pleasant little place, seated in the midst of gardens planted with vines, olives, and apricot trees."

Having prosecuted their walk about a mile along the banks of the stream, they arrived at a fountain surrounded by a circular foundation of ancient masonry. Above the fountain is a small rock at the foot of which is a cave divided into various apartments, supposed to have been formerly dedicated to Pan. Having taken a survey of this interesting spot they returned to Athens, over a rough and rocky road, till they arrived at the plains of that city. It was night when they entered the city, and the following day having made all necessary arrangements for their departure, they set off along the shore of the gulf for Boeotia. In about an hour and a half after crossing a plain between Corydally and Parnes, they arrived at the convent Daphné, partly composed of the ruins of the temple of Venus, which formerly stood near this place.

They then crossed the streams of the Rhitti, and at length arrived at Eleusis, where the plan of the temple of Ceres, which was destroyed by Alaric, A.D. 396. is still to be traced. Here they passed through vast fields of barley. They made no stay at Eleusis, but continuing their journey in a northern direction, they reached Megara where they viewed some fine remains of antiquity; two hours brought them across the plain, when Mount Parnes presented itself, beyond which stretched the plain of Eleutheræ where another road from Athens, by Phyle, joins that of Eleusis. After traversing the Citheron, a chain of mountains which divides Attica from Boeotia, they entered the celebrated plains of Platea. Some traces of the fortifications of the town are still to be seen, three miles to the west of the pass of Citheron. Having made some comments on the battle of Platea, in which Mardonius the Persian general was totally defeated, and which so completely suppressed every idea the Persians had formed respecting the subjugation of Greece, that no Persian troops ever passed the Hellespont after this memorable defeat; the Doctor said, "it was worthy of observation, that the heathen never undertook any great enterprize without consulting the gods, nor ever gained a great victory without returning public thanks to the same. After the battle of Platea," continued he, "a dispute took place between the Lacedæmonians and Athenians as to which of the two nations should be declared the bravest; the dispute ran high, but at length the question was decided by Cleocritus of Corinth, who in order to avert the scene of blood which threatened to tarnish the honours the two people had lately gained, declared he thought the prize should

be awarded to the Plateans. The proposal was received with loud shouts, and in the division of the spoil fourscore talents, (about 18,000*l.* sterling) was set apart for that people, who with this large sum erected a temple to Minerva. The tenth part of all spoil taken by the Grecians was devoted to the gods upon all occasions."

A golden tripod was sent to Delphos by the united Greeks upon this great victory; they also sent to request the god (Apollo) would inform them what sacrifice was proper to offer as a token of their gratitude for this great victory. The answer they received was "that they should erect an altar to *Jupiter Liberator*, that no sacrifice was to be offered upon his altar, until all the neighbouring fires had been extinguished as they had been profaned by the Barbarians, but that fire from the common altar at Delphos was to be sent for upon this solemn occasion." Upon the receipt of this answer the generals dispersed themselves in every direction to extinguish the fires, and Euchidas a Platean, undertook to fetch the sacred fire from Delphos. On his arrival at the sacred fane after having purified himself and sprinkled himself with holy and consecrated water, he approached the altar with the greatest reverence, took the holy fire and immediately returned to his native city, where he arrived before sun-set. Having delivered a short speech to his countrymen, and consigned his precious charge to its hallowed receptacle, he fell down and instantly expired. He had walked a thousand stadia (120 English miles) in one day. The heroes in the *Iliad*, the *Odyssey*, and the *Æneid*, always addressed some deity previously to rushing to the fight. The poets of antiquity make their heroes pious according to the piety of the age in which they lived.

" Though false their faith,
And less than human were the gods they sung :
Though false their faith, they taught the best they knew ;
And blush, O Christians! liv'd above their faith.
They would have bless'd the beam, and hail'd the day,
Which chas'd the moral darkness from their souls."

In a north-west direction from Platea are supposed to be some trifling remains of Leuctra, and between Platea and Leuctra, is a plain on which are a couple of tumuli, which may very probably have been erected after the engagement between Epaminandos and the Spartans. A small place called Lefka marks the situation of Leuctra, and the little village of Rohle is near the remains of Platea.

In the town of Thiva or Stibes, anciently Thebes, where they next halted, they staid one day in order to take a survey of this once celebrated city. It is surrounded by a wall defended by square stone towers. The houses are high and tolerably built, and though the only manufactory carried on here is that of bowls for the Turkish pipes, yet it had a more lively appearance than

they had lately been accustomed to. The inhabitants are half Greeks and half Turks, and the town contains two mosques and several Christian churches. The second day of their arrival at Thebes they hired horses to convey them to Negropont, the ancient Eubœa, which is divided from the continent by the Euripus, over which there is an old fashioned heavy bridge of three arches. The approach to the capital from Thebes is over a dull uninteresting country, but the view of Negropont, the capital of the Island of that name is very fine. It is surrounded by lofty walls and towers rising from the water, behind which appear the mountains of Eubœa, their summits covered with snow.

Upon crossing the bridge they were much disappointed. The interior of the city presented a dull and melancholy appearance. No sound,

“ No busy hum of men,”

greeted their ears, and they almost fancied they were entering an uninhabited town. The buildings are mostly of the Venetian cast, solid and gloomy, and the lion of St. Mark still retains his position on various parts of the walls.

