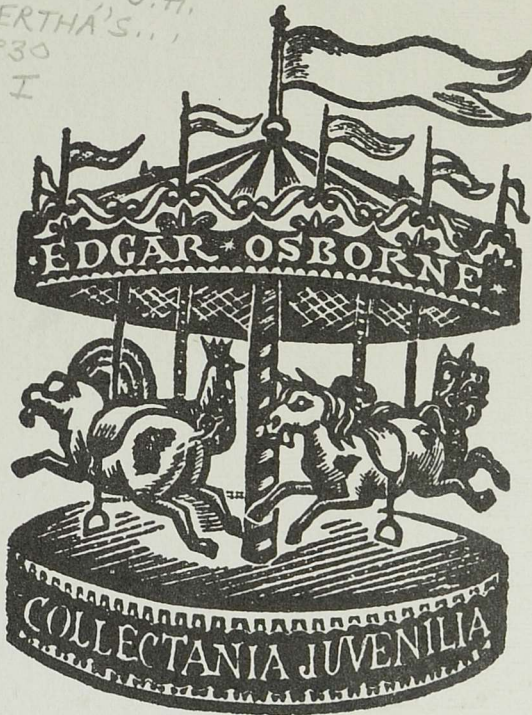




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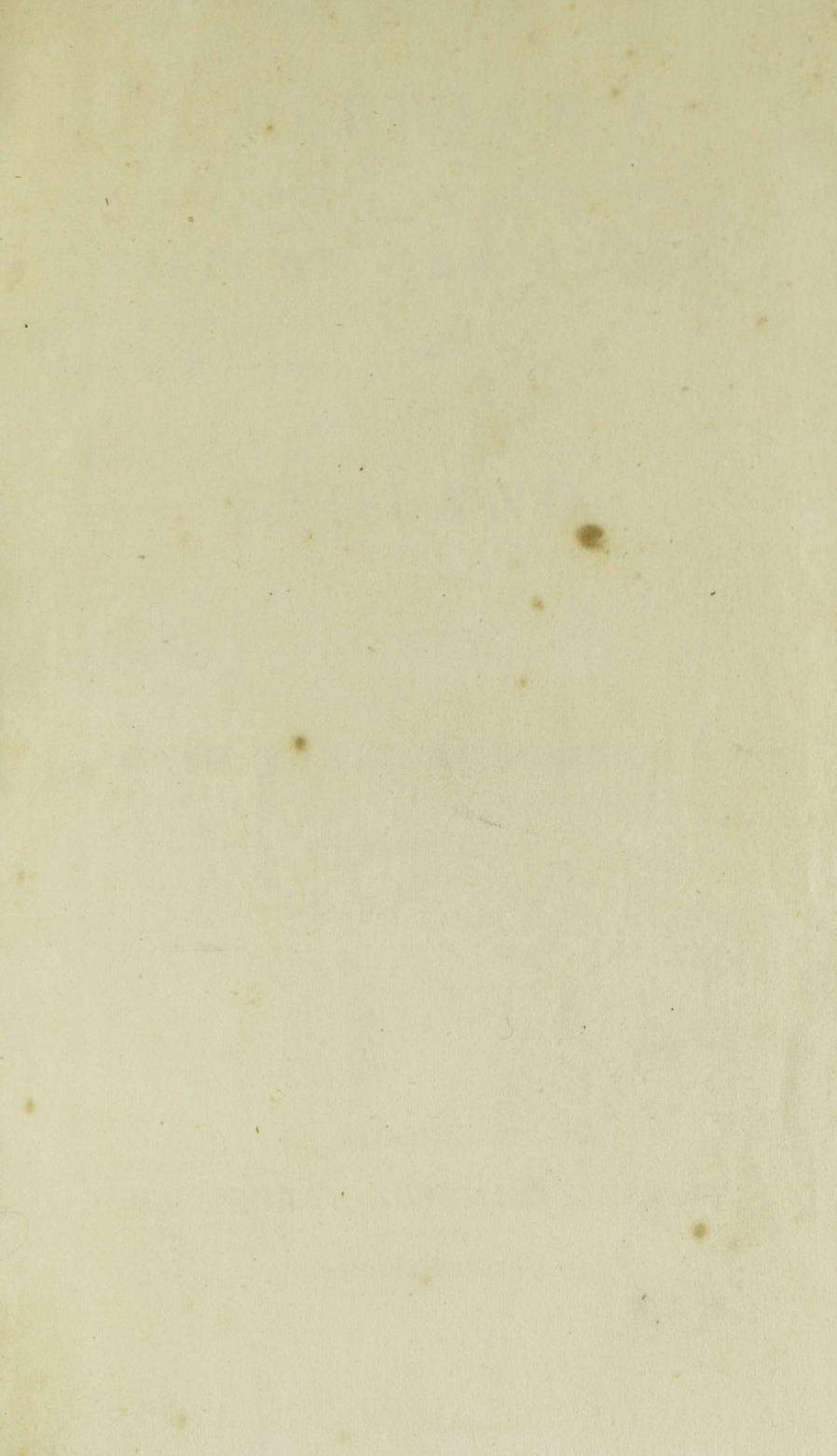
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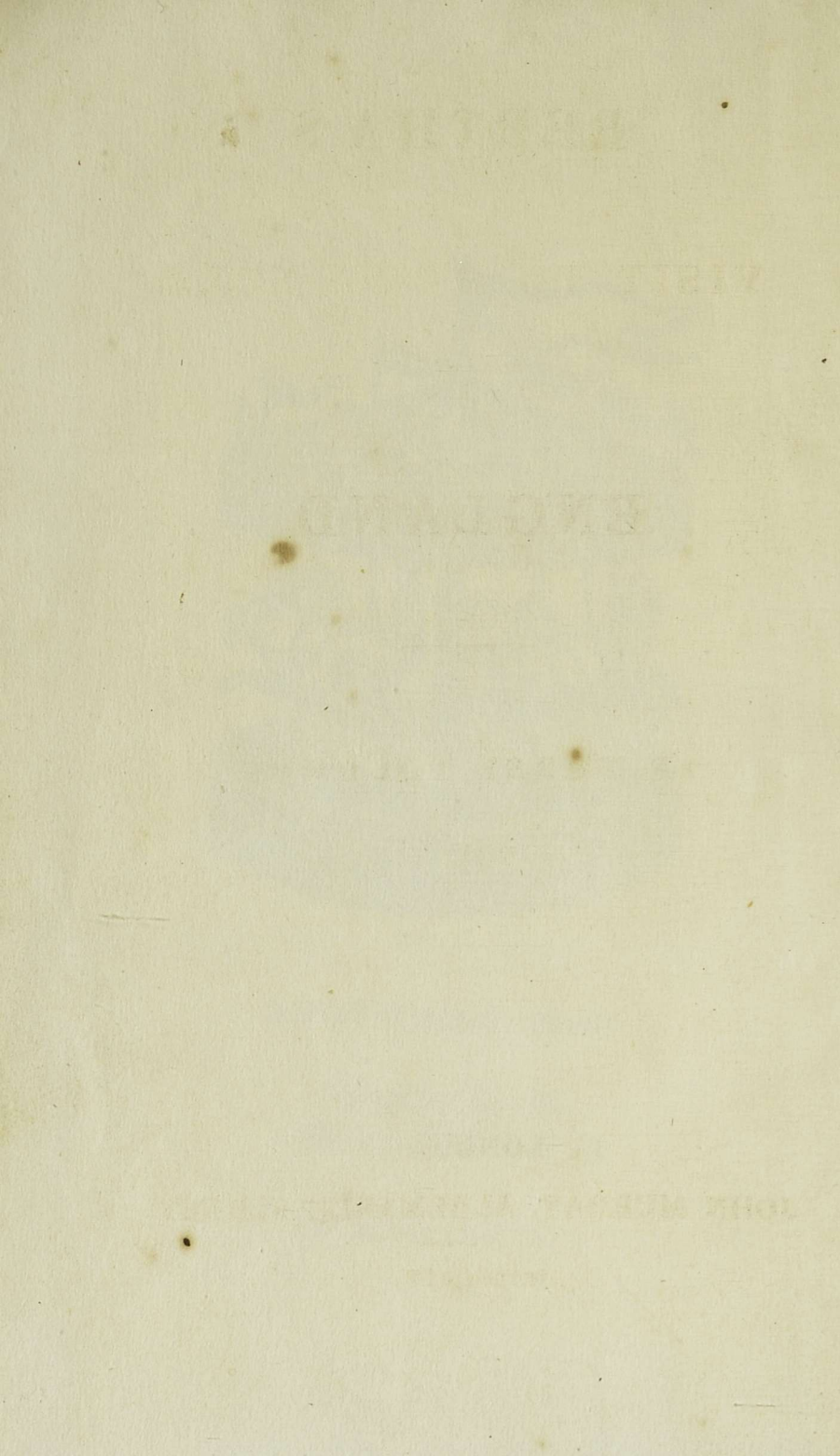
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BERTHA'S

VISIT TO HER UNCLE

Ellen Lloyd

IN

December 1844

ENGLAND.

IN THREE VOLUMES.

VOL. I.

LONDON:

JOHN MURRAY, ALBEMARLE STREET

MDCCCXXX.

BERNARD'S

VISIT TO HER UNCLE

LONDON:

Printed by W. CLOWES,
Stamford-street.

ENGLAND

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JOHN MURRAY, ALBEMARLE STREET.

ADVERTISEMENT.

THESE little volumes consist of extracts from the Journal of a young person, who, having passed her childhood at Rio Janeiro, was sent, at the close of that period, on a visit to her English friends.

Her father, Colonel Montague, had been ordered to Brazil upon confidential business ; and, foreseeing that it would occupy him for an indefinite time, he carried his family along with him. They had remained in that country several years, when their domestic happiness was suddenly destroyed by his death ; and the effect of the shock on his unfortunate widow was such, that she was wholly unable to undertake a voyage to England. She was, therefore, obliged to continue her residence at Rio ; but her brother, who had always been tenderly

attached to her, requested that she would permit her daughter Bertha to visit him; and, though a most painful separation, she consented, knowing how much it would be for her child's advantage.

Bertha promised to keep a constant Journal, and to send it whenever an opportunity offered; and such parts of that Journal have been selected by the Editor, as it is hoped may be found useful or interesting.

BERTHA'S VISIT.

H. M. S. Phaeton, June 17th.

MY DEAR MAMMA,

THOUGH I wrote to you yesterday by the Blossom, which "we spoke," I am tempted by the delightful smoothness of the sea to begin another letter, in order to tell you a little of what I have seen and thought;—but how different from being with you every day—from being your companion as well as your child! I will not, however, say another word about my sorrow at leaving you; I will try to show that I remember your last words: "affection is best preserved by not yielding to violent feelings." Indeed, I believe I said too much in yesterday's letter of the misery I felt. I now try to console myself with the hope that as your health has been so much better for the last two years, you will soon, perhaps, be able to follow your poor little daughter to England; and I repeat to myself all the good reasons that you were so kind as to give

for the propriety of sending me to my native country.

I am determined to follow your advice in keeping my mind constantly occupied; and as you have often said that there is no place in which something interesting may not be observed, I shall at once begin the journal you desired me to keep. It shall be ready to fold up whenever an opportunity may occur; so that I shall have the pleasure of making you and my sister, dear Marianne, frequently share with me in all that I see, and all that I enjoy.

20th.—For a day or two after our last faint view of the woody heights of Cabo Frio, I was diverted by the number of pretty land-birds, and even butterflies, that came about the ship, and fluttered in the rigging; and as they gradually disappeared I amused myself, as long as I was able, in gazing on the sea, and in watching the little waves as they dashed against the ship's side. That pleasure soon ceased, for they became so rough that I suffered very much from sickness: but this evening there has been scarcely any wind; the dark blue sea is almost as smooth as a mirror, and I can walk, and read, and write, as if I was on shore. The captain took me on deck to see the sun setting behind the western horizon; it was indeed a beautiful sight, and the broad red line of light reflected from the

water added greatly to the grandeur of the scene.

22d.—Mrs. P—— is very kind, and tries to rouse my mind, and to make me see whatever is worth observing. Just like you, Mamma, she thinks active occupation is the best remedy for grief, and she has suggested several employments in which she will be my companion. Among other things, we are to learn together the names and uses of the principal parts of the vessel.

24th.—We were much delighted yesterday evening with the luminous appearance of the sea, and the captain has promised to show us some of the insects from which the light proceeds. Many of them are common in all seas, he says; but there are some which are seldom found outside the tropics.

Just as I had written so far, Captain M. invited us to go on deck to look at some birds that were hovering about the vessel. One of them was a *phaeton*, or tropic-bird, of which there are many varieties;—that which I have seen to-day had a red bill, and very long white wings, tipped with black; the legs and feet bright red: the tail consists of only two straight feathers, almost two feet long, which they drop every year. These are worn in the caps of the Sandwich

islanders, and in the mourning dress of the Otaheitans.

25th.—Last night we had the good fortune to procure one of the luminous creatures that make the sea so brilliant. After many fruitless attempts, a bucket of water brought up a fine specimen, about two inches long, and as thick as my finger; somewhat cylindrical and transparent. On its surface are numerous little tubercles; and as there seems to be a cavity all through the body, it might at first be thought one individual, but the captain showed me that it is an assemblage of animals united together. He examined the specimen very minutely, and then put it into a phial of spirits of wine to preserve it. He seems to be very fond of natural history, and told us that the sparkling appearance of the sea, which may be observed in all parts of the world, is produced by animalculæ, or little creatures that can only be discerned by a microscope.

26th.—We have seen more birds to-day. Some of them were *petrels*; they remained a long time skimming about the ship, and though they greedily devoured any fat substance thrown into the sea, all our endeavours to procure one failed. One species was the stormy petrel, which they say is seen all over the Atlantic Ocean. Some chopped straw being thrown overboard, we saw

them stand on it with expanded wings; but these birds never settle or swim in the water. They skim along with incredible rapidity in the hollows of the waves. It is to the stormy petrel that these two lines allude—

She swept the seas; and as she skimm'd along,
Her flying feet unbathed on billows hung.

28th.—The captain was so good as to explain to us this morning the manner in which the rigging supports the masts, and how the yards are raised, and lowered, and braced in different positions, in order to adapt them to the force and direction of the wind. He also walked round the gun-deck with us, and showed us the cannon and all their implements, which are kept in such a constant state of readiness, that in five minutes, night or day, the whole battery would be ready for fighting. But nothing pleased me so much as the lower-deck, where he took us while the crew were all at dinner on nice pea-soup and salt pork, and all sitting comfortably on their chests placed round the tables; of which there is a complete row along the foremost half of the deck. The other end of this deck contains the officers' cabins, which, although not above six or seven feet either in length, or breadth, or height, are very nicely fitted up with a chest of drawers, a little book-case, a chair, and even a sofa; be-

sides a cot, or bed, which is only hung up at night.

30th.—We have seen the *man-of-war* bird to-day. It has a membranaceous bag like that of a pelican, bright red—the plumage is brown. It is always on the wing, very seldom having been observed to settle on the masts of ships. Other sea-birds, when tired of flying, generally rest themselves on the surface of the water; but the very great length of the wing makes it impossible for this bird to do so, as it could not easily rise again.

When we were becalmed this morning, we had an opportunity of seeing a number of birds of various kinds, the *albatross*, among others;—and one of the dark-coloured variety was caught with a small fishing-line; it measured seven feet between the tips of the wings. Its face is very remarkable, for its flat head and crooked bill give it some resemblance to the owl, which is increased by its large prominent eyes. As we advance to the north this species will become scarce, Captain M. says, but we shall have the great albatross, which is by far the largest of all aquatic birds.

July 2d.—I have been delighted with the flying fish, of which we have seen numbers for some days. They ascend sparkling out of the

waves, sometimes singly, sometimes in great numbers, when pursued; but in avoiding one danger they are exposed to another, for it is said that the man-of-war bird has been seen to pounce upon them while in the air. Their flight is generally in a direction contrary to the wind, and seldom exceeds a hundred yards; nor do they rise high, though Captain M. says he has seen them fall on his deck. He showed me their enemies too, the *bonito* and the *albacore*, which, he says, are both of the mackarel tribe. They swim with great rapidity, and are so strong, that they sometimes, in the midst of the most rapid course, leap five or six feet perpendicularly above the surface, and plunge again head foremost into the waves.

4th.—I have been looking at Mother Carey's chickens, the least of all the petrels, I believe; and the *fulmar*, which is certainly the most beautiful, for its plumage is of a snowy whiteness, and, as Mrs. P—— observed, seems unsoiled by the water, though constantly diving.

7th.—It seems a very long time since we have seen land, but I am not yet tired of a sea life. Much as I love all the works of nature, I never felt such admiration for any thing as I do for the sea. Its extent, its depth, and the grand and almost terrific sound of its waves—it fills one's

mind with awe; and it is wonderful to think that, powerful and uncontrollable as it appears, man should be able to pass over it to the most distant regions, and to guide his ships through its stormy and turbulent waves.

In speaking of the sea, Captain M. remarked how admirably the consistence of water, or as he calls it the *viscidity*, is adapted to its various purposes, and to the support of floating bodies. "How little," said he, "do we observe the objects which are always before our eyes: we see without surprise masses of dust raised by the wind, and carried to a great distance; and we see also that water, though much lighter than dust, is not carried off by the winds in the same manner. If it were, every strong breeze from the ocean towards the land would bring an inundation; navigation would be impossible, and the banks of rivers and seas would be uninhabitable. The adhesion of the particles of water to each other is the cause of its preservation in masses; it would otherwise evaporate like æther, or be dispersed like dust. Such is the simplicity employed by Nature in all her works."

Sth.—We have twice seen the stormy petrel, but as yet it has not been the forerunner of storms;—it is black, with a very little white near the tail. One of the officers told me it is called petrel, after St. Peter, from his having walked on the sea.

9th.—We have been looking at a *grampus*, or a small kind of whale, and at a shoal of *porpoises*, that passed close alongside of the ship. The grampus was blowing water up in the air, in the most amusing manner, making beautiful jets d'eau that sparkled in the sun. The captain told me that in sucking in their food the whale tribe draw in a great deal of water, which they have the power of spouting out through a hole in the head.

13th.—Yesterday we crossed the tropic of Cancer. There is already a great change in the sea, which was so beautifully smooth while we were in the torrid zone, that we danced almost every evening; but now it is rough and disturbed, and at times the waves break so violently that I see nothing but foam. I like very much to look at them in that state.

15th.—Mrs. P—— and I have seen several *dolphins*; one of them was struck with the harpoon, and, while hanging upon deck, it was continually changing into an endless variety of colours. The back was blue, then green; its breast a brilliant orange or yellow, spotted with blue and lilac; and its fins were just like a peacock's neck. Indeed, the captain called it the "peacock of fishes."

The sea is now quite rough; the tranquil water we had while near the *line* is gone; and I some-

times find my head too unsteady to be able to write.

16th.—We have seen a great deal of sea-weed for some days; they suppose it to be drifted here by the Gulf-stream. I asked the captain to explain to me what the Gulf-stream is; and he told me that the *trade-wind*, which constantly blows across the Atlantic ocean from the eastward, forces the sea into the Gulf of Mexico, and makes it rise there above its natural level. From the Gulf it escapes by the narrow channel between the West India islands and Florida, and takes a north-easterly direction along the coast of North America, as far as the island of Newfoundland. It is there turned off to the south-east, and runs to the Azores, or perhaps to the coasts of Europe and Africa, before it spreads out and entirely loses itself in the surrounding ocean. The first accurate account of this great current was published by Dr. Franklin, who had discovered that, after being heated in the torrid zone, it cools so gradually that its temperature continues always higher than that of the ocean through which it flows—so much so, that ships can tell when they enter it or leave it, by dipping a thermometer into the sea. Its velocity is very great, as it is said to run at the rate of four or five miles an hour, when it first leaves the Gulf.

A good deal of the sea-weed was hauled up for Mrs. P—— to examine. It seems to be all of one species—the floating *fucus*, she calls it ; it is curious what quantities of it are matted together, like a tangle of ropes, and what a number of very small crabs take up their abode in it.

18th.—More sea-weed, but of different kinds. This day the captain shewed us some of the vine-leaved *fucus*, which is one of the most curious species. He says it is sometimes brought up, by the sounding lead, from the bottom of the ocean, where, even at the depth of one hundred and ninety-two feet, its leaves are as green as grass. He says this is considered as one of the few instances of plants vegetating in obscurity, without becoming white ; for, though light is transmitted through the sea, yet it is much weakened by passing through such a depth. We have also seen the giant *fucus*, and one of the officers said he had once measured a piece that was eight hundred feet long.

The captain says, that the reason why we find such an extraordinary quantity of sea-weed in this part of the ocean, is, that the Gulf-stream finally expends its force about here ; and therefore the weed which it conveys must accumulate, and remain till it perishes, or till it sinks ; and he shewed us several specimens in different states of decay. “ Yes,” said Mrs. P——, “ its

decay is very evident; but what can make it sink?"