A large Gothic church in the style of those in England, drew from Edward an exclamation of delight. The blood rushed to his face as he contemplated with mingled feelings an edifice, which brought to his imagination many pleasing remembrances. This, and a silk manufactory, carried on in a large vaulted chamber of most solid masonry, which Dr. Walker pronounced to be the remains of Roman strength and grandeur, are all that Negropont contains worth noticing.

They were content with having viewed the capital, and accordingly again crossing the strait of Euripus, the irregularity of whose tides has been the subject of much study, both among the moderns and the ancients, they turned to the right, directing their steps to Martino, a village about eighteen miles from Negropont. Their road lay at a short distance from the sea coast, and as they journeyed on, they passed the ruins of a large town which they supposed to be Anthedon. The day now advanced, and ere they reached the bay Potromathe the sun had long passed the meridian. Among the mountains which surrounded this bay on three sides, there was one round which their road lay. Although the horses were accustomed to this steep ascent, yet they toiled with difficulty, and their guide having mistaken his way, the evening closed in upon them, and they began to fear that they must pass the night in the open air. In the valley it had been warm; but now that the sun was set, the chilly air of the mountains was sensibly felt by our travellers, particularly by the Doctor. Edward and Antonio looked eagerly on every side, and were anxious to seek for a place of shelter for him, but he would not suffer them to leave him, lest they should stray so far

as to lose sight of him. One of the guides, who had left them to search for some one to give him information, at length returned, and said he had discovered a cave, which was sheltered from the winds at least, but whether it were dry or not he could not tell.

“ Oh lead us to it,” said Edward, “ and we will soon kindle a fire, and with light and warmth we shall be screened from many ills.”

“ How will you strike a light?” said Antonio.

“ Lend me your knife,” replied his young friend, “ and we will do as the savages do in America.”

When they arrived at the cave, the doctor was shivering with cold, and the two youths and the guides having collected some dried leaves, with some branches of fir, they soon kindled a blazing pile, which revived the good man for a time, but he was evidently affected by the cold more than he chose to confess. The cave too was damp, and in their joy at feeling the genial glow of the fire, our young travellers forgot that it drew the damps more powerfully around them. Antonio was the first to see a sensible alteration in his friend, and upon asking him how he did, and receiving an answer that he felt very poorly, both Edward and the young Italian evinced the strongest marks of sensibility.

“ Stay with him,” said the latter, “ I will find a house and comfortable refreshment if these inhospitable mountains will produce it.”

He did not wait for an answer, but bounding with the rapidity of a goat over the uneven surface of the mountain, he was soon out of sight. Dr. Walker was extremely uneasy respecting him, but Edward assured him he would soon return, and so indeed he did, accompanied by a shepherd, who offered his humble dwelling with more courtesy than they were wont to find in the inferior classes of society they had lately associated with. Supported between his youthful friends the Doctor preferred walking to mounting his horse, and in the course of half an hour, he was warmly and dryly, if not very comfortably lodged in the peasant's hut. They were, however, detained two or three days in this sequestered spot, by a slight indisposition of the Doctor.

In a few days Dr. Walker, feeling himself much renovated, mounted his horse, and they proceeded merrily on to Martino.

SECTION VII.

JOURNEY THROUGH GREECE.

THE day after their arrival they made an excursion along the banks of the Larmi, the ancient Cephisus. From the midst of rocks and bushes, at the foot of a low cliff, the river bursts with considerable force. A little above its source there is a small plain tolerably cultivated and bounded with a low ridge of rocks to the west. The view from these is fine: the lake of Copais, into which the mountains of Bœotia jutted in broad headlands; sometimes they were bare to their base, sometimes a rich scene of cultivation skirted their inferior parts, and presented a fine picture. Beyond the lake stretched the plains of Haliartus and Orchomenus, bounded by the snowy ridges of Parnassus, which towering above the surrounding scenery lifted its proud head to the skies.

“What a melancholy view does this fine country present,” said Dr. Walker, “the rising of the waters of this lake in the winter time, is so great as to turn the richest soil in the world into a morass. In the winter time the shepherds and goatherds convey their respective flocks to a more genial clime, that of Attica.

“The origin of this celebrated lake is supposed to have arisen from the river Cephisus, which stagnating in the lower part of the plain, formed at first a shallow lake, which has increased in succeeding years, till it has become what you now see it. A fissure so common in lime-stone rocks received part of the superfluous waters, and it is said that this water has a subterranean outlet. Square pits have been dug at different times in order to receive the waters which occasionally threatened to overwhelm the whole plain. Rice, cotton, and tobacco, are now planted near the lake, and the more distant parts with wheat and barley.”

They returned to their cottage, pleased with their excursion, and the next day having crossed the plain of Cephisus, they arrived at Daulis, inhabited by the laborious Arnauts.

Although Daulis contains only sixty cottages, yet it possesses no less than eighteen churches! The same disproportionate number of churches is seen throughout most parts of Greece, where the Turk is either too weak or too liberal to prevent it. These consecrated edifices are however, in general, composed only of four loose walls, which are formed of ancient fragments, and without a roof. The altar is frequently nothing more than a slab of marble, with an inscription underneath, supported by the block of an ancient column, or the pedestal of a statue. The churches at Daulis are so diminutive, that all except four

escaped their notice ; one of them is in the Acropolis. The Greek priests, as an expiation for great misdeeds, sometimes impose upon their penitents the construction of a church ; and if we may be permitted to draw general conclusions from this well known fact, we must infer, that the proportion of sinners in Greece is very great. The doors, even of the better kind of churches, are commonly so narrow, as to admit only one person at a time ; and this is done in order to prevent the Turks from converting them into stables, by turning in their horses, which they frequently do, when the door is sufficiently capacious.

The bread in this part of the country is very bad, but they were fortunate in arriving at Daulis before the Greek priest had devoured all the delicious white bread which had been presented to him on the 10th of March. They purchased several of the fine loaves from him, after he had blessed them, which operation is supposed to render them more salubrious to the body, as well as more agreeable to the taste.

Upon entering the rude mountains of Parnassus they were agreeably surprised to meet with fruitful and picturesque valleys in the midst of rocky and barren peaks, for in this part of the mountains the pine is almost the only tree to be seen. In about five hours they arrived at Delphos, the ancient Delphi.

“ Now,” said Dr. Walker, “ approach with reverence the Castalian spring, of which the Delphian priestess of Apollo used to drink ere she uttered her mystic prophecies.”

The silence which followed this advice was first broken by Edward’s repeating the following beautiful lines by Pope to a nymph of a grotto ; which he applied to the Delphian priestess.

“ Nymph of the grot, these sacred springs I keep,
And to the murmur of these waters sleep ;
Ah spare my slumbers ! gently tread the cave,
Or drink in silence, or in silence lave.”

“ What !” exclaimed the Doctor, “ has not Parnassus inspired you with an original lay. Come, Antonio, let us hear something from you.”

Antonio complied with the Doctor’s request, and in his own native language poured forth his unpremeditated lay, with a sweetness that would not have disgraced the Delphian priestess herself.

The Castalian spring which oozes from the rock, was in ancient times introduced into a hollow square, where it was retained for the use of the Pythia and the oracular priests. Some steps that are cut in the rock formed a descent to this bath. The face and sides of the precipice, which inclose the spring, have been cut and flattened : it was no doubt anciently covered in ; for it cannot well be imagined that the Pythoness laved her holy limbs in open day. A circular niche, which was probably designed for a statue, is cut in the face of the rock : a small

arch and passage is seen on the western side a little above the usual level of the spring: this was made to let off the superfluous water. At the opposite side is the diminutive chapel of St. John, which seems to have been contrived in order to exhibit the triumph of the cross, over the adoration of Apollo and the Muses.

The fountain is ornamented with pendant ivy, and overshadowed by a large fig-tree, the roots of which have penetrated the fissures of the rock, while its wide spreading branches threw a cool and refreshing gloom over this interesting spot. At the front of the spring they were gratified by the sight of a majestic plane tree, that nearly defends it from the rays of the sun, which shines on it only a few hours in the day. Homer, in his Hymn to Apollo, mentions the fount Delphonsa at this place; probably meaning the Castalian.

Above the Phædriades is a plain, and a small lake, the waters of which enter a *kutabathon*, or chasm: and it is probably from this that the Castalian spring is supplied. The superfluous water, after trickling amongst the rocks, crosses the road, and enters a modern fount, from which it makes a quick descent to the bottom of the valley, through a narrow and rocky glen, fringed with olive and mulberry trees, when it joins the little river Pleistos, and enters the sea near the ruins of Kirra. While they were at Delphi, the Castalian spring was flowing in a copious stream, and formed several small cascades, the appearance of which was highly picturesque.

The sides of the fountain were covered with fine water cresses, to whose wholesome properties as an eatable, the natives were perfect strangers. They were, however, induced to taste them by the example of our travellers, and appeared highly delighted with the flavour*.

Some traces are still left of the ancient magnificence of this interesting spot; and at Delphos many valuable inscriptions have been discovered. From Delphos they proceeded to Chæronæa now Caprana, where there are a few inscriptions and the remains of a theatre. They now hired guides to conduct them along the northern part of the plain of Cephissus till they arrived at Thermopylæ, immortalized by the death of the patriotic Leonidas, and his three hundred Spartans.

They were now in Thessaly, but understanding from their guides, that it would be more advisable to take a boat and proceed to Volo, a town on the sea coast, about thirty eight miles south of Larissa; they followed their advice, and embarked for that purpose.

After landing at Volo, they resumed their journey by land, and proceeding in a northern direction they slept at Ambelakia a Greek town, overlooking the vale of Tempe, during their stay

* This circumstance is mentioned in Dodwell's Tour in Greece.

in this town. They made excursions to the mountains Pelion and Ossa, from whose summit they could clearly distinguish how the Peneus forced its way through the rocks towards the sea. Edward was extremely impatient to visit Tempe.

"And pray Edward," said the Doctor, "tell me how your imagination has pictured this celebrated vale?"

"Why I should suppose," replied the youth, "a beautiful undulating plain, watered by meandering streams, enriched with all the beauties of the vegetable world, and guarded from all intruding eyes by inaccessible rocks and mountains."

"Like the happy valley in Rasselas," rejoined his friend.

"Just so," said Edward, but when, sir, shall we view this sweet spot; to-morrow?"

"Yes, to-morrow," was the reply.