He replied, by shewing us several little shell-fish adhering to the under side of a bit of weed. "These," said he, "must have been deposited there before it was torn from its native rocks by the current; in the course of their long voyage they grow; and their increased size and weight gradually sink the weed. My attention was first turned to this curious circumstance from having observed some of the weed lying edgewise in the water; I had it taken up, and found some heavy limpets attached to the lower edge."

Mrs. P—— acknowledged this was quite a new fact to her.

20th.—The captain amused us to-day by shewing a very simple method of ascertaining the saltness of the sea, which any person can try. He dried a towel in the sun, weighed it carefully, and I noted its weight. It was then dipped in sea water, and being wrung sufficiently to prevent it from dripping, it was again weighed, the increase of weight being that of the water imbibed by the cloth. It was now thoroughly dried, and once more weighed, and the excess of this weight, above the original weight of the cloth, shows the quantity of the salt retained by it; then, by comparing the weight of this salt with that of the sea-water imbibed by the cloth,

we found what proportion of salt was contained in the water.

22*d.*—This morning a little land bird flew on board ; I begged to have it, and I keep it in the cabin, and feed it. I asked how they knew it was from the land, and a sailor answered, “ No sea birds, Miss, except *boobies* *, ever rest upon the ships they follow ; this poor fellow has been blown off shore by some long north-easter.”

Our captain was laughing to-day at the mistakes that authors, who have never been at sea, make in some of their fine poetical descriptions. He mentioned the albatross, as an instance, which some one has described as rising off the deck. He says it never alights on the deck, and if it were there, it could not rise again. It finds great difficulty in rising even from the sea, and scrambles along the waves to a great distance before it can fairly use its wings. They have five joints to spread out, and appear to have no motion except at the moment the bird first raises itself into the air ; when, at the same time, it makes several strokes against the water with its webbed feet. This impulse once given it seems to have no longer occasion to flap its wings ; it holds them widely expanded while it glides along, balancing its body from right to left, and sweeping majestically over the surface of the sea.

* *Sula communis.*

24th.—We have passed two of the Azores or Western islands,—Flores looked very green ; but the other, Corvo, seems little better than a lofty, naked rock.

25th.—We have had a very hot south-easterly wind this morning, which the captain says comes from Africa. He showed us that the sails and ropes were tinged with the reddish sand that these winds generally carry with them. It was quite impalpable to the touch ; and he was for a long time trying to obtain some of it, by washing and roasting, for his microscope.

26th.—I am growing a little tired, dear Mamma, of this long voyage, though Mrs. P—— finds continual objects of amusement for me. Sometimes, when there is a heavy swell of the sea, and that the wind blows freshly, we divert ourselves watching the waves : it is curious to see the head of a large wave, just as it rises and meets the wind, dashed off, and changed into foam ; and showing, when we can place ourselves between it and the sun, innumerable little rainbows.

I happened to say at dinner that I wondered how this constantly moving ocean should ever become frozen into one field of ice ; but the captain told me that the deep ocean never freezes permanently. Any ice that may have

been formed on it in winter is broken up by gales of wind, and is drifted about till it becomes fixed to the shores.

The great icebergs that are sometimes seen floating on the sea are formed by the accumulation of ages on high precipitous shores, and are afterwards broken off by their increasing weight.

How extraordinary every thing relating to the freezing of the sea is ; and how strange that plants should grow on ice islands. How do they get there, or the earth in which they vegetate ?

28th.—There was a sudden change of wind to-day ; it drove the sea furiously before it, and the meeting of the new wind with the old waves made them break as high as the ship, and like the surf on a reef of rocks : it was most beautiful, but very terrific indeed.

29th.—I suppose that such a sudden change of wind is the forerunner of a storm, for last night there was a dreadful one for some hours. Mrs. P—— and I were a little frightened ; but the vessel was not in any danger, Captain M—— says. Towards morning the wind subsided, the raging sea became less boisterous, and she and I read together the service for thanksgiving after a storm. Our hearts, indeed, felt what is expressed there. How beautiful are the psalms

selected for it—particularly “O come! let us give thanks unto the Lord, for he is gracious.”

30th.—I hear the cry of “land!” They see the land—the cliffs of Cornwall. I must go on deck to see them;—how happy I am to be well and able to look at the first appearance of England.

I have run down to the cabin to tell you that we are entering a great harbour—Falmouth. There are two castles that protect the entrance: on the right is St. Mawes, and on the left Pendennis.

31st.—At Falmouth!—Yes; in England at last! We anchored last night in the country which you love so dearly. How glad I shall be to go on shore.

We are going; Mrs. P——calls me.

Fernhurst, August 4.

MY DEAR MAMMA,

As I wrote to you on the day after we landed, and told you of the safe arrival of your child in her native country, and of all that I had seen at Falmouth, I will say no more on that subject.

My uncle was so good as to come for me, and Mrs. P——, who had been unceasingly kind and tender to me throughout the whole voyage, gave me into his care. I felt much regret at parting from her, and as I was going amongst relations whom I had never seen, I was the more sorry to lose this good friend; but my uncle made Mrs. P—— promise to visit him at some future time.

We set out very early in the morning from Falmouth, slept one night on the road, and arrived here yesterday evening to tea. My aunt and cousins received me in the most affectionate manner.

I cannot tell you how odd many things in this country seem. In coming here we passed along great wide roads, which are indeed very different from those in Brazil; they are so smooth that the carriage rolled on without impediment, and I was not half as much tired by the journey here as I have been going only from Rio to the Prince's farm. The whole appearance of the country—the trees, the fields, the roads, the

people, the houses, are so different from what I have been accustomed to, that I still feel in a state of constant surprise; but nothing that I see appears so remarkable, as that there are no slaves here—no poor negroes!

Though my aunt and cousins are very good-natured to me, I cannot help feeling a little afraid of them. Indeed, I must confess, though you, who love my uncle so much, will be surprised, that I felt quite a dread of meeting him; but I soon perceived that I was a fool, and that he was as kind and indulgent as you had told me he would be.

On our journey he talked to me of you, dear Mamma, and told me many delightful anecdotes of your youth, when you and he were so happy together. How I do wish your health may soon permit you to return to England, that you may be again with this dear brother.

I am determined to continue my journal regularly; for it will be my greatest pleasure to write every thing that interests me to you and my dear Marianne. I shall sometimes imagine I am speaking to you.

August 6th.—It still seems like a dream to think that I actually am here, where I have so often wished to be.

This place is altered in many respects, I am told, since you saw it last. Some of the old

windows are enlarged ; new walks are made ; and there is a new flower-garden and conservatory, of which my aunt is very fond. Your favourite walk has been preserved quite unchanged. My uncle loves it so much, that he shewed it to me himself, and we sat under your favourite tree, where you and he used to play and read together in those happy times when you were companions.

I sleep in your room, which has the same dear old projecting window, which you described to me,—a half hexagon, with stone divisions, and pretty casement work between.

Sth.—I begin to feel more at ease with all my new friends ; indeed, I do not know why I am afraid of them. Generally, before we leave the breakfast table, one of my cousins reads aloud for about half an hour. This morning, before we separated, my uncle said, “ My dear children, I hope you will consider my little Bertha as another sister ;—we must make her feel at home. Let us go on just as usual with all our employments, and she will gradually cease to be a stranger.”

“ I hope,” said my aunt, “ that Bertha does not feel herself a stranger—she will soon become accustomed to our mode of life ; but we must give her a little time—we must become acquainted by degrees.”

“ But, Mamma,” said Caroline, “ will not

my cousin feel a little neglected, if we continue our own pursuits, without any attention to hers?"

"Certainly, were that the case—but I think, my love, that as Bertha will have her own employments, she may not, perhaps, at first like to make one of our happy family school; but though occupied ourselves, I am sure we shall never be inattentive to her feelings."

"I dare say Bertha knows that to be always employed is the chief secret of happiness," said my uncle; "and I am convinced that both you and she will perceive that we never enjoy the society of our friends so much, as when we have earned it by useful labour or moderate restraint."

Just then the letters were brought in; one of them from cousin Hertford, who is now visiting the Western Isles, seemed to give great delight to the whole party.

10th.—After breakfast is over, Mary and Caroline retire to my aunt's dressing-room, where they go on with their studies. I long to be admitted to sit there in the mornings, and share in their employments.

Mary is not so pretty as Caroline, but she has a most expressive countenance; her health has been delicate, and she is timid and reserved in company, but very lively when we are quietly together. They are both very charming, but different in many respects.

I generally sit part of the morning in the library, where my uncle invited me, and am very happy, except that when Wentworth and Frederick are engaged with him I feel afraid of being an intruder. But my uncle likes to have me there, and his conversation is always pleasant and instructive.

Yesterday evening my cousins sung, and then we all danced for an hour—even my uncle danced, while my aunt played for us.

11th.—After I had written yesterday, I went out to walk with my aunt and uncle—my cousins did not come. In the hot-house I saw many plants, nursed with great care, which I had been accustomed to see growing wild and unheeded, such as our beautiful pink and blue passion-flower, the coffee-plant, jessamines, the many-flowered *gloxinia*, which ornaments our rocks with its beautiful blue flowers, and several others.

In this sheltered place many plants grow wild in the open ground, which do not live in more exposed places in England. The *tigridia*, a native of Mexico, grows here in great profusion; having heard that the Mexicans eat its roots, or bulbs, my uncle tried them, and found them almost as good as chestnuts.

The little lawn into which the library opens is well defended from all winds, and there the most

delicate plants are placed. A miniature grove of orange trees in tubs stands there during the summer—they have fruit and flowers on them, and smell delightfully; but, though healthy, they look stunted to my eyes, accustomed to those of our favourite valley at the foot of the Corcorada—I mean the Laranjeros, where the orange trees are so numerous at each side of the little stream along which we used to have such delightful walks. When shall I walk there again with you, or wander about the pretty green plain, at the entrance of the valley? How often Mari-
anne and I have made you loiter there, while we looked at the rivulet dashing over its stony bed, or at the grotesque war-horsemen, in all their various dresses!

In my aunt's flower-garden are hedges of Chinese rose and sweet-brier, with *pyrus japonica* intermixed. They are very pretty, but not equal to ours of *acacia* and *mimosa*, with the passion-flower twining through them, and the *bignonia* and *maranta* forming such beautiful garlands, particularly on our favourite green plain. How unequal, too, in strength to those fences that we saw at Pernambuco, made of woven palm leaves, and covered with our brilliant creeping plants; or to those of *yucca* and prickly pear, through which neither dog nor sheep can penetrate. Her garden is on a bank, which slopes from the conservatory to a little stream

that runs through the grounds—the flower-beds are intermixed with smooth grass-plats—and a walk extends a little way from the conservatory, covered by a sort of trellice-work made of thin oak-laths bent and crossed, with roses and climbing plants twisted into it. The bramble-flowered rose is particularly suited to this purpose, and covers it with wreaths of pretty little pink flowers. It is curious to observe the effect of even the small degree of shade caused by the trellice on the young autumn shoots, which hang within from the rose-trees. They are pale and tender, appearing as if in a house, and not in the open air.

We spend the finest part of the evenings out of doors—walking, sauntering, or sitting—then comes tea; and once or twice we have been tempted to go out again afterwards. Some evenings we read to ourselves, but now and then my uncle is so good as to read aloud, and that is very delightful, he reads so well.

He likes to see us employed while he reads, for he says it is a useful exercise of the attention to listen, and at the same time to employ the fingers. Last night he read, at Mary's request, "The Midsummer Night's Dream," while his audience employed themselves in needle-work or drawing. As I had not any work in the room, my aunt said she would supply me. I find that she has always a little store of things to be

made for the poor, in readiness to employ those who wish for work—caps, aprons, bedgowns, and baby-linen. By these means she has always some useful article of clothing ready to give the distressed people who apply to her; and, besides, she likes that young people should acquire the habit of employing some of their time for the benefit of others.

My aunt truly practises what she advises—to be useful is her great object; but she mixes usefulness and domestic pleasures so well, as my uncle says, that one is scarcely aware of all she effects.

12th.—When I was in the library to-day, looking at some books of prints, and Wentworth and Frederick engaged in their algebra, my uncle coming to the window said, “Bertha, my dear, are you a good arithmetician?”

“No, uncle, I am not; Mamma has always found it difficult to get arithmetic into my head—I do not know why, but I *cannot* learn it.”

“Perhaps you mean, *will not attend to it.*”

“No, indeed, uncle; but there was always some little thing that was not quite clear, and which prevented me from advancing as fast and as far as I ought.”

“Yes,” said my uncle, “that is the secret—some little step, which appears to the instructor so simple as to require no explanation, becomes

a stumbling-block to the understanding, and then we imagine we cannot learn; but *cannot learn* I never allow my pupils to say."

Dear Mamma, my uncle reminds me so much of you sometimes: oh! if I had attended better to your instructions, I should not blush as I do now at my own ignorance; but one comfort is—my uncle knows you so well that he cannot attribute my faults to your neglect.

But I must tell you all that happened about this same arithmetic. I was so vexed at my own stupidity, and at appearing as if you had taught me nothing, that a few tears forced their way into my eyes, though I tried to struggle against them:—my uncle good-naturedly went back to the table where Wentworth and Frederick were employed, and I soon recovered.

When they had finished their algebra, to which they seemed to give their whole attention, my uncle said, "Bertha, if you like to try arithmetic again, my daughter Mary will readily assist you: she has one of the clearest heads I ever knew; and will make every step plain. But I must remark that, if we were to force ourselves to repeat every day the substance of what we learn to some third person, we should instantly discover what part is not clear to us."

I went then with him to Mary, who undertook the task in the kindest manner—to-morrow we are to begin.

After this was all arranged, Mary and Caroline invited me to play at shuttlecock, as the day was rainy. Shuttlecock I had never seen, and knew only from your description; my first attempts, therefore, produced a great deal of laughter.

14th.—*Sunday*. I am sure you would like the way that Sunday is spent in this house, my dear Mamma. There is no day that brings you so particularly to my mind, because several things that occur here make me remember what you have often said in regard to it, and the good habits you tried to give me.

My uncle generally selects some passage, in Scripture, for the purpose of conversing upon it, and leading us to think; or else some expression which he sees requires explanation, and on which some light can be thrown, either from parallel passages, or from profane authors. These little conversations are, generally, between breakfast and the time of setting out for church.

This day he read the 11th chapter of 2d of Corinthians, and told us, that St. Paul's expression "to triumph in Christ," v. 14, alludes to the Roman triumph, or the celebration of a victory; and as the conqueror went in procession through the streets of Rome to the Capitol, with the attendant captives following the triumphal car, so the apostle describes himself as led from city to city, and from province to province,

triumphing over the powers of darkness, while the name of Christ, "as a sweet savour," was diffused wherever he came.

My uncle said that this expression, "sweet savour," alludes to the custom in the Roman procession, of strewing the streets with flowers, and causing the altars to smoke with incense; while, immediately before the victorious general, a long train of attendants marched, carrying perfumes, which exhaled a sweet and powerful fragrance;—and thus was the knowledge of Christ, like a reviving odour, diffused around, to improve and strengthen all who received it. Indeed, it is still the custom of all eastern nations, he says, to introduce sweet waters and other perfumes, on solemn occasions, which makes the propriety of the allusion still more strong.

15th.—As we walked through the flower-garden to day, I ventured to suggest that the *yucca* and the prickly pear would make more impenetrable hedges than the sweet-brier and china rose.

"I cannot help smiling," said my aunt, "at your partiality to the plants to which you have been accustomed, when you would prefer hedges of the frightful prickly pear to these. If, indeed, we could have such hedges of the Chinese

hibiscus as they have in India, they might be desirable."

I assured my aunt that I did not prefer those plants for beauty, but as useful from their strength, and, therefore, worth introducing into England.

"I am afraid," said she, "their succulent nature might make them liable to be injured by frost." "Besides," said my uncle, "these plants have not yet been well naturalised to our climate, though they do grow in the open ground in some few gardens; and then we have our beautiful whitethorn and our furze, both of which, if kept in order, and well clipped, make a secure fence against all depredators; the holly, too, with its bright and beautiful dark green foliage, makes an admirable hedge."

As we walked along, my uncle shewed me all these and other plants for hedges, saying, "You may observe, Bertha, that one of the numerous marks of a gracious Providence is the variety of means which he puts at our command in the different parts of the world. In every region we find plants suited to the soil and climate, and adapted for the use and advantage of its inhabitants; and we may generally discover some circumstance attending them, which renders those native productions of peculiar value to the people who possess them."

“ But, uncle,” said I, “ can that be the case in such countries as Lapland and Norway, which give one an idea of the utmost misery and want ?”

“ You have named a part of the world,” he replied, “ which is an excellent proof of what I have just said. There, you know, the rein-deer, that most useful animal, contributes in every way to the comfort and the sustenance of the inhabitants. They drink the milk—they eat the flesh—they make clothing of the skin—and, besides, with its assistance, they can move from place to place with delightful swiftness, when otherwise they must be confined by the snow, during three-fourths of the year. But what would become of the rein-deer, was there not an abundant supply of the vegetable on which its vast herds are supported—the rein-deer moss. No vegetable grows throughout Lapland in such abundance ; for many miles together the surface of the sterile soil is covered with it, like snow : and on the destruction of forests by fire, when no other plant can find nutriment, this moss, or lichen, springs up and flourishes. Here the rein-deer are pastured, and whatever may be the depth of snow during the long winter of that climate, they have the power of penetrating through it, and obtaining the necessary food.”

“ But still, uncle,” said I, “ useful as that same moss is, you cannot consider it among the vegetable productions on which man can live. It supports the rein-deer, and the rein-deer sustains man—but man could not live on moss or lichen.”

“ There is a common saying, my little Bertha,” replied he, “ that one-half of the world knows not how the other half live. Now, there is a certain lichen called Iceland-moss which is brought to England as a medicine, and which no one would suppose could be used as food ; yet it is a fact that, in those northern regions of which we are speaking, immense quantities of it are gathered for home consumption as an article of common food. When the bitter quality has been extracted by steeping in water, the lichen is dried and reduced to a powder, and then made into a cake, with the addition of a little meal ; or else boiled and eaten with milk—and it is eaten with thankfulness too, my dear Bertha, by the poor natives, in years of scarcity, who say that a bountiful Providence sends them bread out of the very stones.

“ I might also mention the *tripe de roche*, on which Captain Franklin and his unfortunate companions were reduced to live ; but my object was, I believe, to shew, not how many mosses or lichens might be eaten, but that every country

contains within itself some vegetable productions which are, at times, an invaluable resource to the poor inhabitants. For instance, in that part of the Russian empire near the Caspian Sea, called the *Steppes*, their principal food, in some years, consists of mushrooms, dried and powdered, and made into bread, which is neither unwholesome nor unpleasant.”

16th.—My aunt’s flower-garden is certainly very pretty, and with those of my cousins, which join it, make a delightful spot; and they all seem to be so fond of their flowers, and to find so much pleasure in gardening, that I begin to think I should like to assist them; but at present I am contented with watching what they do.

My aunt said to me, when we were walking there, “After all, Bertha, I must confess, that the objection I made yesterday against the prickly pear, of its not being adapted to this climate, was not very wise; for had our gardeners been prevented by such fears, we should not now have the variety of foreign plants that we possess, and many of which are not only pretty, but highly useful.”

I asked her whether it was true, that many of the vegetables, now common in kitchen-gardens, have been brought from other countries.

“Yes,” said she, “several of the most useful species have been brought from Asia into Europe, and in the course of two thousand years have

been gradually spread over it—in former times by the Greeks and Romans, then by the Crusaders, and more recently by the direct means of navigation; and these again have passed on to America, to which we have given all our vegetable treasures.”

I asked if America, which abounds in delightful plants, has given any thing useful in return to Europe.

“Yes,” said my aunt, “one plant in particular, which is so useful that its cultivation is almost universal. In this country it makes so important a part of the food of millions, that I think it better deserves the name of ‘the hundred ounces of gold’ than the famous Peony tree, called in China ‘*Pe-hang-king*,’ which has that meaning on account of the enormous price given for it.”

I could not help interrupting her to say, I was sure that was what Mrs. Barbauld alluded to in the line,

And China's groves of vegetable gold.

She smiled and went on:—“The American plant, I speak of, is no longer curious, nor high in price, though it is in value. Can you guess what it is, Bertha?—it is a native of Peru, where, however, it does not seem to grow with half the luxuriance that it does in Europe.”

“I believe, aunt, you mean the potatoe.”

“Yes,” said my aunt, “the potatoe. It was

first brought to England by a traveller, more as a specimen of the vegetable productions of other countries, than with any view of bestowing an extensive benefit on society. And thus it is, my dear, that all things really useful are diffused over those parts of the globe to which they are at all suited. While man is occupied in gratifying his love of conquest, his curiosity, or his avarice—while he is searching after the hidden treasures of the earth, or trafficking for the sake of gain, Providence employs those worldly passions and pursuits to dispense blessings and comforts to all nations.”

“I suppose, aunt,” said I, “that when people settle in new countries, all that is useful amongst us is gradually introduced there.”

“Yes, my dear,” said she, “both the moral acquirements and the natural productions of the parent countries are spread throughout the world by colonies. Emigrants of different nations meet and blend those customs in which some are superior to others; and thus proceeds the slow but sure improvement of the great families of the earth.”

I said that it would be amusing to trace the gradual changes of those great families, and the progress of nations from one country to another by the similarity of customs.

“Nothing could be more useful or entertaining than such an inquiry,” replied my aunt; “but

in consulting the historian on those subjects you must take the traveller to your assistance : they each throw light on the other ; and each becomes doubly interesting, when we read with the view of comparing the past and the present, and of tracing the progress or the failure of arts and civilization."

And now, dear Mamma, I smile when I think of your reading this philosophic page in my journal. So, adieu, for this day !

17th.—In these fine evenings there is a soft calmness in the air that is delightful ; last night we enjoyed it till the sun's last faint rays had retired, and not even a streak of red appeared in the west. Before we came home I had the pleasure of seeing the glow-worms light their little lanterns—

Stars of the earth and diamonds of the night.

But, I must say, our fire-flies of Brazil are much superior to them in brightness. Indeed, all the productions of nature here are less brilliant ; the birds, insects, and flowers of Brazil are quite dazzling, compared with the dull things that I see in this country. But I am told that this deficiency in beauty is more than made up by some greater merits. For instance, the singing of the birds here in spring is said to be so sweet and so various, that I feel a little childish

impatience for their singing time to return, that I may hear them. I am, however, already acquainted with the robin redbreast. I have repeatedly heard its plaintive autumn song.

I never rightly understood till now that the glow-worm is the female fire-fly, though it looks just like a worm, and does not fly. My aunt showed me to-day that this insect, though it possesses neither wings nor *elytra*, and differs but little in appearance from a caterpillar, is, notwithstanding, an insect in the last or perfect state: the head and *corselet* are formed exactly like those of the male, who is furnished with both *elytra* and wings. My aunt also showed me that under the last ring of the body there are two very small reservoirs of a thick oily fluid of the nature of phosphorus, which, if the animal is killed, continues to give light till it becomes dry. It is a slow-moving creature I am told, and seems to drag itself on by starts or slight efforts.

My uncle says that in the *Philosophical Transactions* for 1684, there is a paper by a Mr. Waller describing an English flying glow-worm, which he observed at Northaw, in Hertfordshire, the light of which was so vivid as to be plainly perceived even when a candle was in the room.

Mary put a common glow-worm into a box of transparent paper with some grass and moss, two days ago, and when we went to examine it last

night we saw its beautiful light illuminating every object within a small space around it.

When I saw the glow-worm shining on its mossy banks, I amused myself in imagining how many other living creatures were perhaps lighted by its soft beams. The various beetles, which seem at all hours running to and fro; the slugs, which are for ever in one's path; and the numerous family of spiders, who are so industrious, that they must, I suppose, work "by midnight lamps." The moth tribe, also, who seem to love light only at night, can please themselves at this little lamp, without injuring their delicate wings; and I must not forget the little airy beings, of whose histories I am so fond—the fairies—who say so prettily—

And when the moon doth hide her head,
The glow-worm lights us home to bed.

Frederick and I were devising various expedients for making the light of the glow-worms and fire-flies useful; when Mary, who heard us, told me that at Cape Comorin there are certain birds that build pendulous nests; and that it is a fact that these nests are lighted, at night, by fire-flies: the bird fastens a bit of clay to the top of the nest, and sticks a fire-fly on the clay, as if to illuminate the dwelling, which consists of two chambers; but the real object is, probably, to deter the bats from approaching, as they kill

the young of these birds. This is mentioned in the life of Dr. Buchanan, who says that the blaze of light dazzles the eyes of the bats. A friend of my uncle's has written some lines on the glow-worm, which I will copy here.

TO THE GLOW-WORM.

THOU little gem of purest hue,
 That, from thy throne o'erspread with dew,
 Shedd'st lustre o'er the brightest green
 That ever clothed a woodland scene,
 I hail thy pure and tranquil light
 Thou lovely living lamp of night !
 Thy haunt is in the deepest shade
 By purple heath and bracken made :
 By thee the sweetest minstrel sings,
 That courts the shady grove ;
 O'er thee the woodlark spreads his wings,
 And sounds his notes of love
 Companion of the lights of heaven !
 Thine is the softest breeze of even ;
 For thee the balmy woodbine lives,
 The meadow-grass its fragrance gives.
 And thou canst make thy tranquil bower
 In Summer's sweetest, fairest flower.
 The hour of peace is all thy own ;
 Thy lamp is lit for one alone ;
 Shedding no transitory gleams,
 No rays to kindle or destroy ;
 Constant, innocuous—still it beams
 The light of life, of love, of joy.

My aunt has been so kind as to permit me to make an extract from my cousin Hertford's last letter to her. I enclose it with my journal, which my uncle is going to dispatch to-morrow.

“ At last I have overcome every obstacle ; and have visited Staffa and its curious caves.

“ The natural columns of basalt, near the landing-place, lie in so many different directions that I cannot give a clear notion of them—erect, oblique, and horizontal; and sometimes in each of these positions they are curved. In the first cave which occurs, the columns are bent in such a manner as to have given rise to its name of the *scollop*; but I think they look still more like the inside of the timbers of a ship. On the other side, the wall which leads into the cave, is formed by ends of columns, which make it appear something like a honeycomb; and immediately beyond this cave, the broken ends form a sort of stairs to the causeway, and up to the great cave. Beneath this part of the cliff is situated a single rock, called *Buachaille*, (the herdsman) a name commonly applied in the Highlands to remarkable mountains and rocks. There is a very striking coincidence between the Gaëlic and the Greek languages, not only in this, but in other words; and my companion, who is well acquainted with the Gaëlic, thinks that they must have had a common origin.

“ Of the three caves in the south-west side of the island, the westernmost is called the cave of Mackinnon; who seems, from the number of places to which he has given his name, to have been a hero of considerable celebrity. Its height is 50 feet, and length 224 feet; but although grand and sublime in general effect, it has not

the beautiful regularity so remarkable in the cave of Fingal; which I will now endeavour to describe.

“The opening into this celebrated cave finishes above, in a sort of Gothic arch, which is 66 feet above the surface of the water. The breadth, at the entrance, is 42 feet; the whole length of the cave, 227; and the height within, from 40 to 50 feet. The sides, like the front, consist of groups of columns; and the cieling, at least towards the middle, is composed of the sections, or broken ends of columns, which give it a very architectural appearance. The sea never ebbs entirely out, and, therefore, forms the only floor of the cave; but the broken range of columns which produces the exterior causeway, is continued on each side within, and admits of access over the broken summits to the farther end, if the water be not too high.

“After all, it is so impossible to describe this cave, that the very attempt is presumptuous.—The more it is studied, the greater is the admiration of the beholder. The richness arising from the multiplicity of the parts—the great extent—the twilight gloom—the varying effects of the reflected light—the transparent green of the water—the echo of the surge rising and falling—and the profound solitude of the whole scene, must make a strong impression on any mind at

all sensible to beauty, in art or nature. I only wish you could all have seen it, my dear friends."

18th.—This has been a most charming day; the mild calm dry feel of the air reminded me of the lovely weather that we are accustomed to at Rio. Here the days are very changeable; but then the nights have not that extreme chilliness that they have in Brazil.

It was resolved, at breakfast, in order to shew me a little of the country, that we should take a long walk—visit a farmer who lives about a mile and a-half from this—and then return by a different way, through a hamlet, inhabited by some of the poorest class.

We were all ready at one o'clock, which was the appointed hour.—My uncle dislikes very much that people should not be ready in time, and really considers it a fault not to be punctual; he says, it shews a selfish disregard of the wishes of others, and besides, that a great deal of time is wasted—melted away by waiting for each other.—I hope I shall learn to be more exact than I used to be, when with my indulgent mother.

We walked through several fields; but they all had a confined appearance, from being so much more fenced than the open country to which I

have been accustomed. Some were all life and bustle; the reapers cutting the corn with their sickles, and dexterously laying it in a line, so that the binders who follow them can tie it up into sheaves without delay; several of these are then made to stand endways, in a little tight group, called a shock. In another place, horses and waggons were engaged in drawing home the corn which had been reaped first, and was now dry enough to preserve it, to the farm-yard, where it was to be stacked; and they were succeeded by many little girls, who were gleaning the scattered ears. Farmer Moreland was in his farm-yard, overseeing the stacking of his corn, and I could not but admire the neatness and regularity with which the sheaves were placed, with the tops pointing towards the centre, all being made quite firm, and the outside of the stack kept perfectly even. My uncle made me also observe that open passages, for the circulation of the air, were left in the stack, to prevent its fermenting or *heating*, which would spoil the grain. What a curious thing it is that decaying vegetables, when thus pressed together, without a free passage of air should produce such a chemical change, as to cause them to take fire!

After we had rested ourselves in Farmer Moreland's comfortable house, we looked at his garden, where I observed several rows of large sunflowers, with the seed of which he feeds his

fowls ; and we then left him and Dame Moreland, as we saw they were very busy.

In the nice smooth green fields which we passed through, there are no beautiful flowers, like those which spread a brilliant carpet over our plains ; nor is there any of that rank grass, nearly the height of a man, so common in some parts of Brazil. The hay was all made up some weeks ago, so that I cannot see the delicate flowers of the grasses, nor their slender stalks or *culms*. My aunt says, that grass contains a great deal of very nourishing sugary juice ; and if the hay is cut and made up early, before that juice is exhausted by maturing the seed, it becomes much more strengthening food than when mowed late.

Nor are there any herds of wild cattle here, like those in parts of our country ; and, therefore, the Brazilian custom of catching the cattle by a noose is not in use. I described to Wentworth the dexterity with which the *peons* fling the noose, or *lasso*, over the head of any animal, even in full gallop. Here the cattle are in small numbers, and submit readily to the restraint of being confined in fields. The person who takes care of them has comparatively little trouble ; and though he does not live on beef for every meal, like the peon, yet he is in fact more comfortable. We saw some very poor people in the hamlet by which we returned home, and found them civil in their man-

ners, and contented with their employment. As to their houses, they are very different, indeed, from the peon's hovel of upright posts, interwoven with branches of trees, and plastered with mud, thatched with nothing but long grass, and a hide stretched on four sticks, by way of a door.

I was surprised to see with what docility a number of cows allowed themselves to be driven home by a little boy to Farmer Moreland's. My uncle told me, that it is a great relief to them to have their milk taken away; and that were the fields open, they would go home at the regular hours to be milked. I had imagined that cows had but a small portion of sense or instinct; but my uncle told me several instances of their sagacity, and among others, one which he read lately in travels in Norway and Lapland.

The author frequently saw cows feeding close to precipices several hundred feet high, where an English cow would have but little chance of escape; but the Norway cows, turned out amidst the mountains to procure their subsistence, become as nimble as goats, and climb the rocky crags with the greatest ease.

The manner in which instinct has taught them to descend the mountains is curious. Sitting on their haunches, they place their fore-feet close together, and in this way slide down places, which from their steepness would appear quite impassable with safety.

We went into several cottages belonging to the poor labourers. They are either built of brick, or of frame-work filled in with bricks and plaster, with good doors and glass windows ; and inside, every thing, though shewing poverty, gave the idea of comfort. The walls papered, or nicely white-washed, the floors scowered and sprinkled with sand ; plates, cups, and saucers displayed on shelves ; beds with clean patch-work quilts ; and in two of the houses, wooden-clocks to call the people up to their business. And to all of them there was a detached shed for the pig, unlike the filthy place left, between the posts, that support the floor of the Brazilian huts. In the last cottage we visited, we found that the hospitable people it belonged to had contrived to make room for a poor traveller and her child. She had come there on Saturday evening, when they gave her lodging for charity. On Sunday, she begged permission to remain, because she did not think it right to travel on that day ; and on Monday she grew ill, and has been in bed ever since. These good people seemed so kind and generous to her, though very poor themselves, that my aunt is much interested for them.

How gratifying it is to see the poorest people assisting each other, even when really distressed themselves, but the most delightful thing of all, dear Mamma, is that there are no slaves here ;

every body is free, and may work or be idle as they like ; but if they prefer idleness, they must of course want the comforts possessed by the industrious ;—for industry, as you used to say, brings comfort and happiness.

19th.—This forest of Deane is very extensive, I find, for it is nearly twenty miles long, and ten broad. Here, at the south-east, it is bordered by the Severn, and on the north-west it stretches to the Wye ; so that it forms the chief part of the western district of Gloucestershire. It was once the chief support of the English navy ; but the timber is much diminished in consequence of the iron works in its neighbourhood, which it supplied a long time with fuel. My uncle says, however, that it has more the appearance of a forest than almost any other in England ; and it still contains many noble old oak and beech trees, besides birch, holly, and underwood.

Here and there a few acres, surrounding cottages, have been cleared and cultivated, which make a beautiful variety. These cottages, and some farm-houses which stand upon the forest land, are free from taxes, and belong to no parish.

My aunt says, it is quite remarkable for the quantities of primroses and lilac wood-sorrel that are every where found. There are a few deer

in some parts of the forest, but I have not yet seen them.

20th.—What a difference between this country, and that which I have left! I scarcely know which to call my own: should it not be that where I lived during my happy childhood with my dear Mamma? The kindness and affection of all my friends here will, I am sure, soon make this country dear to me also; but beautiful I can never think it, when I recollect Brazil, and all its various charms, and all the innumerable flowers and trees that are at this moment in brilliant beauty; while here, the principal flowers are all gone by, and symptoms of the decay of autumn already appear.

It was just about this season that you used to take us to the cottage you had on the Lagoa de Bodingo Freitas. What various amusements we had there! The road along the slope of the mountain was so pretty, among myrtles, *begonias*, and *paullinias*; and there we were always sure of finding the diamond-beetle; and then when gradually descending from the hill, we drove along the banks of the sea covered with lofty ferns; and when you used to allow us to stop on the shore and search for sea-stars, urchins, shells, and plants. Oh, those were happy times! Or when we used to go with you to the

low grounds near the lake, and lose ourselves in the thickets of *mangrove* trees, while gathering their curious seeds, and wondering at the long roots they shoot out to the ground, and while you were searching for marsh plants and fern bushes. Indeed, I never, never can forget those days; nor the still solitude of that valley, the beauty of the rock of Gavia, covered with the blue *gloxinia*, and the wild mountain stream that came tumbling down into the lake; nor the poor fishermen who used to look so happy when you gave them a few *reals*.

Though we live here on the borders of a forest, it is quite unlike that forest near which the Senhor Antonio Gomez lives, and where we used sometimes to spend a few weeks so pleasantly. I miss several little things that seemed to me to belong to a forest, and which used to amuse Marianne and me so much—the howling of the monkeys in the wood, that wakened us in the mornings, and the deep noises of the frogs and toads, with the chirp of the grasshoppers and locusts, like a monotonous treble mixed with that croaking bass.

And then when playing about in the wood after the mists of the night had been dispelled by the rising sun, and when every creature seemed to be rejoicing in the return of day, we had such delight in chasing the pretty butterflies. Nothing at all here like those great butterflies that used to

flutter from flower to flower, and hover among the bushes under which we sat ; or that sometimes collected in separate companies on the sunny banks of the little stream that ran through the valley near the Senhor's house. None of those great owl-moths sitting quietly on the trees waiting, with their wings spread open, for the approach of evening. Alas ! I see none of those beautiful creatures here ; nor the long nests of the wasps hanging from the trees ; nor the beetles sparkling brightly on the flowers and fresh leaves ; nor the beautiful little serpents, equal to flowers in splendour, gliding out of the leaves and the hollows of trees, and creeping up the stem to catch insects.

I have just been describing to Mary those woods which seemed actually alive, when the monkeys came leaping and chattering from tree to tree, and enjoying the sun ; as well as all our birds with their bright plumage, whose various notes formed such extraordinary concerts. The *urapong*, which makes the woods resound with a noise like the strokes of a hammer on the anvil. The showy parrots of every colour, and the *manakin*, whose melodious morning song you loved, because it was so like the warbling of the nightingale ; and which Mary tells me is called the *organiste*, in St. Domingo, on account of the compass of its song, as it forms a complete octave. And besides all these, the dear little busy *orioles*, that my sister and I have so often watched

creeping out of the little hole at one side of their long bag-shaped nests, to visit the orange trees, while their sentinels gave them notice by a loud scream of the approach of strangers.

Mary smiled when I told her, what I am sure Marianne remembers—how we used to like to listen to the *toucan* rattling with his large hollow beak, as he sat on the extreme branches, and calling, in plaintive notes, for rain; and how sometimes, when he was sitting comfortably and almost hid in the nest which he had scooped in the stem of a tree, we used to pretend to alarm him, that we might see how instantly he prepared to attack the invader with his bill.

But these are all passed away. Dear Mamma, forgive this list of pleasing recollections: describing them to you makes me feel as if I was again enjoying them in your company. There is such a glowing splendour, as I told Mary, in the sunny days of Brazil, when the glittering humming-birds dart about, and with their long bills extract the honey from the flowers, that I cannot avoid perceiving how gloomy every thing appears here; but pray do not think me discontented.

Mary, to whom I had been describing all these past delights, came back to me just as I had written so far; and, seeing the tears in my eyes, she seemed to feel with me, and to think it quite natural that I should every moment perceive the difference between two countries so opposite in

climate and in every thing ; though she laughed a little at my repeating to you all that you see continually ; but you know, Mamma, you desired me to write all I thought, and you may well suppose how constantly my thoughts turn towards the country in which you live.

Mary said she should have been surprised if I had not felt the change. “ But indeed, Bertha,” said she, “ you must not forget how well balanced are our blessings. If Brazil has a climate, and various beautiful productions which England does not possess, England, on the other hand, has far more substantial comforts ; and, by her commerce, she has the means of enjoying those of all other countries. We have not your brilliant flowers and birds, but you will find that we have many which are more useful, and which will interest you, who love natural history. Our birds have no pendent nests, because they are in no danger from such depredators as your monkeys and snakes, and therefore their instinct does not lead them to contrive such means of defence ; but you will see, amongst both our birds and insects, many whose habits are equally curious.”

I said that I believed, as you, Mamma, have often told me, that there is no country which does not possess much to attach its inhabitants to it, and to interest an observant mind.

“ And it is in the mind,” she replied, “ that our real happiness will always be found. It

rests on our own disposition and thoughts, much more than on those outward circumstances which appear coloured by our feelings; just as objects appear the colour of the glass through which you look at them. But," added she, "I came not to moralise, but to beg of you to come out and walk."

Out we went; and my thoughts soon turned from the scenes I have been lamenting, to the satisfactory feeling of having, in both my countries, such dear and good friends.

21st. Sunday.—In the course of a conversation this morning about the Sabbath day, a lady, who is here on a visit, remarked that it was the idea of some people, that the Sabbath, having been instituted at the time that the Israelites received the Ten Commandments, is not binding on Christians, any more than the other Levitical institutions.

In order to show what a mistaken idea that is, my uncle read to us the extract which I am going to copy here.

"It is a great mistake to consider the Sabbath as a mere festival of the Jewish church, deriving its whole sanctity from the Levitical law. The religious observation of the seventh day is included, in the Decalogue, among our first duties; but the reason assigned for the injunction is general, and has no relation to the particular cir-

cumstances of the Israelites, or to the particular relation in which they stood to God as his chosen people. The creation of the world was an event equally interesting to the whole human race; and the acknowledgment of God as our Creator is a duty, in all ages and countries, incumbent on mankind.

“ The terms of the ordinance plainly describe it as an institution of an earlier age—‘ Wherefore the Lord blessed the Sabbath day, and *set it apart,*’ which is the true meaning of hallowed it. These words express a past time. It is not said, Wherefore the Lord now blesses the seventh day, and sets it apart, but, Wherefore he *did* bless it, and set it apart in times past; and he now requires that you, his chosen people, should be observant of that ancient institution.

“ In confirmation of this fact, we find, by the 16th chapter of Exodus, that the Israelites were already acquainted with the Sabbath, and had been accustomed to a strict observance of it, before Moses received the tables of the law at Sinai. For, when the manna was first given for their nourishment in the wilderness, they were commanded to lay by, on the sixth day, a sufficient portion for the succeeding day. ‘ Tomorrow,’ said Moses, ‘ is the rest of the holy Sabbath unto the Lord: on that day ye shall not find it in the field; for the Lord hath given you the Sabbath, therefore he giveth you on the

sixth day bread for two days.' He mentions the Sabbath as a divine command, with which the people were well acquainted; for he alleges the well-known sanctity of the day, to account for the extraordinary supply of manna on the preceding day. But the appointment of the Sabbath, to which his words allude, must have been earlier than the appointment of the law, of which no part had yet been given. For this first gathering of manna was in the second month of the departure of the Israelites from Egypt; and they did not arrive at Sinai, where the law was given, till the third month.

“An institution of this antiquity and importance could derive no part of its sanctity from the authority of the Mosaic law; and the abrogation of that law no more releases the worshippers of God from a due observation of the Sabbath, than it cancels the injunction of filial piety, or the prohibition of theft or murder.