Anxiously was the morrow expected, and at day break, in the cool of the morning, they entered the Booz, as the pass of Tempe is now called, through a rocky dell, for which they were prepared by the gradual closing in of the mountains on either side of them. In the middle of this pass runs the Peneus, inclosed by rude rocks. As they proceeded the banks of the river were shaded by groves of the oriental plane tree. The road through this pass, which is so narrow as only to admit the Peneus, is formed by man, and it is even broad enough for wheel carriages. In some places it is paved along the edge of the river, in others it is cut out of the solid base of the rock, twenty or thirty feet above the level of the water. Towards the eastern end of this vale the road rises much higher, for the rocks here shoot perpendicularly from the water.

"And this," exclaimed Edward, as he viewed the wild and romantic scenery around him, "this is the vale of Tempe; these steep rocks and wooded heights, this dark and silent stream."

"And yon gushing fountain," interrupted the Doctor, "those beautiful plane trees, from which are suspended in such rich luxuriance, the blushing vine, those gay festoons which hanging from branch to branch dip their verdant leaves, in the renowned Peneus, these form the picturesque beauties of the vale of Tempe?"—"And now, young gentlemen," continued the Doctor, let us halt and refresh ourselves, for although in the vale of Tempe, "Il faut bien Qu'Arnoul dine."

His young friends had no objection to partake with him of his frugal repast, and seating themselves on the base of the rock, they never perhaps, more enjoyed any refreshment. Having wandered for some time in this secluded spot, the beauties of which have been so greatly exaggerated, at least if the scenery is not extremely changed, they returned to Ambulakin; and going a little out of their way on their return to Volo, they visited the plains of Pharsalia. From Volo they again embarked, and sailing up the gulf of Salonichi, they landed at the city of the same name.

The ancient Thessalonica is about ten miles in circumference, the inhabitants are chiefly Greek Christians and Jews, each of whom has thirty places of public worship. It has a great trade, particularly in silk. Here are many superb mosques which formerly were Christian churches: that of St. Demetrius is particularly rich, it contains many pillars of porphyry, jasper, and other costly materials. At this place they were regaled with sea perch; and off this coast they observed that the fish were sometimes driven into large nets and thus caught.

As they wandered one evening through the streets of the city, they observed near one of the principal bazaars several coffee rooms, whither many Turks were bending their heavy steps. Many of these persons appeared to have their necks awry, and were in other respects distorted to a certain degree.

“Dear Sir,” exclaimed Edward, “how very shocking it is to see so many persons distorted, what can be the reason of it?”

DR. WALKER.—“The inordinate use of opium. One of the most valuable medicines we have. It is the dried juice of the seed-vessels of the white poppy, when they are about half grown.”

On the following day as they were strolling in the environs of the town they heard the tones of wailing and lamentation. The sounds drew nearer, and slowly advancing they saw a funeral procession. A number of Greek women with their hair dishevelled, weeping bitterly and mournfully, strewing roses, and sprinkling a bier with perfumed water, slowly passed them. The deceased was an unmarried woman: she was dressed in her best attire, and crowned with a chaplet of flowers. The women who attended appeared sinking under the weight of their affliction; indeed many of them upon these melancholy occasions refuse all sustenance till they are absolutely compelled to take it. A funeral feast concluded the mournful ceremony.

“I think,” said Dr. Walker, as they returned home, “that it is high time we should prepare for visiting Mount Athos, if we do intend it, and therefore let us make arrangements for this great undertaking.”

Having obtained letters from a Greek monk of Salonichi, to the abbots of the different convents, our travellers hired guides, and they proceeded across an immense plain, till they came to a Turkish burial ground. In its neighbourhood is one very large barrow or tumulus, and several smaller ones. There are many such in different parts of Greece, and Turkey. Upon arriving at the beautiful village of Basilika, consisting of detached houses placed in the midst of vineyards and gardens, they stopped and passed the night in a pleasant cottage, and the next day continued their journey by passing through Gallitze a complete Grecian village; here they procured Albanian guides and guards, and continuing their route through forests of oak, they at length entered a country which recalled to their imagination the rich scenery of an English park.

SECTION VIII.

ALBANIA.

IN the neighbourhood of Nisvoro where they next halted, are silver mines, which are still worked. They were fortunate in meeting with a company of pilgrims who were journeying to the holy mountains, all well armed, in order to resist the attacks of robbers who infest this part of the country. The dress of the Albanian women reminded our travellers of the highland lassies, for except the difference in the head dress, their costume is similar. Upon reaching the isthmus which joins the holy mountain to the continent, their guides told them they would see no more women, as females of every description were forbidden to approach the hallowed spot.

"Nay," said one of their guides, "you will not even see a cow or a ewe, for nothing female will exist upon Athos, that is as the monks say."

"Do they drive away all the birds too?" said Edward smiling, "I think that is past their ability."

"Problakas, this narrow spot," observed Dr. Walker, "which is but twenty-five yards across, was cut through by Xerxes, to admit his gallees."

And now they soon approached the monastery of Chilianteri, where they were hospitably received by the hougoumenos or abbot, who appeared to be a man possessing much intelligence. The country surrounding Chilianteri is ornamented with vineyards, corn fields, and gardens, where the song of the nightingale is heard during the day as well as the night. By the rules of the monastic institution of Mount Athos, the different convents are required to grant hospitality to all strangers of whatever denomination, country, or rank, who may visit the holy mountain: our travellers experienced this hospitality, through the whole of their tour, in its utmost extent, for upon their offering to the caloyer (a lay brother only) who had attended upon them, a remuneration for his trouble, he decidedly refused it. The travelling caloyers, however, are not famous for disinterestedness; they are indeed a great tax upon the monasteries, for they are numerous and poor, and frequently intrude long upon the hospitality of the poor monks.