“The worship of the Christian church is properly to be considered as a restoration of the patriarchal church in its primitive simplicity and purity; and of the patriarchal worship, the Sabbath was one of the noblest and simplest rites. As the Sabbath was of earlier institution than the religion of the Jews, so it necessarily survives the extinction of the Jewish law, and makes a part of Christianity.

“ It differs from all other ordinances, of similar antiquity, and is a part of the rational religion of man, in every stage and state of his existence, till he shall attain that happy rest of which the Sabbath is a type.

“ Let us remember, always, that to mankind in general, and to us Christians in particular, the proper business of that day is the worship of God in public assemblies. Private devotion is the Christian's *daily* duty; but the peculiar duty of the Sabbath is public worship. Every man's conscience must direct him what portion of the remainder of the Sabbath should be allotted to private devotion, useful duties, and sober recreation. And, perhaps, a better general rule cannot be laid down than this—that the same proportion of the Sabbath, on the whole, should be devoted to religious exercises, public and private, as each individual would employ, on any other day, in ordinary business.”

22*d.*—I have just been made very happy, dear Mamma. I was sitting in my aunt's dressing room, labouring through a difficult question in arithmetic, which Mary had given me, when my uncle came in; and, after a little conversation, he said to my aunt and cousins, “ I am very much pleased with this good girl. I have not judged of her hastily—I approve of her as a

companion for my daughters ; and she has my free permission to be with them in this room and every where, as much as she pleases."

It is a great satisfaction to add, that my cousins looked as much pleased at this as I did ; but they could not feel the delight that I felt, when he continued,—“ Bertha, my dear, when you write to your mother, I desire that you will say I am highly pleased with her education of her little daughter. Separated from her friends and country by ill health, with little of good society, and labouring under many disadvantages, she has not sunk into indolence or indifference—she has preserved her good sense and energy, and has made you a gentlewoman in mind and manners ; and I rejoice to see you so much what the child of my excellent sister ought to be.”

My beloved mother, this little message to you gave me such heartfelt delight, that my eyes very nearly overflowed.

My kind uncle afterwards said, “ But, Bertha, do not imagine that I think you have no faults.”

“ No, dear uncle,” said I, “ that never came into my head ; but I am sure you and my aunt will be so good as to assist me in conquering them.”

“ Most readily I will,” said he : “ indeed I will write myself to your mother, and tell her how much I like her Bertha, who deserves to be the com-

panion of my daughters; my sister knows how particular I am about their intimacies and early friendships."

Though I know his letter will be a most welcome one to you, I could not resist the pleasure of telling you all this myself, dear Mamma. I shall feel much more bright and cheerful now, than I have felt, since I left you.

23d.—I can walk much more here than I could in our own hot country, so I am out a great deal every fine day.

Yesterday, we all set out on a ramble through the forest, that I might see some of its wildest parts; and the morning was so fine, that we went much farther than my cousins had been for a long time. There is but little of it that answered to my ideas of a forest; some parts are quite cleared away, and in others, the trees are spoiled by being copped. I must confess, that some of the oaks are fine trees; but how insignificant the best of them would appear by the side of our noble *bombax*, or of our tall palms, which spread their leaves like immense umbrellas. And besides, the green of the foliage is so dull, when compared to the vivid tints of the trees in Brazil! We found, however, some very nice and smooth grassy paths through the wood, of which I might say—

All around seems verdure meet
For pressure of the fairies' feet.

As we walked along one of these, we were surprised by the appearance of smoke curling through the trees; and we soon after came to a little cottage, in a very solitary part of the forest. Frederick ran on, "to discover," he said, "whether it contained a giant, ready to devour us with *fee, fau, fum*, or some hermit who had retired to this sequestered spot, to expiate his crimes in solitude and silence."

We soon followed, and instead of either giant or hermit, there was a poor man almost blind, employed in making a basket, while his daughter, a pretty looking young woman about twenty, sat within, engaged in needlework; and the house, though one of the poorest that I have seen, looked clean and airy. But as it is built against a sloping bank, it must be damp, I think—and his daughter has rather a delicate appearance, and looks pensive, as if she was not in good health.

I was very much interested in observing the method by which he made his basket. It was not made of willow, which I thought was always used; so we inquired what the material was, and I was surprised to find that it was oak. He splits the wood into long strips when it is quite fresh, or after it has been soaking in water for some time; these strips are about an inch broad, and being only a tenth of an inch thick, they are so pliable, that he weaves them without dif-

ficulty. The shape of his basket was circular, with a flat bottom. A sort of skeleton frame is made first, of stronger slips of wood; then the long thin pieces are woven in and out, close together; and the ends are neatly fastened under each other. It seemed a tedious work; he is to have half a crown for the basket he is now making, for a washerwoman; and as it is more than two days' employment, his gain is but very small.

He lost his sight many years ago in the mines, and though never idle, he cannot easily support himself. I believe his wife is dead. He says he has lived in that place several years; and I understand that the inhabitants of the Forest of Deane have certain privileges in regard to taxes, that make it a very desirable residence to a poor man.

My uncle is to go in a few days to bespeak some of those baskets, and I hope to walk there with him: it will have been very happy for this poor man that we found him; for my uncle and aunt will certainly be of use to him. They assist the industrious very much; and all they do for the poor, is done in such a kind and cheerful manner, that it doubles the favour.

24th.—This morning brought another letter from Hertford—it has been delayed on its road, for it was written several weeks ago. Here are some extracts from it: perhaps they may enter-

tain you, as he describes his visit to the little island of North Rona.

“ It is accessible in one spot only, and that with difficulty. The landing place is on an irregular cliff, and you must watch for the moment to jump out on the first ledge of rock to which the boat is lifted by the waves. It is a perilous operation to remove sheep from this island; the animal being slung by the legs round the neck of a man, and thus carried down the face of a rock, where a false step exposes him to the risk of being either strangled or drowned.

“ The violence and height of the waves, which in winter break over the island, are almost incredible. The dykes of the sheep-folds are often thrown down; and stones of enormous bulk are removed from their places, at elevations of 200 feet above the high-water mark. It is inhabited by one family only, who cultivate it, and tend about fifty sheep. Twice in the year that part of the crop which is not consumed on the farm, together with the sheep's wool, and the feathers obtained from the sea-fowl, which these poor people are bound to procure, are taken away by the boat to Lewis, and thus some little intercourse with the external world is preserved. But they are so little accustomed to the appearance of any one but the proprietor of the island, that when we appeared, the women and children were seen running away to the cliffs to hide

themselves, loaded with whatever moveable property they possessed, while the man and his son began to drive away the sheep. A few words of Gaëlic recalled the men, but it was sometime before the females ventured from their retreat, and when they did, the impression they made on us was not very favourable to the progress of civilization in Rona; the mistress of the family would have ill stood a comparison with Iliglaik, whose accomplishments are so well described by Captain Lyon.

“ Not even the solid Highland hut can withstand the violence of the wind in this region. The dwelling is, therefore, excavated in the earth, the wall requisite for the support of the roof scarcely rising two feet above the surface, and the whole is surrounded with turf stacks to ward off the gales. The entrance to this subterranean retreat is through a long winding passage, like the gallery of a mine, commencing by an aperture not three feet high, and very difficult to find. Were it not for the smoke, the existence of a house could never be suspected; indeed, we had been talking to its possessor for some time, before we discovered that we were actually standing on the top of his castle. Like a Kamtschatkan hut, it receives no other light than that from the smoke hole; it is floored with ashes, and festooned and ornamented with strings of dried fish. Its inmates, however, appeared to

be contented and well fed, and little concerned about what the rest of the world was doing; they seemed to know of no other world than North Rona, and the chief seemed to wish for little that North Rona could not supply. The great object of his wishes was to get his two younger children baptised, for no people are more zealous in the observance of their religious duties than the Highlanders; and even in that dreary solitude, this poor man had not forgotten his.”

I am quite established now as one of the dressing-room party. A nice little table has been allotted to my use, and I shall be very comfortable as well as happy.

In the library, I was frequently interrupted in drawing or reading, by morning visitors—but into this charming retired room no visitors are admitted, and we shall seldom be disturbed. My aunt has given me just such a nice little table as each of my cousins has: the top serves as a desk for reading, or writing, or drawing, and can be raised to any slope, as it is joined by hinges at one side; while on the other side there is a light frame, which supports the book or drawing I am copying; and which, when not wanted, folds in under the top. It has places for pens, ink, and knife, and two drawers, besides many other conveniences. Indeed, I must be happy in this room, where a variety of useful

and agreeable things, and much gaiety too, are always to be found.

I wish, Mamma, you could know your nieces. There is a nice mixture of gaiety and steadiness in both. Mary would be almost perfect, if she were not too timid. Caroline is the handsomest; she has such a fresh, bright complexion, and such pretty waving ringlets; yet she never seems to think of herself or her beauty. She is very active and very useful; always punctual, and ever ready to oblige and assist others, to walk out or stay at home with them—to search for a book, or to hunt out a passage in it—to converse or to remain silent. Yet she contrives to have time for all her own employments, and to lay up stores of knowledge, which are always ready when called for. Her temper is so mild, and her feelings are so much under her own controul, that one does not at first see exactly how much she enters into those of other people; but every day, her character has opened more and more to my observation.

Grace is a dear, little, animated creature—very obedient in general, very intelligent, and my uncle's play-fellow, but never spoiled. What a pity you cannot see all these children of a brother you love so much. My aunt often expresses her anxiety for your return; she says, that if my uncle and she had their dear sister within reach of them, their family happiness would be complete.

I told you before, I believe, that my uncle, and my aunt too, though she does not say much, are not pleased, if we are not punctual—and must I confess it?—yes, I must acknowledge, that several mornings I have been rather late for breakfast; my uncle has been very patient however, and says he will make allowance a little while for the indolent habits I have acquired by living in a warm climate, and with “too indulgent a mother.”

So good night; I have been writing when I ought to have been in bed.

25th.—There was a good deal of conversation about salt and salt mines to-day. My uncle asked me, if there were many such salt marshes in Brazil as abound in North America, and of which cattle are so fond. I forgot at first, and said very foolishly, that I could not tell—I was in a silly fit, till at last I recollected myself, and told him I had heard that there were some, though they are obliged to import a great deal of salt. What an extraordinary appearance a salt plain must have, where the salt is open and uncovered! When we went up stairs, Mary showed me Mr. Salt’s description of one in Abyssinia.

He says, that some of his party and Mr. Coffin “stopped at the edge of an extensive salt plain to refresh themselves, under the shade of

a group of acacias, near some wells of fresh water. At this place they were provided by the natives with a sort of sandal, for walking on the salt, made of the leaves of a dwarf palm.

“ The plain lies perfectly flat, and is said to be four days' journey in length. The first half mile was very slippery, and the feet sank at every step into the mud. After this, the surface became strongly crusted, resembling, in appearance, a rough coat of ice, covered with snow.

“ On the *Assa Durwa* side of the plain, a number of Abyssinians were engaged in cutting out the salt, which they accomplished by means of a small adze. The salt lies in horizontal strata, so that when the edges are once divided, it separates without any great difficulty: that which is immediately under the surface is exceedingly hard, white, and pure; but as the workmen advance deeper, it becomes of a coarser quality, and much softer. In some places it continues tolerably pure to the depth of three feet, below which it becomes mixed with the soil, and consequently unfit for use.

“ This salt plain, from which the whole of Abyssinia is supplied, is infested by a cruel race, who make it a practice to lie in wait for the individuals engaged in cutting it. These poor fellows, in the absence of their guards, lie down flat on the surface, when working, that they may escape the observation of their barbarous ene-

mies, and on the approach of a stranger, they run in alarm to the mountains."

When we had finished reading this extract, Mary said, that since I was so much amused by it, she would find a description of some curious salt cliffs on the banks of the Indus.

"Near Callabaugh, on the banks of the Indus, the road is cut out of the solid salt, at the foot of salt cliffs, which in some places are more than 100 feet high above the river. The salt is hard, clear, and almost pure; and would be like crystal, were it not a little streaked and tinged with red. Several salt springs issue from the rocks, and leave the ground covered with a crust of the most brilliant whiteness. The earth is blood red, and this, with the beautiful spectacle of the salt rocks, and the Indus flowing in a deep and clear stream, through lofty mountains, presented a most singular scene."

I have copied these for Mamma, for I am sure you have neither of the books.

26th.—I have been out till very late this lovely evening, which was so calm, and still, and fragrant, that it made me think of some of our own evenings; and the brightness of the stars, and the clear blue sky, increased the resemblance. While walking, I described to Mary and Caroline the country-house of the Condé

de San Lourenço, on the slope of the hills which extend from the city towards the south-west; and the fine view, from that spot, of the city and part of the bay. I endeavoured to make them understand the beauty of our evenings, after the sultry day, when the *mimosas*, that have folded up their leaves to sleep, stand motionless beside the dark *manga*, *jaca*, and other trees; or if a little breeze arises, how it makes the stiff, dry leaves of the *acaju* * rustle, and the myrtles drop a fragrant shower of blossoms; while the majestic palms slowly wave their crowns over all.

My cousins appeared so much interested, that I endeavoured to complete my picture of a Brazilian evening. I described to them the shrill cries of the cicada, and the monotonous hum of the tree frog. The singular sound of the little animal called the *macue*, which almost resembles a distant human voice calling for help. The plaintive cries too of the sloth; and the various noises of the *capuira*, the goat-sucker, and the bull-frog; along with the incessant chattering of the monkey tribe; while myriads of fire-flies, like moving stars, complete, as you used to say, the beauty of our evenings. I did not forget to mention those palms, whose flowers suddenly

* The cashew-nut.

burst out in the evening, and join their fragrance to that of the orange groves. Indeed, all these things were so strongly pictured in my mind, that I could almost have thought myself walking amongst them.

Caroline, in her ardent manner, expressed a wish to visit this interesting scene; but quiet Mary repeated a few stanzas of a poem supposed to be written by a European in South America. Two of them are worth sending you.

In the silence and grandeur of midnight I tread,
Where savannahs in boundless magnificence spread;
And, bearing sublimely their snow-wreaths on high,
The far Cordilleras unite with the sky.

The fern-tree waves o'er me—the fire-fly's red light
With its quick glancing splendour illumines the night;
And I read, in each tint of the skies and the earth,
How distant my steps from the land of my birth.

27th.—I do not wonder at the attachment you feel, Mamma, to this place: it is, indeed, very pretty. These wooded banks, and green lawns and fields that slope towards the Severn, and form such a lovely view from some of the windows! But there is no view so pretty to my fancy, as that from the little bedchamber which my aunt has been so kind as to allot to me. I have a glimpse of the river and its woody banks; and very near my window there is a group of laburnums, and an old fir-tree, in which there are numbers of little birds, that I amuse myself

in watching. I am very fond of sitting in the projecting bow window, also, at the end of the library: I call it the poetical window, for all that you see from it suits the feelings that descriptive poetry excites.

By the way, I must say that I can read THOMSON'S *Seasons* now, and other descriptive poetry, with much more pleasure than I could before I came to England, because so much of the scenery described was unknown to me, and so many of the rural occupations I had scarcely seen.

I shall now remember, much better than I used to do, some of your favourite descriptions, that I have learned over and over again. My aunt says, that it has been remarked, by a philosopher who has written a most interesting book on the human mind, that in descriptive poetry we always remember best those scenes which we can picture to ourselves. I am sure this is the case; for now, as I begin to understand the allusions, it requires but little effort to recollect those beautiful lines of Thomson on harvest-home.

When I came here, several of the fields were still unreaped: all is now cut, dried, drawn home, and stacked; and the fields only show, by the yellow stubble remaining in the ground, what treasures gilded the earth but a short time since.

All the farmers in this neighbourhood have finished their harvest ; and my uncle took me again to Farmer Moreland's, that I might see the whole of the process. The stacks, I see, are placed on stands, supported by stone pillars, with a projecting cap of flag-stone, so that the corn has a free passage of air underneath, and is out of the reach of rats.

Farmer Moreland is one of the most comfortable farmers in this part of the country ; and, being an old, experienced man, and very much respected, he seems to be considered at the head of the yeomanry.

Every year, when his great harvest is well secured in his farmyard, he gives a feast to all his labourers and the neighbouring farmers ; and, when he saw that we were so much interested, he very civilly said to my uncle, " If so be the young ladies would like it, and if you have no objection to a little mirth or so, they shall be heartily welcome to see my harvest home, on Saturday, at three o'clock."

We were all delighted to go, and have had a lovely day for it. We walked through the little beech-grove and the pretty fields to the farmer's ; we found all his labourers and their families assembled, dressed in their Sunday clothes. The farmers' wives and daughters amused me by the varieties in their dress ;—some in fine flourishing

caps, with broad ribbons and borders, and flounces in imitation of the Squire's lady; and others, plain, clean, and tidy.

There was a very plentiful dinner, set on tables under a clump of trees; and the good farmer seemed to feel real delight in making his hard-working labourers eat heartily. Two fiddlers were playing all the time, to enliven them; and the ale and cider were abundantly circulated. When the repast was finished, the more active sports began; and nothing could be prettier than the different groups of dancers, or more laughable than the attempts to jump through a ring, and hop in a sack.

Under the trees, most of the older people sat comfortably, talking; though some, excited by the general joy, took part in the dance, and others presided at a wrestling match. Each of those men who had been more particularly engaged in getting in the harvest, had his hat ornamented with a large bunch of wheat; but the leader, or captain of the sports, was actually crowned with a whole sheaf. He was carried round the tables on the shoulders of his comrades, and the sports began by dancing round him in a general ring; at last he gave the signal, when they suddenly separated, and each fixed on his favourite damsel.

Dame Moreland gave us some nice syllabub;

and, highly gratified with the whole scene, we left her and her happy guests, in the midst of their merriment.

My uncle met there an old acquaintance, whom he had not seen or heard of for several years. When he knew him, this gentleman was in the fashionable world, but now he seems completely a farmer. He is much altered: my uncle did not recollect him; but he had so much the look and language of a gentleman, that my uncle's attention was attracted. His manner, to the inferior society he was with, was mild and good humoured, without any appearance of proud condescension, or of too great familiarity. My uncle spoke of him two or three times on our way home, as if he was surprised at finding him in his present situation.

28th. Sunday.—My uncle was speaking, this morning, of the general character of the Christian religion, as being so directly contrary to fanaticism and imposture. This is particularly marked, he says, by the manner in which it explains the obligations that arise from the different relations of civil society. He remarked, that “the chief object of every religious system, founded on imposture, has been to use its spiritual influence in acquiring political authority, and to consecrate the legislator by investing him with the sanctity of the priest or the prophet.

But Christianity, in this respect, in its original simplicity, stands totally free from all suspicion. The kingdom of our Saviour and his apostles was, literally, 'not of this world;' and in no instance whatever did they claim or exercise any degree of political power, or encroach, in the least, on the authority of the magistrate. Christianity released none from their duties, public or domestic;—they were still to be discharged by all persons, and not only with equal fidelity, but with more exalted views; no longer 'as pleasers of men, but as servants of God.'

"It seems almost surprising," said my aunt, "that enthusiasm, or rather bigotry, should ever have crept in amongst the professors of a religion that is so mild and so moderate in all its doctrines."

"Every line of the gospel," said my uncle, "expresses the same calm and merciful spirit, with which our Saviour checked the intemperate zeal of his disciples, who would have called fire from heaven on the Samaritans, for refusing to receive him. And take notice, that his heavenly wisdom not only prohibits every species of persecution, but reprobates all those overbearing feelings which leads to discord of every kind. How strongly do St. Paul's precepts enforce this forbearing principle! In the language of a heart overflowing with benignity, he says, 'Why dost thou judge thy brother; for we shall all

stand at the judgment-seat of God. We that are strong, ought to bear the infirmities of the weak. Wherefore, receive ye one another as Christ also received us.' ”

I am very careful, dear Mamma, to write down as much as I possibly can of our Sunday morning conversations, because I know they will interest you particularly ; and it is very pleasant to me to trace in these opinions of my uncle and aunt the very same sentiments which you have so often impressed on your little Bertha.

Aug. 29.—My uncle went to-day to bespeak some baskets from the blind man whom I mentioned before, and who I found out has a sick old wife, who cannot get out of bed. We all begged of course to accompany him. We found the old man sitting on a little bench at his door, talking earnestly to his daughter. She looked disturbed, and when we spoke to her, I observed that her colour rose and fell rapidly ; my uncle asked if she was ill, or if we came at an inconvenient time ?

“ No, no, sir,” said the old man. “ Bessy, my dear, go in and stay awhile with the old wife, perhaps she may want you.”

My uncle again said, “ that he feared he interrupted them.”