The oath of the monks on Mount Athos, is solemn and simple: it requires an absolute renunciation of the world and all its social ties. As they continued their journey from one monastery to another, (there are twenty in all) they sometimes traversed the most beautiful and well cultivated country; while at others their road ran along the edge of a barren precipice beet-

ling over the sea. The situation of the monastery of Simopetra, which stands on a perpendicular rock, is by far the most romantic in the peninsula. From a gallery which surrounds it externally, and which our travellers entered when the vast concave of heaven was thickly studded with stars, the scene is awful indeed. The moon rose majestically in the east, and as her broad and glowing disk gradually ascended, the tops of the rocks and thick forests which skirted their base, assumed a silvery hue; while the summit of Athos, which towered considerably above them, covered with snow, presented a most sublime and imposing effect. The magic of this scene affected the whole party.

Scarcely a breath agitated the leaves, no noise disturbed the awful repose, save the sweet voice of the nightingale, and the gentle dashing of the waves, as their silvery tops rolled over with measured pace, and laved the foot of the rock. Now and then the splashing of an oar was also heard as a pirate boat skimmed lightly over the glittering deep.

“Oh what a lovely scene,” said Antonio, “I could almost wish to become a caloyer.”

“And when the wind blows, and the tempest rages,” replied the Doctor, “when the rolling thunder reverberates from rock to rock; when the lightnings blast those stately oaks, and the spray of the foaming deep dashes over their towering heads, how should you like to be a caloyer then?”

“Oh,” said Antonio, who had listened with thrilling awe as the Doctor painted the scene; “I think I should like to see such a scene as you have described, beyond any other upon earth.”

“Well, then,” said Edward, “we will leave you behind, and seek another Antonio; who much as he may admire the sublimity of the scenes of nature, admires more the superiority of intellectual pleasures, and those social ties which bind man to man.”

There was a degree of reproof in this speech, which rather astonished the Doctor, and wounded Antonio.

“You have shewn by this speech,” replied Dr. Walker, “that you are deficient at least in the milk of human kindness, the strongest tie which binds man to man. Antonio is not going to leave us, nor did I hear him say as much.”

The tears rushed to Antonio's eyes, and the colour flushed Edward's cheeks, and then again forsook them.

“Mr. Montague!” exclaimed Antonio, approaching him timidly. In an instant they were in each other's arms, and Dr. Walker said no more upon the subject. The next morning they again entered the gallery. Here their eyes commanded “a vast expanse of the Ægean Sea; distinguished clearly numerous islands that were scattered over its smooth surface; surveyed the Gulf of Athos, and returning back to the wooded regions of

the mountain, beheld the deepened dell, above which boldly rose to a tremendous height the craggy precipice on which this building was raised.

Having taken an affectionate leave of the Abbot of Simopetra, they descended the craggy rock which nearly occupied them an hour, they embarked in a boat of the monastery, and passing the convent of St. Gregoria, they landed at that of Dionysio; and from thence proceeded on to St. Ann's. The picturesque effect of this convent is considerably heightened by a foaming torrent, which issuing from the mountains, tumbles from rock to rock, sometimes partially hidden by gloomy woods, until at length, in one sheet of foam, it mixes with the Gulf of Athos.

From St. Ann's they proceeded on foot to the convent of St. Laura, from whence they directed their steps to the capital of the peninsula; and after traversing the greatest variety of scenery that can be imagined, they at length arrived at Chariess in the centre of the peninsula. The appearance of this town is singular; it is situated on the side of a natural amphitheatre, clothed with the richest verdure, and highly cultivated. The meadows in its vicinity are so luxurious, as to be cut three times in a year. The vineyards and filberd gardens which surround it, are cultivated with peculiar care, and watered much in the same way as those in France, viz. by irrigation. It contains a few shops; but here were no women, no infants to amuse, and the Turkish Aga himself is doomed to a life of celibacy during his residence in the holy mountain.

They hired mules at Chariess to convey them over the fine Alpine country which they were now to traverse. The snowy top of Mount Athos appeared towering above the surrounding rocks in majestic grandeur. The convent of Batopaida is embosomed in woods, and surrounded by gardens and meadows.

"Why this is a fortress, not a convent," said Edward, as they approached the castellated building. "Look, Sir, at those lofty walls and towers; those cannon, and that huge iron gate."

His surprise was increased when this gate was opened, for it led them into a long and winding passage, in which were two brass cannon, and after passing through three more gates, secured by bolts and bars, they were at length admitted within the sacred precincts of the monastery. The Hegoumenos received them politely. This is one of the principal of the convents of the Holy Mountain; it is a large irregular building, overlooking the sea. One large church, and twenty six smaller ones are attached to it, and it accommodates two hundred and fifty friars and priests, besides a vast number of pilgrims.

"What building is that?" enquired Edward of the Greek Caloyer, who was accompanying them as a guide in the environs of the convent.

"It was an academy where the Greek language was taught,"

replied the Caloyer; "but owing to the deficiency of the funds to support the institution, it has been shut up for some time."