“ No, sir,” said the blind man, “ you do not interrupt us—I must work, happen what may ; but as you speak so kindly, sir, I will tell you how it

is: Bessy Grimley, sir," said he, "is not my daughter—I have none, sir; but I will say no more of that. It was the will of God to take all my own from me, and I won't complain—but Bessy is as good a daughter to me as if she had been my own. Some years ago, sir, her father was one of my neighbours; he was Joe Grimley, that you may have heard of, who kept the carrier's inn, at the other side, near the town; I lived there at that time.—Well, he broke, poor fellow, and had to go off in the night to hide from his creditors—his wife was taken ill that same night, because of the fright, I believe. She was put to bed, and had a fine little girl; but she never did any good afterwards, and before a month was over she was gone. The poor woman asked my wife to take care for a while of her infant, till her husband was no longer under a cloud; and we promised it, sir, and have kept our promise through all times, bad as well as good. While we were well to do, she had her share of all that my own had—and then, when times changed, we never forsook her. And now, sir, you see she is every thing to us. When I lost my sight, poverty came fast upon us—my wife soon after lost her health with grief, I believe, and can now do nothing. Our sons went away to the wars, and died in the field of glory—our two daughters worked too hard, I believe—Alas! sir, one after another declined away and

died. About four years ago, while Bessy was still a young creature, for she is only twenty-one now, a young man, a farmer's son, fancied her, and wished to marry her; but his father could not give him sufficient maintenance, and the poor girl had nothing you know. Young Franklin's love for her was of the right sort; he got his father's consent, and he went off to America to make a fortune. He went to the States, sir, and there he found plenty of work, and high wages; and though he was not naturally a thrifty lad, he wisely laid by most of his earnings till he had saved altogether a sufficient sum to buy a farm; and a few months ago, sir, Bessy had a letter from him, long after, I believe, she had begun to think he had forsaken her. He told her how he had prospered, and that he was going to complete the purchase of his land, and that he hoped, if she was still constant, she would go out to him—'if you will not come to me,' said he, 'I shall think that you never loved me, and I will try to think of you no more—if I can help it; but if you will come and be my wife, I will love and cherish you, and besides, you shall live like any lady in England.'

“Well, sir, the dear child would not leave us—my last daughter, my poor Jenny, had been taken a little before, and I knew not who to get to live with us; but I pressed Bessy to go at any rate. ‘No, father,’ said she, ‘I owe every thing

to you and to mother—you have nursed me and bred me up, and you have taught me all I know;—never, never will I forsake you, with your infirmity, or leave poor helpless mother to the care of a stranger. No, no, dear father, God would not send his blessing upon me, if I did so. Indeed, I never should be right happy with James, if I forsook you:—and if James Franklin loves me, he will say I have done right.'

“I will not take up your time, sir, repeating all the arguments I tried with her; but I assure you, I did my best to make her take the offer. If you could but know how for months and months she has tended us—patiently assisting the poor old woman night and day, and bearing with the crossness that a suffering creature will sometimes shew—often watching by her half the night—always ready in the morning to prepare our meals—many a time assisting me at my work—and besides, sharing our want of comfort, sir, for often we be hard put to it for a meal. Sir, she does it all with cheerfulness and kindness, and never did I hear a word of complaint from her. She works hard with her needle, too, to help to support us, and never seems to think of the riches offered to her. But now, sir, mark this—I have lived long, and I never saw it happen, that people who acted with a hearty desire of pleasing God, were left without reward. The religion that makes us do what is good, that is,

what I call true religion, sir, always brings happiness, somehow or other, with it.

“But I was a going to say, that this day my poor Bessy had a letter from James, telling her, that from some delay in the business, he had not bought the farm he intended when he received her refusal to go out to him. He says, ‘he felt a little angry at first; but he found he could not help loving her the better, and that he would bring his money to England, and be content with a smaller farm, near her own friends, and only work the harder for his excellent Bessy.’ He expected to be here about this time; and what between this sudden news, and the hope of so soon seeing him, and her joy at his constancy, she is a little unsettled, sir, to-day. But I pray God to give them happiness together, and reward her with children that will be to her, what she has been to me.”

I have tried to tell you this story in his own words, as well as I could. As soon as my uncle had bespoken the baskets, we came away; but he desired to be told when Franklin comes. He was very much touched with the poor man’s account of all Bessy’s goodness, so much, indeed, that even in repeating it to my aunt, when we came home, his voice quite faltered.

30th.—I have just chanced to discover that the bird which Dr. Buchanan described as

fastening the fire-fly to its nest, is the Bengal grossbeak. It is very common in Hindostan, where its Hindu name is *baya*. It is remarkable for its sagacity, its pendent nest, and its brilliant plumage*.

It is described to be like a sparrow in shape, and in the colour of the back; but the head and breast are yellow. These birds make a chirping noise; but have no song. They associate in large communities, and cover extensive clumps of acacia and Indian fig-trees with their nests; and also the *palmeira*, or wild date, on the leaves of which the Bengalese children learn to write. They prefer those trees which hang over a rivulet: the nest is made of long grass, which they weave almost like cloth, in the form of a large bottle. It is divided into three chambers, and is suspended firmly to a flexible branch, with the neck downwards, so as to secure the eggs and young from serpents, monkeys, squirrels, and birds of prey. The eggs of this little bird resemble large pearls.

The *baya* is wonderfully sensible, faithful, and docile, and never voluntarily deserts the place where its young were hatched. It is easily tamed, and taught to perch on the hand of its master; and may be taught to fetch a piece of paper, or any small thing that he points out; and so great is its quickness and dexterity, that

* See Forbes' Oriental Memoirs, and Asiatic Researches.

if a ring be dropped into a deep well, the bird will dart down, with such amazing celerity, as to catch the ring before it touches the water, and bring it up with apparent exultation.

A singular instance of its docility was frequently witnessed by the writer of this account. The young Hindu women, at Benares, wear thin plates of gold, called *ticas*, slightly fixed, by way of ornament, between their eye-brows. Mischievous young men train the *bayas* to go, at a signal given them, and pluck the pieces of gold from the foreheads of the women, as they pass through the streets, and bring them to their employers. They do not sing, but when assembled together, on a tree, they make a lively din or chirping; their want of musical talent, however, is compensated by their sagacity, in which they are not excelled by any feathered inhabitant of the forest.

There is another species of this family, found in Madagascar, which is sometimes called the *toddy* bird; it is very like the one I have described, and fastens its bag, or nest, which is made of straw and seeds, in the same manner, to a branch, over a stream. Though it builds a fresh nest every year, it does not abandon the old nest, but fastens the new one to the end of the last; so that sometimes five may be seen hanging one from the other. They build in

society like rooks, five or six hundred nests being often found on one tree.

Tell Marianne not to confound the tailor bird with these, as I did, for it is quite different—of a different family, and very superior to the *baya* in beauty; it even resembles some of our humming birds in shape and colour. There is the prettiest mixture in the male bird, of blue, purple, green, and gold. In order to conceal its nest, it first selects a plant, or bush, with large leaves, then gathers cotton, spins it into a thread, by means of its long bill and slender feet, and sews the leaves neatly together, as if with a needle; so that its nest is joined to one leaf, and covered over by the other.

31st.—Mary has been a very patient arithmetical mistress; I have endeavoured to be very diligent, and we are both now rewarded, she says, by my progress. I begin to understand the reason of each process, and there is some hope, therefore, of conquering my difficulties. My uncle said, I ought to trample on them—and I resolved to do so—like the boy, without a genius, in “Evenings at Home.”

My uncle frequently puts arithmetical questions to us, which we work in our minds, without the aid of pencil or paper. This requires some exertion, and was very difficult at first; but I

already perceive that my attention is much more under command than formerly. Clearness and quickness, in arithmetic, he thinks, are not only useful for the management of our common domestic affairs, but improve and strengthen our reasoning powers.

We pass our time here in a delightful manner—there is such a nice mixture of amusement and useful employment. My cousins read a great deal, and have much real knowledge. Accomplishments are not neglected; but my aunt thinks that most people make them of too much importance, as they should be the *ornament*, not the *object* of our life. Mary says she considers the various things she learns, not as tasks, but as the means of enabling her to get through the business of life with pleasure and success; and that were she to call them lessons, she should feel as if they were to be laid aside with childhood.

That reminds me of what my uncle said just after I came here.—“At your age, Bertha, all you learn must be voluntarily acquired, not hammered into your head. Whether it be science, or history, or languages—whatever you learn, try to feel an interest in it; you will then apply with energy, and what is acquired in that way will always be liked. Music and drawing are valuable pleasures; but they are only pleasures:

never forget that your mind is to be cultivated ; and that if a part of each day be not employed on objects of a higher and more useful nature, you are only preparing yourself for a trifling, selfish life."

I shall think of this advice every day, but I assure you, dear Mamma, that I will not neglect any of those things you used to encourage me to learn.

My cousins have no governess, and yet my aunt says, she has never found teaching them by any means laborious. She says, the chief part of education is to make children comprehend the difference between right and wrong—to teach them self-command—and to give them a love for rational occupation ; and then they do not require to be watched. You would be surprised to see how much they accomplish in the course of the day ; and yet they always seem at liberty ; every thing is done methodically. Besides their regular employments, many things are done privately without any show ; such as visiting the poor—and attending a school for poor children, which my aunt has established. It is in a small white cottage, about five minutes walk from the shrubbery. My aunt, or my cousins, visit it frequently—and I go there sometimes. I forgot to tell you in the right place, that I sing every day. We are

all three, just now, learning the glee of "Hark the Lark," that we may sing it on my uncle's birth-day. Caroline takes the tenor—she has a very good voice.

Sept. 1.—Last night, my uncle read a paragraph to us, from Ker Porter's travels, as a curious instance of the permanence of customs, in countries where the indolence of the inhabitants and a despotic government are continual obstacles to improvement.

"The Tigris is navigable for vessels of twenty tons burthen, only sixty miles above Bagdad; but there is also a kind of float called a *kelek*, having been in very ancient use, which carries both passengers and merchandise, from Mosoul to Bagdad. Its construction is singular; consisting of a raft in the form of a parallelogram. The trunks of two large trees, crossing each other, are the foundation of its platform, which is composed of branches of osier. To this light bottom are attached several sheepskins, filled with air, and so arranged, that they can be replenished at will. The whole is wattled and bound together with wicker work; and a raised parapet of the same secures the passengers. It is moved by two large oars, one on each side, and a third acts as the rudder.

"When these machines reach their place of

destination, and the cargo is disposed of, all the materials are sold, except the skins, which, being previously exhausted of air, are laid on the backs of camels, and return to Mosoul with their masters.

“ But the kelek is not the only vessel on these rivers, which may be traced to antiquity. The *kufa*, so named from an Arabic word that means basket, is still used there as a ferry-boat. Its fabric is of close willow work, and a good coat of bitumen completely secures it from sinking. Perfectly circular, it resembles a large bowl on the surface of the stream ; it holds about three or four persons, though not very agreeably ; and is paddled across with ease.

“ Herodotus,” my uncle added, “ exactly describes these boats ; he notices their circular form, the three oars, and their construction of willows and skins, and he mentions, that on their arrival in Babylon, the owners sold all the materials, except the skins, which were returned to Armenia by land. And it is a very curious testimony to the truth of that historian, that after the lapse of twenty-two centuries, we find the same customs and the same implements that he described, still in use.”

“ But is it not more extraordinary, uncle,” said I, “ that the people of those countries have not adopted boats like ours, which would convey

themselves and the rich merchandise of the east, so much more securely ?”

“ I do not think,” replied he, “ that it is very extraordinary, for we must consider, in the first place, that to build vessels like ours, would be too hazardous an exertion for a people who are governed despotically, and who can never feel secure of the possession of their property. And as to your ‘ rich merchandise of the east,’ you will not find much of that in the neighbourhood of Bagdad at present ; you read of such in the Arabian tales—but nothing remains now, but the misery, the decay, and the desolation, which were so often foretold by the prophets.”

2*d.*—I now perceive the meaning of the last part of Thomson’s description of happy Harvest Home—

Thus they rejoice : nor think
That with to-morrow’s sun their annual toil
Begins again the never-ceasing round.

For no sooner is that event over, than the labourer begins the preparations for a future harvest. The ploughs are all at work to-day, and I see the fields which have but just yielded up their rich burden, again prepared to receive the seeds of another crop. But this, my uncle says, is generally of a different species from the last, in order to make a change in the nature of the nourishment drawn from the soil. The ploughing in

of the old stubble enriches the ground, or some other manure is added; and, indeed, I see it is, as he says, "a continual chain of production and reproduction." In some parts of the country, wheat is not sown till early in spring; but this depends on the nature of the soil. Oats are always sown in spring, but that grain is not commonly cultivated in this part of the country:

"The rich soil, then, of Gloucestershire, is better suited to the food of man, than to the food of horses?" said I to my uncle. "Yes," he replied, "if you mean oats, by what you call the food of horses; but I assure you, that in a considerable part of Great Britain, the oat is the chief food of man—and most happily for him, he can live on it. In the cold hills of the Highlands of Scotland—and in the poor soil of parts of England and Ireland, the oat thrives better than wheat, and not being put into the ground till the depth of winter is past, it is less liable to be injured by the effects of frost and damp. Barley, too, has this merit of growing in poor or rather in light soils, and of supplying food for numbers."

I told my uncle that I was very desirous of learning something of agriculture. He advised me to observe the various operations of husbandry myself. "When you are interested in the progress of the work," he said, "you will find

it easy to comprehend the principles ; far better than if I were to give you a lecture every day on the subject.

“ Now is the time to begin. The harvest, you see, is safely lodged, and that of the coming year is preparing. In the warmer regions of the earth, a very slight degree of cultivation is sufficient ; and the natural sloth of man is encouraged by the small quantity of labour necessary to till the earth. Here, however, that is not the case : our climate is so uncertain, that constant labour is necessary to success ; and in every season of the year, some operations in husbandry are going on. The farmer must be at all times alert, either to prepare for something that is to be done, or to watch his growing crops, and help their progress by hoeing, weeding, earthing, and many other processes ; but then he has, at all times, the enjoyment that labour brings with it, and the happiness which arises from industry. His best feelings, too, are excited, for he receives, with a grateful heart, the success with which Providence blesses his labours ; or, if they fail— if the season is unfavourable, and blights his hopes, he learns to bear with humble submission, and sees that even the best human skill requires aid from Him who is Lord over the elements.”

3d.—Another letter from Hertford rejoiced

all our eyes yesterday. My aunt is so pleased with his journal, that she is sure you will like it too; and I have copied a large piece for you, dear mamma.

“The Isle of Sky has very much interested me. Sky is the Scandinavian word for clouds. It is the Isle of Mist of the Gaëlic poet. The whole island is extremely hilly, and in the north-east part of it the mountains are very picturesque, the rocks and cliffs often assuming a variety of forms, like castles and towers. One remarkable rock, which is said to be 160 feet high, represents a spire so exactly, that it is so called by seamen, to whom it is a well-known sea mark.

“The cliffs, on the eastern side of the promontory of Strathaird, contain a number of caves, one of which has been celebrated in history for having been amongst the places where Prince Charles concealed himself. We visited another, which is called the Spar Cave. The entrance is formed by a narrow fissure in the cliff, which, for the first hundred feet, is dark and wet: then comes a steep acclivity; but that once surmounted, the whole interior comes into view, covered with stalactites, disposed in a variety of grotesque forms, and rising to the height of upwards of forty feet. In the floor there are numerous little pools, which are filled with groups of crystals, in a state of constant aug-

mentation, and which afforded us a gratifying opportunity of seeing the process by which calcareous spar is formed.

“ The coast scenery is, in many parts, very sublime. A series of columnar cliffs stretches to Loch Staffin, presenting the general features of the ranges of Staffa, but on a scale of five or six times the magnitude. In one place, these rocks represent a circular temple, of Greek architecture, so exactly, that the artist, in sketching it, might be accused of forcing nature into the forms of art. The detached state in which many slender groups remain, after the surrounding parts have fallen away, is a singular circumstance, that sometimes occurs among these columnar ranges. From their mode of wasting, the summits of the cliffs are frequently crowned with pinnacles; and, in some instances, single columns are seen, in front of the colonnade, appearing like the remains of a ruined portico. One of the most remarkable appears to be about 200 feet in height; its lower part clustered, and the pillars terminating in succession upwards, till a single one remains standing alone, for the height of thirty or forty feet, and apparently not more than four or five in diameter.

“ There is a cascade here, which is very striking, from the unbroken manner in which it falls over a perpendicular cliff, not less than 300 feet in height; but when the squalls, which

blow from the mountains in this stormy region, are violent, very little of the falling water reaches the waves below.

“ We then visited Loch Scavig ; and after passing the river which runs foaming over a rock into the sea, a long valley suddenly opens, enclosing the beautiful lake Cornisk, on the black surface of which a few islands, covered with grass and juniper, form a striking contrast to the absence of all verdure around.

“ It is an exquisitely savage scene, and was to me particularly interesting, because I had lately read again the Lord of the Isles ; and here I beheld the truth of its descriptions, and felt anew the sadness and horror of the death of Allan. We often stopped, on our return, to admire the effects of the storms. Stones, or rather large masses of rock, of a composite kind, quite different from the strata of the lake, were scattered on the rocky beach. Some lay loose, and tottering upon the ledges of the natural rock, so that the slightest push moved them, though their weight might exceed many tons. The opposite side of the lake is pathless and inaccessible, and the eye rests on nothing but barren, naked crags, though of sublime grandeur. Indeed, our favourite Scott says, truly—

For rarely human eye has known
A scene so stern as that dread lake,
With its dark ledge of barren stone.

The wildest glen, but this, can show
 Some touch of Nature's genial glow.
 But here—above, around, below,
 On mountain or in glen,
 Nor tree, nor shrub, nor plant, nor flower,
 Nor aught of vegetative power,
 The weary eye may ken ;
 For all is rock, at random thrown,
 Black waves, bare crags, and banks of stone,
 As if were here denied
 The summer's sun, the spring's sweet dew,
 That clothe, with many a varied hue,
 The bleakest mountain-side*.

4th. Sunday.—My uncle read some parts to us, this morning, of a book which he likes very much—"Sumner on the Ministerial Character of Christ." I intend soon to read it. There was a curious fact mentioned in the part my uncle chose, which, however, must be well authenticated, or Sumner would not have given it.

In speaking of the gradual manner by which converts were taught the truths and mysteries of the Gospel, he says that the *Catechumens* were not permitted to say the Lord's Prayer till after they had been baptised, and had therefore been thoroughly instructed in the Gospel. The Christian converts, he says, were divided into the *Catechumens*, or learners, and the *Fideles*, or believers; and there was a great distinction maintained between these classes, in the primitive church. The *Catechumens* were allowed

* Lord of the Isles, c. iii.

to hear the Scriptures, as well as the popular discourses upon them, and upon points of morality ; but it was not till after baptism, when those converts became Fideles, that they were allowed to partake of the Lord's Supper. Another privilege was, to join with the ministers in all the prayers of the church. More particularly, the use of the Lord's Prayer was only permitted to the Fideles ; it was considered an honour, to be conferred only on the most perfect Christians, to be allowed to use it ; and it was therefore called, by some of the Fathers, " the prayer of the believers."

After my uncle had finished reading what I have only written here from memory, we had some conversation on the subject of early religious instruction ; for a lady was present who disapproved extremely of not teaching the Lord's Prayer to little children, as soon as they could speak. " It is so pretty," said she, " to hear them lisp out prayer and praise."

" Yes," said my aunt, " if they understand what they lisp ; but if they do not, I consider it as a sort of profanation."

" And would you not teach children to pray while they are young?"

" I do teach them to pray," replied my aunt, " but only in the most simple manner, so that their little minds may accompany their words, and that they may not acquire an early habit of

inattention, from repeating phrases which they do not comprehend."

"You know, my dear Madam," said my uncle, "that in education nothing should be done without object. Let us consider the object of teaching a young child to pray: is it not to give it an early feeling of devotion, and to implant the seed of what we hope will grow and ripen with the child's increasing strength?"

"Oh! surely, that, you know, is what I mean," said the lady.

"Therefore," said my uncle, "I would endeavour to lead the little heart to rational prayer, and to real piety, by teaching it only what suits its comprehension, and never suffering it to repeat, by rote, what it cannot distinctly follow."

"Then I suppose," said she, "that you would not take children to church."

"Certainly not, while their minds are still in an infantine state."

"We have never taken any of our children to church," said my aunt, "till they had obtained a certain portion of religious knowledge. The consequence has been what we expected; for I must say, that our children are not only remarkably attentive to the service of the church, but do, I believe, really join in it with their hearts."

The lady appeared to be satisfied; and my uncle, turning to me, said, "Bertha, my dear, pray tell your mother what we have just been

saying. Many years ago she convinced me of the justice of these ideas ; your aunt and I have adopted them from her ; and you will judge for yourself as to our success."

I have written this conversation as well as I can remember it ; and I may add, dear Mamma, that nothing can be more just than what is said of my cousins, for they are truly religious, but without any show or ostentation. Some day I will send you the nice simple prayers which have been composed for little Grace.

5th.—Besides the two species of the little bird that builds pendulous nests, which I have already mentioned in my journal, my aunt has just told me of another, the Sociable grossbeak. It is about the size of a bulfinch, brown and yellow, and is found in the interior country at the Cape of Good Hope. Its habits were thus described to my aunt:—

These birds live together in large societies, and build in a species of acacia, which grows to an uncommon size ; they seem to select it on account of its strong branches, which are able to support their extensive buildings, and also for its tall, smooth trunk, which their great enemies, the monkey tribes, are unable to climb. In the tree described to my aunt, there could not have been fewer than eight hundred birds residing under a single roof,

which appears like thatch, and projects over the nests, and is so smooth and steep that no reptiles can approach them. The industry of these birds is equal to that of the bee: throughout the day they appear to be busily employed in carrying a fine species of grass, which is the principal material they employ in the construction of this extraordinary work, as well as for repairs and additions.

It appears that, as they increase annually in numbers, they join nest to nest, till at last the bough on which they have built gives way under their weight, and they are forced to seek for a new dwelling. One of these deserted colonies was examined, and found to be as ingeniously contrived within as without. The entrances formed a regular street, with nests on both sides, at about two inches distance from each other; and it was evident, from the appearance, that a part of it had been inhabited for many years. The grass with which they build is called Boshman's grass, and its seed is their principal food; but the remains of insects, found in their nests, prove that they prey on them also.

6th.—I wonder, dear Mamma, whether it is as difficult to others, as it is to me, to lay aside old habits. I must acknowledge, that I have been of late too much addicted to lying in bed, and have quite disgraced myself, after having for

some time made great efforts. It is a strange sort of indolence that chains me down, and makes me delay, from moment to moment, the trifling exertion of jumping up;—it is not sleep, for I am generally awake, merely thinking, in a confused sort of way, of things that are past, or things that I intend to do. My aunt says, that were I asleep all the morning, she would not then struggle against my habits, for my constitution might require sleep; but I have not that excuse to plead.

When I do get up early, there is no time of the day that I enjoy so much. The brightness of the morning sun makes the dewy trees and grass look so beautiful; and then the birds seem so happy, and so active, in the sweet fresh air. These are pleasures that I knew not till I came to England, and they are every day within my reach. I have determined not to let them slip any more. You have often told me of the danger of giving way to bad habits, but nothing teaches one so forcibly as experience.

My aunt and uncle are both of them early risers; and they consider it of great importance that young people should so manage their time as to have some part of every morning to employ in serious reading. “I wish my little Bertha,” said he, “to bestow ample time on the neatness and propriety of her dress; but it is still more necessary that she should never feel in

the least hurried in the performance of those religious exercises with which every day should begin, and which should be gone through with calmness and leisure before she joins the family circle at breakfast, and before the cares or pleasures of the day mix with her graver thoughts."

They spoke to me very kindly on this subject yesterday, and I think and hope that I shall not again shew myself unmindful of their advice.

I have consulted Caroline about it. I find that she and Mary are always up early, and are seriously engaged for a part of the morning.

Caroline is indeed an extremely early riser, and she has engaged to rouse me regularly at a reasonable hour. She began this morning, and to encourage me, she read a pretty little poem on early rising. By copying it for Marianne, I shall recollect it the better.

Good morn, good morn—see the sweet light breaking,
 O'er hill and dale to greet thy waking !
 The dark grey clouds are flitting away,
 And the young sun sheds forth a twilight ray ;
 And an halo of bloom is in the skies,
 Yet the night of slumber is on thine eyes.
 The dew lies fresh on the opening flower,
 And sweetly cool is the youthful hour ;
 And the birds are twittering their tender song
 The bright and weeping boughs among ;
 And all seems fresh and with rapture rife,
 While wakening into conscious life.
 Oh, rouse thee ! rouse thee ! the precious time
 Is fleeting fast—and merrily chime
 The morning bells ; and the beautiful view
 Thy touch should arrest, is fading too !

The glow of the cloud is darkening fast,
 And the sunny mist is almost past ;
 And thy lyre is lying all unstrung ;
 And thy matin hymn is still unsung ;
 And thy lip is mute, and thy knee unbending,
 Nor is yet the sweet prayer to heaven ascending.
 —What ! slumbering still ! Arise, arise !
 For thy lively dreams are fantasies,
 And mock thy waking ; but come with me
 And listen to life's reality.
 And come and muse on that deeper sleep,
 O'er which Hope will her silent vigils keep,
 And soothe and shield with her guardian wing
 The Spirit's secret fluttering ;
 And lead it on to that brighter day,
 Which knows no evening and no decay.

7th.—My uncle says, that agriculture is only gardening on an enlarged scale ; and that all the implements are only magnified garden tools. The sharp edge of the sloping ploughshare turns up the earth in the same manner as the spade, which is put into the ground in a slanting direction ; but the plough being drawn by animals, whose strength is far superior to that of man, in a few hours the earth is separated and thrown back, in a space that, to be dug, must have occupied days.

The harrow is only a large rake, and is useful, not only in breaking the clods of earth, but in covering over the newly sown seeds. What useful inventions were these machines, and all the improvements that have been made in them !

My uncle explained to me, that vegetation is the common source from whence all animals

derive their food; either at once, from the growing plant, or at second hand from their prey, who had been nourished by it; and that vegetables, in their turn, live on all that has already lived and vegetated. There is a continual succession of production and decay; for it is by decay, and the decomposition that follows, that nature restores to the ground those substances of which it is robbed by vegetation.

But when the produce of the soil is removed for the use of man, and not left to immediate decay, the agriculturist is obliged to assist nature, by supplying other decayed vegetable matter, or else, by mixing it with some artificial manure. To do this more effectually, people are obliged to study the principles of the different soils, in order to know what species of manure should be applied to fertilize, or to correct them; to render one, for instance, more alkaline, or to lessen the siliceous nature of another. Even rest restores to the earth some of its productive powers; and when it is ploughed up, and long exposed in what is called a *fallow*, the air has considerable influence in improving it.

This led to a conversation on the many varieties of soils; and my uncle says I shall become acquainted with them in time. They are all well known to good farmers, who can thereby determine what crops are adapted to each. Who could have thought, Mamma, that all this

skill and knowledge was necessary to a common farmer! I imagined that any one could sow what seed he chose, and then reap and gather the produce; but as to feeding the earth in return for the nourishment drawn from it, I cannot say that ever entered my head. So, you see, that I have learned something to-day—something real, Mamma.

8th.—My uncle has been very much interested in the account which Ker Porter gives of Babylon, in his second volume, and has been so kind as to read to us the description of what this great city was, when at the summit of its glory; and what it is now, and has been for so many ages.

According to Herodotus, the walls of this prodigious city were sixty miles in length, and formed a square of fifteen miles each way, in which gardens, lawns, and groves were included. They were built of large bricks, cemented together with bitumen, and, he says, were 350 feet high, and 87 feet thick, and protected on the outside by a vast ditch, lined with the same materials. There were 25 gates of solid brass on each side, and from every gate a street of 150 feet wide crossed the city to the opposite gate. According to his description, the temples, palaces, and hanging gardens were equally wonderful. A branch of the Euphrates flowed through the

city, from north to south. To prevent this great river from overflowing, it was confined by walls or quays of brick; and while these were building, the course of the river was turned into a basin, forty miles square, and thirty-five feet deep, which had been cut for the purpose of receiving it.

The wealth, and power, and grandeur of this magnificent city, is strongly expressed in the Scriptures, where it is spoken of as "The lady of kingdoms given to pleasure, that dwellest carelessly, and sayest in her heart, I am, and there is none beside me."

Among its vast buildings, was the Tower of Babel, erected ages before, by Nimrod, on the plain of Shinaar—a pyramid, or rather a mountain of masonry in that form, and on which it is supposed that, in after ages, Nebuchadnezzar raised the temple of Belus. This temple was of such prodigious magnitude, that having been destroyed by Xerxes, it cost Alexander, who intended to rebuild it, the labour of 1600 men for two months, in merely removing the rubbish caused by its destruction.

Of all these immense buildings, the traces can now be scarcely distinguished; confused heaps of bricks extending many miles, and grown over with grass, still exercise the ingenuity of travellers and antiquaries. In this dreary waste, there are, however, three very conspicuous mounds.

The principal one, now called the Birs Nimrod, is supposed to be the temple of Belus. Ker Porter says that, in passing this barren tract, his eyes ranged on all sides, for something to point out the remains of this once imperial city; but all was withered and gone, and comparatively level with the horizon, except where the gigantic Birs Nimrod presented itself, "standing in the solitary waste, like the awful figure of Prophecy, pointing to the fulfilment of her word."

The two other mounds of ruins are supposed to be the citadel and the palace. The former is of an oblong shape, and flat at the summit; and several excavations which have been made in it by the Turks, when searching for hidden treasures, are now occupied by wild beasts. In his second visit, his party suddenly halted, on seeing several objects moving about the summit, which they at first imagined to be Arabs; but which were soon discovered to be lions.

What numerous reflections this sight must have produced!—Those savage animals thus wandering amidst the towers of Babylon, and dwelling within the cavities of her once magnificent palaces, proved how faithfully the prophecies had been fulfilled, which relate to her fall, and how exactly the words of Isaiah have been verified,—“wild beasts of the desert shall lie down there, and the houses shall be full of doleful creatures”

Among the fragments, and elevated on a sort of ridge, he found the famous solitary tree which has escaped the general destruction. It bears the marks of almost as great antiquity in its appearance as tradition gives it. The Arabs call it *athelé*, but its species was quite unknown to him; the trunk must have been enormous, and now, though hollow and shattered, it supports very large spreading branches, which are adorned with tress-like tendrils resembling heron feathers. These long and delicate tendrils bend towards the ground, like a weeping willow, and while gently waving in the wind, they make a low melancholy sound.

The Euphrates wanders in solitude through this desolate region, its banks are covered with reeds, and now unrestrained by its former stately quays, it annually overflows the country; producing high rank grass, and leaving stagnant pools and swamps among the hollows of the adjacent plain.—“I will make thee a possession for the bittern, and pools of water.”

Upon the whole, though so little remains to point out the several parts of this once stupendous city, there is enough to convince the attentive examiner, that he is on the very spot where the hand of God wrote on the wall the awful and well known denunciation against Babylon!

“How the scene is now changed! At that

time these broken hills were palaces—these long undulating mounds were streets—and this desolate solitude was filled with the busy subjects of the proud daughter of the East.”

My dear Mamma, I hope you will not think that I fill up my journal with too long extracts ; but I was so much interested in all that relates to Babylon, that I could not deny myself the pleasure of copying some parts of this great book, which I am sure will not for a long time make its way to Rio.

Sept. 9.—Do you recollect, dear Mamma, that I mentioned in my journal about a fortnight ago, my uncle's surprise at meeting an old acquaintance at the harvest home, who, when he formerly knew him, was in the gay world ; and who, it then seemed very improbable would have to lead a rural life, and to associate with plain farmers ? My uncle's notice was attracted by his very gentlemanlike air, even in the homely dress of a farmer ; and when he discovered who he was, he doubted at first whether he should address him, as he feared that the evident change in his situation might make it disagreeable to him to be recognised. However, they did renew their acquaintance, and my uncle obtained permission to wait on him.

He rode to see him in a few days, and was much charmed with the neatness of his farm

and cottage, and, indeed, with all his family. He lives on the borders of the forest, as well as my uncle, but at a distance of several miles from this place. My uncle gave us a little sketch of his history in the evening, as nearly in his own words as he could; and he was so kind as to permit me to tell it to you, because he thinks you once knew this gentleman yourself. I have never heard his name, so I do not know what to call him; and I will try to write it just as my uncle repeated it to us:

“At the period that you knew me,” said he, “I was moving in the most fashionable circles, occupied by the world, and all its silly amusements, and without any other object than to amuse away my idle life. I travelled on the continent—I afterwards went into the army; but at home or abroad, I was pursued by that *ennui* which is always the consequence of idleness. I need not recount to you, sir, all the extravagant follies I committed in search of pleasure, that brilliant, but deceitful phantasm, which leads us into error, and betrays us to disappointment.

“From the time that I was a schoolboy, pleasure had been my only object; the mistaken indulgence of my parents increased the fault, and diminished the enjoyment; for it left me no difficulties to overcome—no efforts to make. My father was rich, and profusely generous to me;—and though I was the second son, I knew that

my mother intended to bequeath me her estate, which was in her own power.

“At last I grew tired of idle prosperity; I sighed for novelty to relieve me from the burden of time; and I sometimes felt that I had a mind capable of more than had hitherto occupied it. Having gone with some of my friends to shoot on my mother's property of Strath-morton, I was attacked by a feverish and tedious cold; and as my gay associates left me when I could no longer join in their pursuits, I had abundant leisure for reflection. The good-natured old steward was my principal visiter, and his conversation generally turned on the miseries of not having a resident master at Strath-morton; for my father and mother always resided at their place in Sussex; and a poor tenantry and impoverished land were of course the effect. This led me to think of my insignificant life. I began to wish for the variety of being useful; and at last I determined to become an active country-gentleman, in order to become of consequence, as well as for the pleasure of having a new object. The motives were undoubtedly erroneous; but I tell them, sir, in order to shew you the progress of my mind.

“I readily obtained my father's permission to make Strath-morton my abode; and with his sanction, I entered on my new life as soon as it was possible to make my arrangements. The novelty alone could at first have made me endure

it; but I found a sort of pleasure that seemed extraordinary at the time; and in the course of a few months I had, with the natural energy of my character, quite devoted myself to my new occupations. My mother was gratified to see me interested in the place that was to become mine; and full powers were given me to thin the ancient woods, to make whatever changes I pleased, and to lay out money to a considerable amount in improving the estate, which had been much neglected. By degrees, the increase of knowledge, and the encouragement of a little success, made these employments become less irksome; and I began to feel a real interest for the tenants and labourers. I found that I could easily promote their comfort; I felt that I was of consequence, and I began to enjoy all the pleasures of assisting the industrious.

“I had been attached to a young lady whom I had known in London only. I knew that, though fashionable, she was well principled, clever, and literary, and I imagined that I was equally well acquainted with all her tastes. We married: I expected her to be perfect; and when I brought her early in the summer to Strath-morton, I anticipated the delight of having a companion to sympathize with, and to assist me in the plans to which I had devoted myself. Judge then of my disappointment at finding, that she had no taste

for a real country life, and disliked its monotonous occupations. For some time, however, we lived happily, till I lost my kind, indulgent father, who was succeeded in his honours and estates by my brother; and as I perceived that my expensive improvements could not well be continued, now that I had no longer my father's wealth to support them, I took that opportunity to indulge my wife in a visit to the continent.

“On our return to England, my mother was apparently in health, but in a few weeks she was suddenly seized with a severe illness, and died before she could collect her thoughts sufficiently to arrange her affairs. Forgetful of the uncertainty of life, she had made no will; and her estate, which I had long considered as my own, was inherited by my brother as heir at law.

“What was now to become of us? My father, anxious to preserve the wealth of the head of the family, and knowing that Strath-morton was to be mine, had left me but a very small property; and as my brother was not sufficiently convinced of what had been my mother's intentions, he retained her estate.—My wife's fortune had been small.—In short, we were suddenly reduced from the thoughtlessness of affluence, to absolute poverty. I might, perhaps, have obtained some employment, which would have just enabled us to live; but I was not much inclined to take up

my abode in London, in so different a style from that in which I had always appeared there. Vanity and pride survive all the other passions—and my country life had rather increased than subdued them. However, though painful to me to return to London, I determined to do so, if my wife approved; and I left all to her decision; I knew she did not love the country, and I anticipated that her sentence would be some hard-working office for the rest of my life.

“ But I little knew the soundness of my wife’s judgment, and her generous forgetfulness of self. Her decision was soon made; ‘ In our circumstances,’ she said, ‘ and for our children’s sake, a laborious country life will be vastly preferable to the confined, and not less laborious, situation of a clerk, or some such thing in town; we can more easily submit to deprivations, and shall be better able to support and assist each other’s toils.’ I reminded her that she disliked the country—‘ Oh,’ said she, ‘ think no more of those fancies; it is on ourselves alone, and not on the gratifications of either town or country that our happiness must now depend. Let us take a small farm—let us be really farmers.—You will be able to apply the agricultural knowledge you have acquired; and I will not neglect my part. Our children must be bred up usefully—they will not be accomplished—but what does that signify?—they will

be our real comforts, and we can teach them real virtues.

We'll form their minds, with studious care,
To all that's manly, good, and fair.

“ I gladly consented, and was so fortunate as to procure this farm at a reasonable rent, and with a comfortable cottage. My creditors saw that my intentions towards them were honourable; and satisfied with the assignment of my little patrimony, they insisted on my retaining my books, and such furniture as could be useful. We soon removed; and firmly resolved to submit to any distress, however abject, rather than get into debt. I may now acknowledge that our distress was sometimes severe, while learning the little details of economy. The art of good management, if not acquired in youth, can only be gained by bitter experience. You will perceive, then, that I became a real hard-working, drudging farmer; and you will wonder, probably, how we could get on, when I had such an ignorant wife.—My dear sir, I cannot do her sufficient justice—I cannot describe the strength of mind with which she cheerfully submitted to the change of life, nor the energy with which she sought the common knowledge requisite for our situation. She had proposed this life of labour, and she almost seemed to enjoy it, and to find a pleasure in her continual exertions. For some years we

could only have one servant, a poor hard-working, willing creature, who, though doing her best, could not do half that was necessary for our family. But this best of wives, instead of unreasonably expecting every thing from one poor slave, as I might almost call her, worked hard herself. She who had been used to late hours, and luxurious ease, was up at six every morning, to superintend her little household, and to make with her own hands most of the preparations for our meals. She was the same in every thing, and never uttered a complaint.

“ Oh ! how often in these years of distress, when every shilling we could spare was devoted to discharging old debts—did I think of the sums I had lavished in my days of gaiety—on useless trifles—those trifles that are well named ‘*tis buts*’—on dress—on all those indulgences of appetite which leave no pleasure behind ; and the taste for which I can distinctly trace back to the habits of petty self-indulgence permitted at our great schools.

“ The first winter of our residence here was one of such hardship, that I trembled for my wife’s health ; but Providence graciously supported her. It was at that time that a circumstance occurred, which I think will interest you. We had an infant, of a few months old, who suffered much, by the anxiety that my wife, who was nursing it, secretly felt,—the poor babe sunk.—

Its decline was rapid ; and before we were aware of the danger, we found that it was actually dying. It was on a dreadful evening of snow and storm, that we sat watching over our expiring babe. One candle lighted our little room, and, cold as the weather was, we could only afford a small fire ; my three elder children were gathered close round it ; and one began so mildly, but urgently, to ask for her supper,—that a piece of bread was given to her. We heard a violent knocking at the door, and the maid having opened it before I could go myself, two men rudely pushed by her, and forced their way into the room where we sat.—You may imagine the indignation and horror I felt at such an intrusion, and at such a moment.—I asked, as calmly as I could, their business, and one of them said—‘ Our business, sir, is to demand assistance ;—you may call it charity if you like, but as we are driven by want of work to starve, we must take by force what is not willingly given to us ; my children have not a crust to eat, and I am resolved to procure something for them ; this is the first time we have ever attempted to get by force what we would willingly earn by our labour.’

“ ‘ My friends,’ said I, ‘ I am a stranger here, and in distress myself—misfortunes have reduced me as well as you—and the whole sum that I am at present possessed of, will scarcely do more than pay for the funeral of the infant whom you

see dying.—I will give you a part of it ;—if you take it all by force, I cannot resist you. All I can do is to advise you not to enter on this lawless life—why do you not apply to the clergyman of the parish?—try every honest means before you attempt to live by violence—but if once you stain your character, nothing can restore it.—Return to your homes—I promise never to betray you, unless you renew such conduct—take this money—and perhaps to-morrow may bring you employment or assistance.’—‘And here,’ said my little girl, ‘here, take this bread to your little children, it was my supper—but I can do without it.’

“The man was touched by this action of the child,—his voice faltered as he thanked me for the small sum I had put into his hand, and with his companion went away quietly. They followed my advice, and applied next day to the village pastor, who had but lately returned from an absence occasioned by ill health ; and who as yet had known nothing about me. He soon found his way to our cottage—sympathized with equal delicacy and kindness in our affliction, and requested as a favour, the permission of sometimes visiting us. The friendship of Mr. Benson, who is an example of the virtues and graces of piety and benevolence blended together, has been our greatest source of pleasure ever since the sad occasion of his visit ; and I may say, that I owed

it to the gratitude of the poor mistaken men whom I had rescued from guilt. I found that they were Irishmen; and that they had been driven as vagrants from parish to parish. I soon had it in my power to procure them work, and their warm hearts do, I believe, feel endless gratitude.

“As my eldest boy was a very promising child in disposition and intellect, my good friend Mr. Benson made it a point, that he should be allowed to assist in his education; he has completely prepared him for the university, and through some interest which he possesses, he was so kind as to place him there a few months since, at a very trifling expense to me. Through him, also, another happy circumstance occurred to me two or three years ago;—a connection of Mr. Benson's, who had lately come into possession of an estate in this neighbourhood, having met me at the parsonage, requested me to be his agent; giving me full powers to plant, improve, and superintend the management of the whole property. This to me is a most interesting employment; and as I give full time and attention to it, I consider my salary to be fairly and honourably earned.