"This Caloyer led them to a small building, which made them shudder when he opened the door, for it contained the skulls of all the monks who had died in the convent. These monks are forbidden meat, except upon occasions of extreme necessity. On Mondays, Wednesdays, and Fridays; they must not eat either eggs, oil, or fish. Having traversed this interesting region, and satisfied their curiosity, as to the nature of the institutions of the twenty convents, and of the people which inhabit the holy mountain, they began to think of resuming their journey.

SECTION IX.

LEMNOS—ADRIANOPLE—CONSTANTINOPLE.

FORTUNATELY a vessel having just dropped anchor from Lemnos, which upon enquiry they found could accommodate them and convey them to that island, when the master had unloaded his little stores, they took a friendly leave of the superior of the convent of Batopaida, and once more embarked. The clearness of the water as they approached Lemnos, drew their joint attentions; they could distinguish several marine productions; which were at the bottom of the sea; and here they saw the process of gathering sponge. Several little boats, containing each two men, the one with a cruet of oil, the other holding a pike or sharp prong, went out together. The oil was for the same purpose as that used in fishing, and they saw several large pieces of sponge drawn up by the men, who tore it from the rocks with their pikes, as well as several sorts of fish, such as the red and grey mullet, the sparus, the shad, and a kind of scorpion fish. They were regaled in this island with a variety of melons. Lemnos has lost all its former splendour; it formerly boasted of a wonderful labyrinth, of which not the slightest trace now remains.

Exorcism is still practised by the Greek priests on the shores of the Archipelago and the islands; not only human beings, but animals of almost every kind, are supposed to be subject to the influence of baneful spells, sorcery, and witchcraft; and in one of their liturgies there is a prayer for counteracting a malicious glance on silk-worms when they are spinning. A priest, with a censer, and a vessel of holy water, was performing this ceremony on a new built cottage, which stood near the sea side, upon the arrival of our travellers in Lemnos.

After our travellers had ascended Mount Pelias, the highest in

the island, they arrived in a plain where they slept at a miserable village, and the next day proceeded to the spot where the Lemnian earth was found. It is called Terra Sigillata, and is said to possess now, as in days of yore, extraordinary medicinal qualities. It is never dug but once a year, and then with a great deal of ceremony, when it is made up into little balls, having the impression of the Grand Seignor's seal, and exported to various parts of Europe. They returned the same way they came, and having prevailed upon one of the vessels, the owners of which had not been very fortunate in sponge fishing, to take them to Lograno, situated near the mouth of the Hebrus, they once more embarked, and landing at that place, they made enquiries as to whether they could go by water to Adrianople, as the river was navigable to that place. They were told they had better not venture to Adrianople, for that they were under some alarm respecting the plague. As Dr. Walker had no inclination to try whether Lady M. Wortley Montague was right in describing this complaint as much less dangerous than it is usually represented, he declined visiting a place where the experiment was to be made, and Constantinople became the object of their curiosity.

"Adrianople," observed the good man, "is a town of considerable importance. It has an exchange of nearly half a mile in length, which is furnished with many rich shops. The environs are fertile, and remarkable for excellent wine."

"There," said Dr. Walker, as they sailed up the Hellespont, "there is Sestos; and there, on the opposite shore is Abydos. On the top of that rock Hero anxiously watched the progress of Leander across this fateful strait. From that rock she witnessed his death, and from that rock she plunged herself into the briny deep*. But to quit a subject which is at best but a beautiful fable, and turn to one of more substantial interest, which I believe we have not spoken of in our Grecian tour, I mean the animals of that country.

"Among the animals found in Greece, particularly about Mount Parnassus, are the bear, the lynx, the wild cat, the wild boar, the wild goat, the stag, the roebuck, the badger, the martin and squirrel, and about the mountains which surround Marathon, wolves, foxes, and jackalls abound. Hares, partridges, pheasants, and other kinds of game, are found in abundance in most parts of Turkey in general."

And now they approached Constantinople, once the seat of Roman power, now the capital of the Ottoman empire. Constantinople is built in the form of a crescent, on a rising ground, so that the view of it from the sea, presents that of a superb amphitheatre.

* M. Florian has dramatised this scene in the most exquisite style.

theatre. The glittering domes and towers rising majestically above the surrounding houses, forming altogether a coup d'œil not to be surpassed by any city in the world. And yet, when our travellers entered this city, so interesting from the associations which it produces; they were disappointed. The houses are built of wood, and have a mean appearance. The bazaars are long covered walks, where all kinds of merchandize are exposed; but the Turks shew their magnificence in their mosques and bagnios; and one of the first places our travellers visited was the mosque of St. Sophia, which was originally built for a Christian church, by the emperor Justinian. It is one hundred and thirteen feet in diameter, and is built on arches, which are supported by vast pillars of marble. The roof is superbly inlaid with rich mosaic; but the most interesting object it contains is the tomb of the emperor Constantine.

“Have you any inclination to visit a bagnio,” said the Doctor to his two young friends, “if so I will conduct you to one; as to bathing, you may do as you please, that is a ceremony I shall dispense with.”

“Will you explain to us, Sir, beforehand what we have to encounter,” said Edward.