“Amidst all her laborious vocations, my wife continued to educate our daughters. Her main object has been to give them religious principles, and that solid kind of knowledge, which a well-taught female should possess.

She has made them, as I hope you will find, gentlewomen in their manners, but industrious and independent; and she has, I think, inspired them with her own neatness and love of order, which never ceased, even when our distress might have been some excuse for negligence. We had, as I mentioned, preserved our books, and with these, and the aid of her own admirable talents, she has formed their minds, and I may say, their hearts; for she has taught them to love being useful, and never to turn from a poor applicant under the selfish plea of their own poverty, or the specious one of public duty.

“We have gradually made our cottage larger: clean, neat, and cheerful, it always was; but now it is really comfortable. Here I wish always to remain—it has been the scene of happiness, springing from active exertion, and humble religious trust.”

10th.—My uncle had a visit to-day from a Mr. H——, who is just returned from Stockholm, where he has been for some months. He told us a great deal of the manners and customs of that city; and it is curious to observe, how exactly its present state agrees with the account given by Dr. Clarke, who says, “that if a razor was to be put in order, or an instrument repaired, they were sent to London; and that such was the scarcity of vegetables, that there was a con-

stant importation of them from other countries. When he was at Stockholm, there were thirty-six wig-makers, and only one cutler—forty-seven vintners, and not a single chimney sweeper—nineteen coffee-roasters, though coffee had been prohibited—one hundred and thirteen keepers of ordinaries, and only one tool grinder; iron and tar were to be had in plenty, but there was nothing good manufactured in the country, excepting Scania gloves, which are the best in the world. Almost every thing imported from England was contraband, and, therefore, clandestinely sold, at an immense price. The inferiority of Swedish workmanship, and often the total want of the article itself, is very striking—a whole day may be lost in searching for common necessaries.

When Clarke was at Christiana, in Norway, a rich merchant told him, that all the linen of his family was annually sent to London to be washed. "We cannot go," said he, "to market, or to shops, as you do in an English town: here, those who would live handsomely, must collect into their own warehouses from all parts of the world, whatsoever they may want for a whole year's consumption." Mr. H. says, "there are few hands in Sweden expert enough to repair machinery; and the clumsy machines used in the mines, is a proof of the small progress they have made. As to gardens, scarcely any body thinks of cultivating vegetables enough for them-

selves, much less of having them for sale; and England still largely supplies that article of food to Stockholm."

In speaking of this, after Mr. H. had gone, my aunt reminded us of the facts we had lately read in Ker Porter's *Persia*, respecting the manner in which some customs continue unchanged for ages; but she thought this far more extraordinary in Sweden, which is in constant communication with the rest of Europe.

"It is partly caused," said my uncle, "by the nature of the government, which tends rather to repress, than to excite speculation. Some improvement, however, does take place: a friend of mine, Mr. B., thirty years ago, saw in a gentleman's garden at Stockholm, a little bed of potatoes, which the owner shewed him as a great curiosity. 'They tell me, sir,' said the gentleman, 'that in some countries, the roots of this plant are eaten as common food by the people.' Yet now," continued my uncle, "this potatoe, which was then such a wonder, is generally cultivated throughout all Sweden, and is liked by all classes."

11th. Sunday.—Wentworth asked my uncle to-day, what is meant by—*thy kingdom come*—in the Lord's prayer? "What do we exactly pray for when we repeat those words?"

"I believe," said my uncle, "that they have

been variously explained. By some they are supposed to allude to that period, when the Messiah will again dwell on the earth, and when wickedness and misery shall finally cease. Others apply them to the universal diffusion of the gospel; when all nations will become the people of Christ; and when his kingdom may therefore be truly said to extend over the whole world.

“But besides these general, and I fear, distant applications of the expression, there is another, and a simpler one, which more immediately directs itself to our present feelings and actions: when the influence of Christ has overcome all our sordid and selfish motives; when his humility is the example we endeavour to follow; when our passions are controlled by the purity of his precepts; when our actions are subjected to the dominion of his will; in short, when our love, gratitude, and obedience to him, form the governing principle of our lives: then, indeed, it may be literally said, that his reign has been established in our hearts, and that his kingdom has come.

“We may certainly interpret these words as relating either to the future kingdom of the Messiah on earth, or to the progress of Christian knowledge in humanising the savage and enlightening the heathen; but we are scarcely authorised to suppose that our prayers can be of

any avail in hastening the time appointed by immutable Wisdom for those important events. When, therefore, in using this sublime and concise prayer, we mean to express either of these significations, we must perceive that they do not possess that second quality which seems to me to be essentially necessary in every prayer proceeding from man—namely, that while we address our petitions to God, they, at the same time, should convey an admonition to ourselves, and instruct us how to do our part towards attaining those objects for which we supplicate.

“ But if, on the other hand, we apply those words to the dominion of Christian principles in ourselves, we are given reason to hope that the petition may be granted, because we pledge our own humble, but earnest efforts, as the requisite condition on which we presume to pray for it; and for these reasons I am inclined to consider that this is the most important meaning of the words, *Thy kingdom come.*”

12th.—Hertford's letters have, of late, been very frequent. I think the following extract will amuse you.

“ The Druidical monuments of the island of Lewis are remarkable. Scotland possesses many specimens of those structures; but, except in Lewis, they are rare among the Western islands. In the neighbourhood of Loch Bernera, several

of them are comprised in a comparatively small space : a square mile would include the whole. They are situated in an open, fertile tract, on the borders of an inlet of the sea ; and if they were really temples, dedicated to Druidical worship, so many being collected together would almost imply that this spot was the seat of a college. Next to Stonehenge, they are, perhaps, the most interesting remains which have been found in Great Britain.

“ The largest of these structures has the form of a cross, with a circle at the intersection, and a large central stone. Its total length, at present, is 588 feet, but other stones are found, in the same direction, for above 90 feet farther ; so that we may suppose the whole length to have been nearly 700 feet. The cross line, which intersects that one at right angles, measures 204 feet, but it probably was much greater ; and the diameter of the circle that occupies the interior of the cross, is 63 feet. The stone which marks the centre is 12 feet in height ; the other stones rarely reach beyond 4 feet, though a few of 7 or 8 feet high are to be found, and one reaching to 13 is seen near the extremity of the long line. The intervals between them vary from 2 to 10 feet ; and the whole number of stones, either erect or recently fallen, is forty-seven. The aspect of the whole work is very striking, as it occupies the top of a gentle eminence of moor-

land, and as there is no other object, not even a rock or a stone, to divert the attention, or diminish the impression which it makes.

“ There are some circles of stones to be seen in the neighbourhood, but they are less perfect ; and several large solitary stones, apparently of a monumental nature, are found in other parts of Lewis ; but the *cruciform* shape of the structure which I have described is a remarkable and peculiar circumstance. No ruin, of that form, has been traced beyond the introduction of Christianity ; and I believe it is agreed, that where the figure of the Cross is found carved on buildings of higher antiquity, it has been done by Christians, who have converted the monuments of ancient superstition to their own purposes. But such attempts cannot be supposed to apply to such an assemblage of large rude stones ; while the circular parts, and the general resemblance of the whole to other Druidical structures, seem to prove its ancient origin.”

13th.—My uncle is so kind as to permit me to sit in the library whenever I like ; and though he studies a great deal, he says my being there does not disturb him. He seems pleased whenever we young people go there, and very often lays aside what he is engaged in, to converse with us, or shew us something curious. Some-

times he takes that opportunity of giving a little gentle reproof; for he is so considerate of our small feelings, that he seldom exposes any one publicly in the family circle, knowing that half the good is destroyed by the mortification.

I was up remarkably early this morning, and went to the library before breakfast, expecting to be commended a little for my improvement in early rising. After our morning greetings, my uncle did commend me very kindly, and said that the pleasure of seeing me in the library was doubled by the satisfaction it gave him to find that I had such power over myself. I was beginning to exult a little inwardly at this, when he added, "But now, Bertha, as there are few pleasures without alloy, I must cloud this praise a little by doing what I dislike—by finding fault."

You may suppose, dear Mamma, what a damp this cast on me for a moment; but I knew that he never chides without reason, he is so mild; and he never mistakes one's conduct, he is so just: so I brightened up again, and anxiously listened.

"The fault, my dear Bertha, which I have to mention, is one that I have observed ever since you have been here—and it is, in my opinion, so important, that I can no longer wait for your own good sense to perceive it; for habit strengthens at a rapid pace. A general want of neatness is the fault to which I allude.

I do not mean a want of actual cleanliness, but an untidy, careless way of arranging your clothes. I observe that they are not always put on straight—up at one side, down at the other—your petticoat, or something, forcing its way above or below the edge of your gown—a button off—a string broken—part of a flower torn or unsewed—frills looking flattened and wrinkled, and not having the fresh look that every thing about a young lady should have. Your hair in general looks shining and nice, but I don't perceive why it should not always be arranged more carefully, and so as to prevent it from straggling at the sides, as I sometimes see.

“Ladies are always very anxious to be fashionable, but I assure you, Bertha, though your dresses may be of the newest patterns, you will not look well dressed without something more. Fashion changes continually; the furbelows of to-day give place to-morrow to some other whim—and the vulgar and the empty-minded have the never-ending delight of altering their dresses, but fail after all in acquiring the air of gentlewomen.

“A good carriage, a smooth walk, a feeling of being at ease in company, ready attention to all that is going on, and withdrawing one's thoughts from self, give the stamp of good society more effectually, than all the finery that can be purchased. That valuable feeling of being at ease,

and the self-possession it produces, can be obtained but one way. Never allow yourself when alone, to sit or move, in a manner that you would think inconsistent with propriety in company. But to return to our dress,—pray, accustom yourself to have your clothes in neat order, whatever they are; and well put on, *at all times*. The French expression ‘*d’être bien mise,*’ conveys everything that can be said on this subject; for besides the reasonable attention to fashion, which good sense requires, and the suitable correspondence of colours which implies good taste, it includes all the proper pinning, tying, and arrangement, which in my opinion is the most important point of all.”

I thanked my uncle very sincerely; and he then added, “Yes, Bertha, I consider it as a very unwise tenderness, not to make known their lesser faults to young people. Your aunt is of a somewhat different opinion, and was unwilling to annoy you, so I took it on myself to advise you on the subject of your toilette. It was from this mistaken delicacy of your dear aunt’s, that one of your cousins was acquiring the unfortunate habits of want of neatness and an ungraceful walk. Your aunt depended on her own good sense to overcome them; but at last, perceiving the injury we should do the child, by allowing those habits to become fixed, I spoke to her myself—she not only outlived my interference,

but immediately and vigorously set about correcting them. She found some difficulty, I believe, but she has succeeded so well, that I think you cannot discover which of my daughters I mean, except that she is now, perhaps, the most remarkable for her neatness, and is always *bien mise*."

14th.—My uncle read to us to-day, an account given by a traveller in Savoy, of the fall of a part of Mont Grenier—a very astonishing instance, he says, of the local changes that occur on the face of the earth. I must give you a short account of it, dear Mamma.

Mont Grenier is five miles south of Chamberry; and rises about four thousand feet above the broad plain, on which it stands almost alone. A part of this mountain fell down in the year 1248, and entirely buried five parishes, and the town and church of St. André. The ruins spread over nine square miles, which are called les Abîmes de Myans; and though many centuries have passed away, they still present a singular scene of desolation.

The Abîmes de Myans now appear like little hills of a conical shape, and varying in height from twenty to thirty feet. They consist of detached heaps of fragments, but the largest masses have evidently fallen from the upper bed of limestone, by which Mont Grenier is capped;

and some of them have been projected to the distance of four miles from the mountain. This limestone rests on beds of softer materials, by the gradual crumbling away of which, it is supposed the mass above them was undermined and precipitated into the valley. In the course of years, the rains or torrents, produced by dissolving snows, have washed away the loose earth, and thus the little conical mounts have been separated and detached as they are seen at present.

So deep is the mass that has covered the town of St. André, that nothing belonging to it has been discovered, except a small bronze statue. The ancient chronicles do not inform us, whether the catastrophe was preceded by any warning that allowed the inhabitants time to escape. The quantity of matter sufficient to cover the plain to such a depth and extent, rushing from the height of three quarters of a mile into the plain, must have produced a shock inconceivably awful. A great part of the district has been gradually planted with vines, but it still presents a most impressive scene of ruin.

My uncle said that this is one of the most remarkable *eboulements* of which he has ever seen a description—he read it to us from travels very lately made in Switzerland and Savoy*.

* Bakewell's Travels.

15th.—I hope you are interested, dear Mamma, in Bessy Grimley's history.

Franklin is returned—he came about a week after his letter; poor Bessy was very anxious, for the weather was stormy, and she could not hinder herself from being frightened at the thoughts of the great ocean he had to cross. We went again to see her, and I tried to cheer her, by telling her I had lately come a much longer voyage. My aunt accompanied us, and was pleased with the cottage and its inhabitants; she went to visit the poor old decrepit woman, and found her bed made up comfortably, and both that and the room looking very tidy and clean. The window was open, and a rose tree covered with flowers hung over it. My poor daughter, said the old woman, planted that rose-tree in her last illness, and Bessy has nursed both it and me; and she trims it and trains it in such a manner, that the flowery branches hang where I can see them, because she knows how much I love the tree.

My aunt observed a little shelf of books in one corner, and asked if Bessy could read, "Oh! yes, ma'am—I wonder the old man did not tell you that, for many a time she has comforted us both, and indeed, often makes me feel less pain, by reading to us. I taught her myself, when she was a little creature, and I am sure I often wonder how any one can object to the poor having

the blessing of education. Why, it would do your heart good, Ma'am, to hear her read the Bible, she reads it with such piety—or a prayer or two, often out of her prayer book. We have a few little stories too, that we like to hear again and again. The Blind Farmer—and the History of Wilcocks—and a pretty tale called Simple Susan—in short, madam, though I am always a suffering, poor creature, and though we sometimes are supperless, we are still happy, and it is all owing to that grateful good Bessy.”

But I must tell you, Mamma, about Franklin. He has really given up a great deal for her sake: he might have been in a much richer way had he remained in America; but then, he says, what good would it all have been to him away from his Bessy! They are to be married next week; and my aunt, and all of us, are preparing different articles of dress or furniture, that may be useful presents to them. My uncle suggested some little alterations in the arrangement of the house, so as to make room, at present, for the Franklins; and he offered to assist them next spring in making it still more comfortable.

There is a farm to be let—not very good ground, but well situated, and about half way between Fernhurst and the old man's cottage. My uncle has hopes of procuring it for the Franklins; and I am sure it will be an advantage to them to be near my uncle, his advice

is so useful, and he knows so much about every thing.

Some of the land is like forest ground, and has neither been fenced nor drained; but Franklin says he will gradually bring it into cultivation. I am in hopes I shall have many a pleasant walk there with my uncle; and then I shall have a good opportunity of seeing the whole process of farming.

How benevolent my uncle and aunt are! they are as much interested about Bessy as if they had always known her; and my uncle's manner is so kind and so cheerful, that he raises the spirits of the poor old couple whenever they see him.

16th.—My cousins are such gardeners, particularly Mary and Wentworth, that they have made me wish to become one too. Caroline is not so fond of gardening as the others, though she has some very pretty flowers, and labours a good deal. She has given a large portion of her garden to little Frederick, who is her particular charge. He calls himself her little boy, and he is so indeed, for she teaches him most of what he learns, reads with him, and makes herself quite his companion.

When we were gathering a few still lingering roses to-day in Mary's garden, I said that I

began to think that I should like to manage a little garden as well as they did.

“Huzza!” exclaimed Wentworth and Frederick; “I knew she would become one of us at last.”

“Oh yes,” said Mary; “I have been expecting this; I always knew that Bertha was not really indolent. Now she will no longer sigh after

The coffee plains, the orange groves,
And flow'ry vales she so much loves.”

“And now,” said Frederick, “to encourage the poor child, we must give her a little bit of ground rent free. I will give her a bed in my territory.”

“And I—and I,” said each; “we must all contribute to her garden.” “And so must I too,” said little Grace; “I will give her a share of my garden, and I will teach her how to shell the seeds, and then to sow them.”

When my uncle and aunt came in from riding, my cousins went in a body to tell him how they intended to manage. For that is one of the happy things in this family, dear Mamma, as I heard some one remark lately; they feel a mutual interest in each other's pursuits, and my uncle and aunt are always ready to assist them in accomplishing their little plans, whether serious or playful. There is no jealousy or mystery—all is open; and, though ready to

assist each other, they never officiously interfere in one another's occupations, because each has abundance of their own.

But I must continue my history. When they had told my uncle of their intended donations, he said, in his playful manner, "Most puissant friends, if I were allowed a voice in this affair, I would say that Bertha ought to have an independent portion, which she could cultivate or spoil, to her own satisfaction. If your aunt has no objection, I will give her a certain spot near Caroline's garden, which requires a good deal to be done to put it into order. A little steady employment will be of great use in breaking her into the noble science of horticulture; and she can lay out her domain to her own taste. May I hope this suggestion meets with your approbation?"

"Oh yes," said Wentworth; "we all approve of your amendment, Papa, though we are sorry not to have the pleasure of making a general contribution in her behalf. However, I know she will require help; and I engage to be her labourer, and do all her hard work."

"And I," said Frederick, "will be her little garden boy—her slave, if she likes; for I know she comes from a country where slaves are employed."

"Well then, Bertha," said my uncle, "I will shew you this piece of ground; and, if you like

it, you shall have it on three conditions. The first is, that you never work long enough to fatigue yourself. These creatures have been little labourers and tillers of the earth ever since their infancy, but you are not accustomed to it, and I like moderation in every thing—in work as well as in play. Condition the second—that you really learn to garden, and do not blindly go through a certain routine of operations, because others do. Mere imitation is a bad rule of conduct, whether in gardening or any other action of life. You must learn the why and the wherefore of what you do. Condition the third—that all your implements be regularly put in their proper places every day, when you have done ; and that you have a basket to carry seeds, and knife, and all other small affairs.”

I promised to adhere to his conditions ; and as soon as luncheon was over, we went to the place. It extends from Caroline's garden, towards a little stream which skirts the shrubbery, and comes very near my aunt's flower-garden. Frederick has undertaken to connect them by a bridge, and I have already formed a multitude of plans for laying out this little spot.

17th.—Caroline has allowed me to make the following extract, from a letter that she received this morning from Hertford :—

“ There are some marine animals here

which I cannot find mentioned in any of the books we have with us ; and one species, my companion says, has very rarely been observed in the British seas. These animals belong to a gregarious family, and often adhere together, but in a manner that is peculiar to each species. In this new species they are linked together endways, so that the whole forms a chain. They move forwards by swallowing, and suddenly emitting the water ; and it is amusing to observe the whole chain of many feet in length, swimming with an undulating motion, resembling that of a serpent. They are quite transparent, and the adhesion is so slight, that the least force separates them. We put some in a bucket of water, but they did not like the confinement, and died in half an hour.

“ That interesting phenomenon — luminous sea-water, is seen here in autumn in great brilliancy. It certainly does not proceed from any ingredient of the water itself, but from the phosphorescent property of living animals ; and from what I can learn, there are a great many other tribes that possess this power of giving light, besides those described in Dr. Macartney’s ingenious paper, which you and I read together. I am informed, that Sir Charles Giesecké discovered several new species on the coast of Greenland, which were not only luminous when alive, but retained this property even when broken to

pieces by the violence of the sea. They have been well called the glow-worms of the deep, by a writer, whose account of these islands has been a great assistance to me in my tour.

“I have much more to tell you on this subject when we meet; but now the wind is fair for my voyage to St. Kilda, and all hands are waiting for me.”

18th. Sunday.—There was some little argument going on at breakfast, this morning, between Frederick and Wentworth, on the question of resisting injury and injustice, or of passively submitting, according to the injunction of the Gospel; and my uncle took advantage of it to say a few words on the subject, lest we should mistake between the real meaning and the figurative expression.

“It has been charged against the Gospel,” he said, “that it teaches men to feel towards their enemies in a manner which is compatible only with an abject, slavish temper, and that it directs what it is impossible to practise; not only forbidding retaliation, but inculcating patience under the grossest ill-usage; as in these passages: ‘Love your enemies, bless them which curse you. Resist not evil; but whosoever shall smite thee on the right cheek, turn to him the other also.’ But such objections can only be urged against the mere *words*; they do

not apply to the *spirit* of the precept. It is a forbearing disposition—a slowness to resent—a readiness to make allowance for the passions of others, which is meant ; for, in many instances, it would be totally unreasonable to take them in their literal meaning. These texts, and others of the same nature, were intended to counteract the misinterpretation of the Jewish doctors ; who, because the Mosaic code enjoined exact retaliation in the punishment of crimes by the regular sentence of the judge, perverted that into a permission to indulge in private revenge ; and who were notorious, also, for want of charity in their feelings and conduct to all persons not of their own nation or sect. It was in consequence of these corrupt prejudices, that our Lord inculcated, with peculiar emphasis, the contrary principles of forbearance, forgiveness, and kindness, to those who had offended ; and he illustrated these precepts by striking and familiar instances.