“Most assuredly I will,” replied the Doctor. “In the first place you will be ushered into a large room, furnished with sofas all round the walls, with a fountain in the middle of the chamber. Here the Turks converse and take off their upper garment: from this apartment you will be conducted into a smaller one, heated to a certain degree by stoves, where you will leave the rest of your cloaths, and from thence proceed into a spacious apartment furnished with several large basins, into which hot or cold water is conveyed by different pipes. Previous to your taking the bath, you will be washed with soap and water, and rubbed dry with coarse towels; and if you like, you may have your fingers and joints pulled till they snap. After the bath, you will tie a napkin round your head, one round your body, and with one thrown over your shoulders, you will return to the first chamber you entered, and smoke your pipe, or drink your coffee, and amuse yourself with conversation as long as you please, and then resume your cloaths and depart.”

“I have no inclination,” replied Edward, “to undergo this ceremony, your description will suffice me.”

“Nor I neither,” said Antonio.

“Suppose then,” rejoined Dr. Walker, “we go to the square, near the mosque of the Sultan Bajazet, and see the mountebanks and jugglers, who exhibit their tricks in that place.”

The proposal was warmly seconded, and they accordingly set off, and were much amused by the usual display of foolery, and we may say, dexterous knavery, which always accompanies exhibitions of this kind. On their return to the suburb of Pera, where they had taken up their abode, they amused themselves

with Lady Mary Wortley Montague's Letters, which give so admirable and so novel a description of Turkish laws and manners.

"What think you of that description of the lovely Fatima, Edward," said the Doctor. Antonio has been busied I see with perhaps the more instructive study of geography. Have you informed yourself, Antonio, of all you wished to know relative to Turkey? if so, Edward will describe to you a visit to a Turkish lady of rank; which, alas! in this unsocial country, can never be understood by us, except by description. Come, Edward, give us a proof of your descriptive powers, we will have no reading if you please."

EDWARD.—"I fear I shall acquit myself ill; but a truce to apologies. Lady Mary having paid her respects to the Grand Vizier's lady, who had passed the purple bloom of youth, and where every thing though hospitable, was conducted with much solemnity, was persuaded to visit the Kiyaya's lady. The Kiyaya is the deputy to the Grand Vizier. Two black eunuchs met her, and the slave who bore her train, and the Greek lady (her interpreter,) at the door, and conducted them through a long gallery between two rows of beautiful female slaves, dressed in the most costly manner in silver brocade. This gallery opened into a spacious chamber, the sashes of which were gilt, and thrown open; and in the middle was a marble fountain playing with sweet water, which shed an agreeable coolness, as well as fragrance throughout the chamber. The large trees which were in the garden, formed a natural and agreeable verandah, running along one side of their room, were entwined with jessamines and honeysuckle, and added their sweets to that of the fountain, which falling from one marble basin to another, produced a soft harmonious sound. At the farthest end of this fairy apartment, sat the beautiful Fatima on a sofa, covered with the finest Persian carpets. She reclined on white satin cushions, but she rose as Lady Mary approached her, and received her very graciously. At her feet sat two lovely girls, her daughters, while twenty slaves, who would each of them have been reckoned beauties any where but in the presence of the lovely Fatima, danced and sang with the most bewitching grace. After the dance was concluded, four slaves entered the room with silver censers, and adding 'sweets to the sweet,' perfumed the air with amber. Coffee was then served by them upon their knees in the finest China: and before Lady Mary took her leave, Fatima presented her with the most superbly embroidered handkerchief, which she begged her ladyship would keep for her sake."

"Oh how I should like to have been Lady Mary," said Antonio.

"Who would not? I should like to know," said the Doctor smiling; "and I cannot help regretting that such a profusion of beauties should be entirely concealed. Perhaps Lady Mary, who knew there could be no one to contradict her, coloured highly,

in order to excite the envy of both sexes; but it is high time we should retire to our sofas."

"I think," said Edward, "the Turkish ladies are very much to be pitied."

"I do not know that," replied his friend, "they never know any other kind of life than that of seclusion; and indeed the opinion that they are totally deprived of liberty is erroneous. They go to the bagnio, they walk in the environs of the city; they visit each other; and the author we have been just studying, says, 'they are the only privileged persons in Turkey;' but I am weary boys; so good night. On the following day they repaired to Constantinople, whither they were led by motives of curiosity and humanity. There had been a considerable fire in the city, five hundred houses having been burnt in the course of the night. Fire, however, appears in this country to be as little dreaded as the plague; and upon enquiring after the sufferers, they were answered with much sang froid, that there was no person burnt, and that therefore there was no cause for commiseration.

"How did it originate?" enquired Edward of one of the bystanders.

"I suppose," said the man, "that some one kicked over his *tendour*."

Edward was now as wise as he was before; but Dr. Walker, who read his countenance, asked him if he had not observed the usual way in which the Turks warmed themselves. They have neither chimneys or stoves, but they make use of the *tendour* instead. This is a machine, about two feet high, in the form of a table, made of wood, into which they put hot ashes. A carpet, or piece of embroidery, is thrown over it, and at this stove they eat, drink, work, read, and very often sleep. In the latter case it sometimes happens that they kick over the *tendour*, and the ashes communicating to some of the surrounding furniture, it takes fire, the Turks, who are the most phlegmatic people in the world, under the influence of most of the ordinary misfortunes of life, make their escape from their burning dwellings, with all possible dispatch, and conveying what furniture they can collect into a bark, they watch the progress of the flames with the utmost composure.

The magnificence displayed by the sultans, and even the bashas of Turkey is past all description. The trappings of the horses are of the most superb texture, studded with pearl and precious stones; their pipes cost sometimes as much as a thousand pounds. The pipe, which is long, being sometimes encircled after the manner of the scroll round Trajan's pillar, with the finest diamonds. An apartment in one of the royal palaces, is lined with mother of pearl, and fastened with emeralds, as the heads of nails. The girdles of the great ladies are always set with diamonds, with other precious stones; and those who can-

not afford jewels, embroider them superbly. The Sultanas' dress is so rich, as literally to impede their walking freely, and their long hair is bespangled with diamonds.

"Well," observed Dr. Walker, as they returned to Pera in their gondola, "our visit of condolence was all thrown away upon the cool and collected Turks. Their belief in predestination, disarms life of all its sorrows; for they assert that what must happen will happen; and that if they are doomed to be burnt, they cannot be drowned; and that therefore all *apprehension* is childish. Even under the loss of parents, wife or children, the same philosophy consoles them; they would be ashamed to mourn and wail immoderately, as that would not be supporting misfortune with the dignity of a true Musselman.

"But our visit to Constantinople has not been wholly fruitless; I have made every arrangement respecting our money affairs with a Jew, to whom I was recommended, and we shall shortly take leave of the smallest, though not the least renowned, of the four quarters of the globe; so write your letters, Edward, to-day, for to-morrow we cross the Hellespont. You, Antonio, will write to Father Benedict at Naples, and give him an account of our late excursions, while I shall retire to my own room, where I choose to be alone for the remainder of the day, as I feel rather indisposed."

Edward and Antonio immediately seated themselves, and Dr. Walker retired to his sofa to muse upon their future plans, and to form schemes of happiness and pleasure for the benefit of the two youths, for whom he felt a father's affection.

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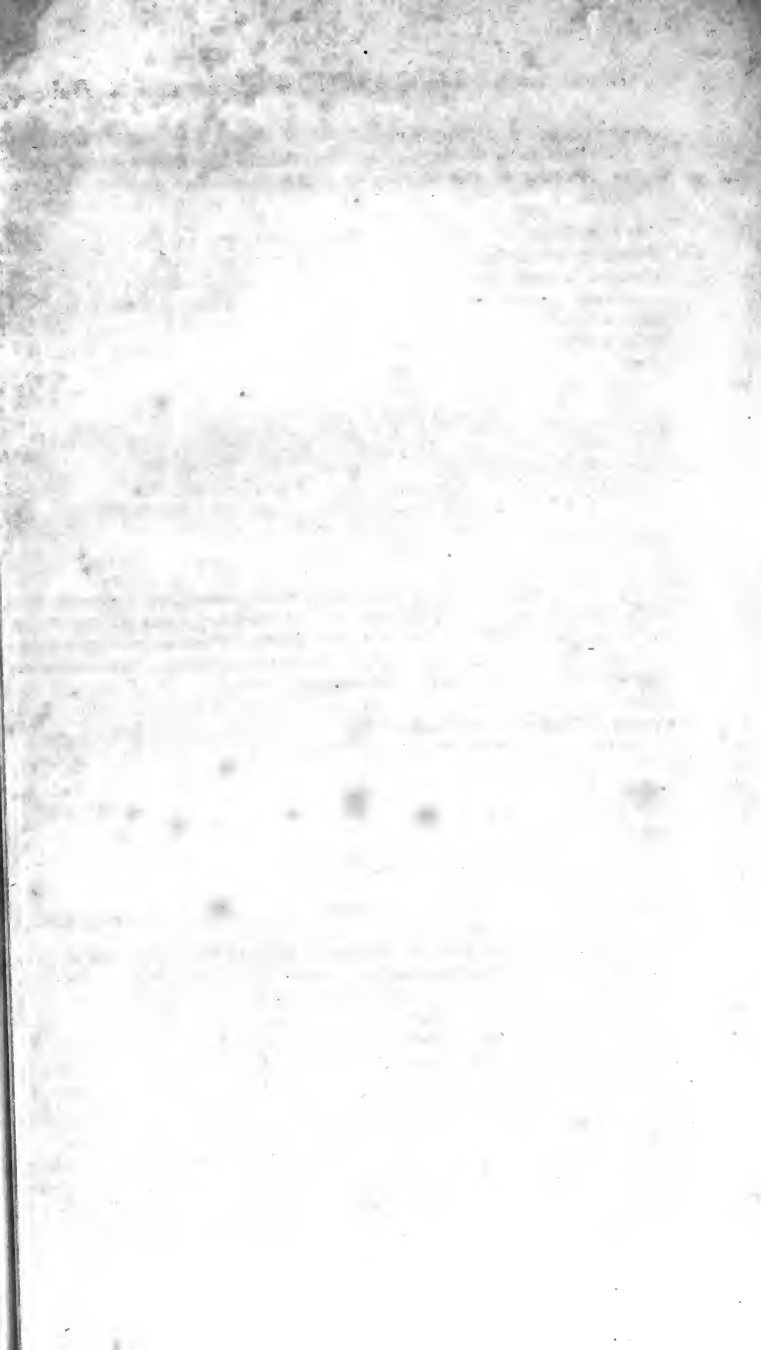
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