“ It appears, from various other passages, also, that it was not the literal rule which Christ meant strictly to enforce in every instance, but the spirit of it—that is, the temper of humility, the control of all violent and selfish impulses, and the patience and submission which are the effects of self-control ;—above all, the pausing to put ourselves in the place of the offender, before we give way even to just resentment ; so

that, by supposing the fault our own, we may consider in what light it would then appear to us, and, consequently, lead us to act towards others as we should wish to be acted by. Our Saviour meant that we should have a willingness to forgive, and that we should habituate our hearts to that amiable benevolence which disposes us, under real provocation, to pardon, and even to promote the good of those who have injured us. It is astonishing how soon we can acquire the habit of not gratifying resentment.

“ One strong proof that it was never intended that we should understand these rules too literally is, that we find, by the instructions of our Lord to his apostles, as well as by their own subsequent conduct, that they did not recommend or practise either perfect insensibility under injuries, or indifference to their character. They occasionally resorted to such legal and innocent means of guarding their safety and good name, as were compatible with their situation and their peculiar mission. When, therefore, we see undoubted malignity in the conduct of others towards us, we are justified in guarding against its repetition ; but Christianity binds us, at the same time, to moderation, and to omit no opportunity of benefiting and reforming our enemy, whose heart may be softened by the control we exercise over our feelings, and who

may often be changed, and rendered more Christian, merely by our forbearance."

My uncle said he dwelt the longer upon this important subject, because every other virtue, he thinks, rests on self-control.

19th.—Well, dear Mamma, I have taken possession of my garden; and now I hope I shall not grow tired of it, or disgrace myself by having it ill kept. One part of it had been a little nursery for rose trees, rhododendrons, and other flowering shrubs. That, and the large bed near it, which is rather moist, have become very weedy; but the front beds, and the slope down to the brook, are in very good order; and when the annuals, which are now in seed there, are removed, I shall begin to dig. The moist bed is to be trenched; and as this is the best time for transplanting deciduous shrubs, as well as almost all plants, I shall have plenty of work on my hands. I may have as many shrubs as I please, and I am to have advice from all these gardeners, particularly Mary, who does every thing at the right season. She has some nice cards, on which are written hints of what is to be done in each month; and, as they hang in her room, I can easily see there what I am to do: besides which, I intend to read a little in their gardening books, that I may understand what I am about. I look forward, with great pleasure, to this new employment,

though I know I shall always feel disappointed at not having my garden full of the bright and glowing flowers that I have been accustomed to see. It must look, I fear, as sombre as the forest and the valley do, when I compare them with those of my former country. But they tell me that I must not judge now of the look either of the garden or of the country, as spring will give them a very different appearance; and, indeed, I must confess that, gloomy as the season is becoming, the well-sheltered fields, with the cattle quietly browsing, or tamely going home, at regular hours, to be milked, do look exceedingly cheerful.

I have frequently visited my aunt's dairy; and the operations there are so new to one just fresh from a country where cows and dairy are but little attended to, that I take constant interest in them. "And the milkmaid singeth blithe" is now a familiar image to me; formerly it was only from your description I understood it. How is it that such a precious gift as milk can be overlooked in any part of the world, particularly in one that abounds with cattle as Brazil does; while, in some of the rocky parts of South America, the *palo de vaca*, or cow tree, is considered such a treasure? But it is curious that I never heard of that tree till I came here. Humboldt says that it has dry, stiff leaves, and its large woody roots seem as if they could

scarcely penetrate into the crevices of the barren rocks on which it grows. For several months in the year, the foliage is not softened by a single shower, and its branches appear dead or dried; though, when the trunk is pierced, a sweet and nourishing milk flows from it. This milk is most abundant at the time of sunrise, and the natives are then seen hastening from all quarters, with large bowls, to receive it. He says it is rather thick, but sweet and well tasted.

I am making myself acquainted with all the dairy operations here, so that I shall be able, if ever I return to you, to teach them to our neighbours—from the milking of the cows to the making of the butter. To shew that I know some of them already, I must tell you that each cow is milked twice over, both in the morning and evening. What she first yields is called the fore-milk, and is not nearly equal to the second in richness, which is always strained separately, and set in separate pans. From this comes all the nice cream we have at breakfast and tea.

Both are skimmed a second time; and the produce is all collected in pans. When there is a sufficient quantity (that is, about every second day), this cream, which has been thus collecting, has become sufficiently acid, and is churned. My aunt tells me that the oily particles are, by the motion of the churn dash, separated from

the whey, which, together, formed the cream, and thus become butter.

This is the method here ; but she says that in some parts of England it is managed differently ; for the second milk is there put along with the cream collected for churning ; and by this means, instead of a poor sort of whey, which is given to the pigs, there remains a great deal of nice butter milk, that is very nourishing and agreeable, and forms a great part of the food of the poor. My aunt says she has even seen good cheese made of buttermilk ; and the Scotch, after tying it up in bags and suffering it to drain, make a favourite dish, which they eat with sugar and lemon.

20th.—Extracts from another letter of cousin Hertford's—it is dated August 22, though it only arrived yesterday—being delayed in the islands by contrary winds.

* * * * “There is a greater number and variety of ancient remains to be found in Islay, than in any of the neighbouring islands. I saw several monumental stones, which are as usual attributed to the Danes ; but you know these rude monuments were common to all the descendants of the great Celtic nation. There are also some of those little round hills of earth called *barrows*, some of which have been excavated and found to contain urns and ashes ; the

burning of the dead having been at times practised among the Celts.

“ Some of those ancient weapons called *celts*, made of stone as well as of brass, have been found in this island: and also the *elf-shot* or flint arrow heads, the universal weapon of ancient times; what amazing patience it must have required to shape this weapon into the accurate form which it usually possesses!

“ Among other antique remains discovered in Islay, are eighteen large gold rings, which were buried in one spot. They are bent into a circular form but not closed; and having been at first used by the person who found them as handles for his drawers, they are still employed in the same way, though their value has long been known. It is supposed that they were the collars of Roman officers, and probably the spoils of war.

“ I observed a curious circumstance in this island which I may as well mention here. At its western extremity the cattle visit the beach every day at low water, and quit their pastures to feed on sea-weed. The accuracy with which they attend to the diurnal changes of the ebb tide is very remarkable; as they are seldom mistaken even when they have some miles to walk to the beach. They are very fond of fish also, preferring it to the best grass. In Shetland, I am told, that both dogs and horses eat fish from choice,

and that this is a practice very common also in Canada."

When this part of Hertford's letter was read, my uncle said that a friend of his who had been for some time at Stockton upon Tees, observed that the cattle, who always came to drink at the river when the tide was out, and the salt-water retired, calculated the proper time with unfailing precision.

21st.—I have been looking, in a description of foreign birds, and I find that besides my little favourites with pendant nests, there is another very pretty species in North America, called the red-winged starling; it is found everywhere from Nova Scotia to Mexico—but not in the West Indies. In autumn they migrate to Louisiana in such multitudes that, flying close together, they absolutely darken the air, and three hundred of them have been caught at one drag of a net. The males are distinguished by a bright red patch on the wing or shoulder, and formerly when these were worn by ladies as ornamental trimmings for their gowns, a person collected forty thousand of them in one winter.

They build among aquatic plants, in places that are inaccessible; suspending their nests between two reeds, the leaves of which they interlace and form into a sort of shed or covering. To the nest they give solidity by grass bound

with mud; and they line it with the softest and most delicate herbage. This little cradle is always raised above the highest reach of the water over which it hangs; and when they do not find reeds suited to their purpose, they build between the branches of a bush or shrub, but always in a swampy situation. They commit great depredations on the maize when it is just sown, and the farmers therefore steep the seeds in a decoction of hellebore, which stupefies them; but nothing can save the corn when ripe from the myriads of these birds that attack it then.

Another species is called the *Baltimore bird*, not because it frequents Baltimore, but from the similarity of its colours to those in the arms of the ancient Baltimore family. Its nest, which is formed of tough fibres, is open at top, but with a hole at the side for more conveniently feeding the young; and it is attached by vegetable threads or fibres to the extreme forks of the tulip-tree and the hiccory. The country-people call them *fire birds*, because, in darting from branch to branch, they look like little flashes of fire.

22d.—I have just learned from my uncle, what gum lac is. I have often wished to know, but I never had sense enough to ask him till this evening. It is a resinous substance produced by an insect called the *coccus lacca*, and is deposited on

the small branches of a tree, for the preservation of its eggs, as well as for the nourishment of the young maggot afterwards. As the gum is laid on, it is formed into small cells, which have as much regularity as those of a honey-comb; and in each cell there is found a little red oval egg, about the size of an ant's. When the eggs are hatched, the young grubs pierce through the gummy coat that surrounds them, and go off, one by one, leaving their exuviae behind, which are, in fact, the white membranous substances found constantly in stick lac.

The lac insect is cultivated in many parts of the Mysore in the East Indies; but is found only on trees of some particular species. These trees put out their leaves from the middle of March to the middle of April; during which time, a small twig, having some of these insects on it, is tied on each of them, and by the latter part of October, all the branches are thickly covered with the insect, and almost all the leaves are devoured. The branches are then cut off, spread on mats and dried in the shade. They are afterwards sold to the merchant under the name of stick lac, and are a staple article of commerce in the Mysore, as well as in Assam, a country bordering on Thibet. The only trouble in procuring it, is that of breaking down the branches and taking them to market.

The best gum lac is deep red; it comes to England in five different states:—

1. Stick lac, as in its natural state.
2. Seed lac, which is the former broken into small pieces, and appearing in a granulated form.
3. Lump lac, that is, the seed lac, liquefied by fire, and formed into cakes.
4. Shell lac, or the latter substance thoroughly purified. For this purpose it is put into canvass bags, and held over a charcoal fire, till liquid enough to be squeezed through the canvass; it is then allowed to drop on the smooth bark of the plantain tree, to which it will not adhere, and it spreads itself there in thin transparent layers.

Gum lac is extremely useful, being a principal ingredient in varnishes, in sealing-wax, and in cements; it is also used in large quantities in dyeing silk; and, when mixed with tamarinds, it is said to make a beautiful scarlet, which is not discharged by washing.

24th.—Yesterday, you well know, dear Mamma, was my uncle's birth-day—it was not allowed to pass unnoticed, though, he says, the habit of marking particular days may be the cause hereafter of much pain. Be that as it may, we all were anxious to celebrate it. Little Grace repeated to him, when he came to breakfast, some very touching lines, written by

Mary, as an address from all his children. Caroline presented him with his two favourite flowers, a rose and a sprig of lavender; and I followed her with a little drawing of one of the few wild flowers still in blossom—the great white bindweed, which I had often heard him admire. I felt very doubtful of venturing to offer it, but he received it with an encouraging kindness peculiar to himself.

As the day was mild and bright, my uncle hired a boat, and took us all up the river, beyond the village of Elmore; we had an excellent view of Gloucester, and in the distance, we saw the pretty Malvern hills.

In returning, we went on shore at Elmore, where my aunt paid a visit to a lady, with whose daughters she ran away for a few days; and lower down the river, we stopped for half an hour at Newnham, to call on Mrs. Ando, who had been an old servant of my aunt's. She is now living independently on her earnings, in a neat comfortable house; and she is always so rejoiced to see any of the family, that a visit to her is quite a festival. We found a pretty little child playing about the room, prattling French, and looking very droll, in a large Swiss hat. Mrs. Ando told us, that about a fortnight since, a gentleman and lady, with this child, had crossed the Severn, and come to Newnham; but the illness of the poor gentleman had detained them, and as the

inn was small, and unfit for invalids, and the inn-keeper being unwilling to let a sick man remain in the house, she had allowed them to lodge with her out of compassion. She described them as very amiable people; they had expected a friend to meet them, but had been disappointed; and she added, that they seemed to be distressed for money.

When we returned, there was the most beautiful western sun-light on every thing; cottages, trees, and the orchards full of rosy apples, were all gilt by it; and the river appeared like a sheet of glassy silver.

Soon after dinner, the evening part of the birth-day rites began, by a merry party at French blind-man's buff. This was very amusing, for my uncle and aunt joined in it, and he was so comical, that it gave the game quite a new character. Tea succeeded, and after Grace had retired to bed, the piano-forte was opened, and we three sang for my uncle his favourite song of "Hark the Lark," which we had learned purposely to surprise him on this day. He appeared so much gratified by this little attention, which had been a happy thought of Mary's, that we were more than repaid for all our exertion to perform it well. Several other favourite songs were sung, in some of which the young ladies who had come from Elmore assisted; and when we were tired of singing, we danced reels

and quadrilles, to finish the evening. Sometimes my uncle made up our number, and my aunt was so good as to play for us.

The servants were allowed to have a tea-party for their friends on this occasion, and I heard, this morning, that my aunt had distributed meat or clothing to all her poor pensioners. The school-girls, too, had a holyday; and books—work-bags—pin-cushions—or housewives—were distributed according to their merits. Caroline did all this part of the business.

25th. Sunday.—My uncle has been giving me some instruction in reading the Psalms to day.—He thinks they are not always rightly understood, partly from the mistaken views of modern expositors, who have ascribed the immediate subject of every psalm, either to the history of the Jewish nation, or to the events of David's life.

“Many of the psalms,” he said, “do commemorate the miraculous interpositions of God in behalf of his chosen people, and many of them were probably composed upon the dangers, afflictions, and deliverances of King David. But even of those which relate to the Israelites as a nation, there are few which do not represent, in a figurative manner, the future history of the Christian church; and of those which allude to the life of David, there are none in which it is not

the 'Son of David' who is the principal and real subject. David's complaints against his enemies are the Messiah's complaints—David's afflictions are the Messiah's sufferings—David's penitential supplications are the petitions of the Messiah, under the burden of the imputed guilt of man; and David's songs of triumph are the Messiah's thanksgivings for his victory over sin and death. In short, every part of the book of Psalms has a double object.

“ They go in general under the name of the Psalms of David: he probably gave a regular form to the musical part of the Jewish service; but there is good reason for supposing them to be the compositions of various authors;—some more ancient than the time of King David, and some of a later age. Of many, he was undoubtedly the author; and we know, from his own words, that those of his composition were prophetic—‘ David, the son of Jesse, the sweet psalmist of Israel, said, the spirit of Jehovah spake by me, and his word was in my tongue.’

“ The psalms are all poems of the lyric kind, that is, adapted to music, but with great variety in the style of composition.—Some are simply odes, elegiac, or pathetic, or moral; but a great proportion of them are a sort of dramatic ode, consisting of dialogues between persons sustaining different characters. These persons are frequently the Psalmist himself, or the chorus of

Priests and Levites opening the ode with an introduction declarative of the subject ; and sometimes closing the whole with a solemn admonition. Sometimes Jehovah himself speaks ; and Christ, in his incarnate state, is personated either as a priest, or as a king, or sometimes as a conqueror ; and in those psalms in which he is introduced in this latter character, the resemblance is very remarkable to the warrior on the white horse in the book of Revelations.

“ If this idea were kept in the mind,” continued my uncle, “ it would greatly conduce to the right understanding of the psalms ; and any reader, of ordinary penetration, would easily perceive to what speakers the different parts of the dialogue belonged.”

My uncle read to us, as an example, the twenty-fourth psalm, from Bishop Horsley's translation. “ It opens,” he says, “ with a chorus, proclaiming the divinity of Jehovah, the creator and Lord of the universe. It then describes in questions and answers, sung by different voices, the sort of righteousness which consists not in ceremonial observances, but in clean hands and a pure heart. And the song concludes with a prediction of the Messiah, under the image of the entry of Jehovah into his temple.”

Chorus.

1. To Jehovah belongeth the earth and all that therein is.
The world and its inhabitants.

2. For he hath founded it upon the seas ;
And upon the floods hath established it.

FIRST VOICE.

3. Who shall ascend the mountain of Jehovah,
And who shall stand within the precincts of his sanctuary ?

SECOND VOICE.

4. The clean in hand, and pure in heart,
Who hath not carried his soul to vanity,
And hath not sworn to the deceiving of his neighbour :
5. This man shall obtain blessing from Jehovah,
And justification from the God of his salvation.

Chorus.

6. This is the generation of them that seek after him,
Of them that seek thy presence, O God of Jacob :

PART II.—*Semichorus.*

7. O gates, lift up your heads,
And be ye lifted up, ye everlasting doors,
And let the King of Glory enter.

A SINGLE VOICE.

8. Who is He, this King of Glory ?

ANOTHER VOICE.

Jehovah, strong and mighty ;
Jehovah, mighty in battle.

Semichorus.

9. O you gates, lift up your heads,
And be ye lifted up, ye everlasting doors,
And let the King of Glory enter.

A SINGLE VOICE.

10. Who is He, this King of Glory ?

Grand Chorus.

Jehovah of Hosts. He is the King of Glory.

26th.—This is the last day of our Elmore

friends, the Miss Maudes' visit; fortunately it has been very fine, for they wished to walk through the forest; and we did ramble very far. We took them to visit the blind basket-maker and the Franklins, and shewed them all the improvements that my uncle had made in the cottage; and we came home by a round-about way through an oak coppice, in which there are nice glades and pretty paths. In one of these glades there was an immense pile of oak bark; and Miss Maude told me that in May it is peeled off the young trees which are cut down in thinning the wood, and is piled up in stacks to dry, till the latter end of Autumn, when it is disposed of by weight. For this purpose there was a huge pair of scales, set up near the stack, and on this very day they began to take it down, to weigh it, and pack it in large mats, made of a kind of *bent* grass, in which it is sewed up, and sold to the tanners at a very high price. The different groups, some weighing, some packing, and others taking it away on drays, made a very lively scene—and Miss Maude and I each made a sketch of it.

While we were drawing, she asked me several questions about the Brazilian forests, and I endeavoured to describe to her the richness of foliage, and the majestic height of the trees, to which none here can be compared. I did not forget the great variety in our Brazil woods, where almost every tree was different from that

next to it, while here, there are not more than four or five species, which you meet again and again. Nor did I omit to mention how beautifully they are ornamented, by twining and parasite plants, and yet not rendered impassable ; for I repeated what I had heard a gentleman at Rio say, that such is the regularity of those great forests, that he could gallop for miles through them, without being stopped by underwood.

Both she and her sister were very much interested in the account I gave of the *silk cotton* trees, which spread out all their branches at such a height from the ground ; and of the *lecythis*, with its pitcher-shaped fruit, and of the *jacaranda*, with its large feathered leaves of dark green, which make such a contrast with its gold-coloured flowers, some species of it so very tall and magnificent, and others with such singular tufts of whitish leaves at the ends of the branches.

They encouraged me to go on, and after describing how the dark tops of the Chilian fir mingle with all these other trees, I came to the humbler shrubs and flowers, which exhibit such a wonderful variety of tints, and then to the festoons of those twining plants, called *lianes*, which descend from the tops of the highest trees, or twist round the strongest trunks, till they gradually kill them.

Though many trees grow to great size here,

there is certainly not that profusion of vegetation which you used to make me notice at Brazil; and there is a gravity in these English woods, which I told them is very different from the gay and flowery appearance of the woods, and even of the road-sides, in Brazil, where the hedges of myrtle, china roses, scarlet passion-flowers, and trumpet flowers, make so gay a mixture. The autumn tints, so much admired here, are perfectly dead, compared to those of South America.

I described, also, our plains or *campas*, with the humming-birds buzzing like bees round the flowering shrubs, and the myriads of gay butterflies, fluttering over the streams. How astonished these Gloucestershire people would be, if they were to see the troops of *emus* or American ostriches, which run with the swiftness of horses through the bushes, accompanied by their young!

Insignificant, however, as the forest of Deane appears to me, I find that it once chiefly supplied the British navy; and was considered of so much importance, that one of the special instructions to the Admiral of the Spanish Armada, was to destroy it.

27th.—We had another boating party to-day, to take the Miss Maudes home. The river was quite alive, so many trading vessels were going

up. The coal mines and iron works in this neighbourhood employ a great deal of shipping, and the city of Gloucester is, besides, a place of considerable business.

As we boated along that part where the river makes a sudden horseshoe bend, and skirts the forest so beautifully, the woodland scenery naturally became the subject of conversation ; and my uncle, after smiling at some of my rhapsodies about " the magnificent trees of Brazil," told us, that a friend of his who has been in New South Wales, had described the appearance of the forests there, as very peculiar. From the scarcity of deciduous trees, there is, he says, a tiresome sameness in the woods ; the white cedar being almost the only one that is not evergreen, in that extensive country ; and besides, they have, in general, a disagreeable grey or silvery appearance. One of the most common trees there, is the *eucalyptus*, with white bark, and a scanty foliage, which is more like bits of tin, than leaves ; and no painter, he said, could make a picturesque view of any scene there, because the trees have no lateral boughs, and, therefore, cast no masses of shade. He says, the Australian forests have all a very peculiar character, owing to the manner in which the two species that compose at least one-half of the forests, turn their leaves to the light. These trees are the acacia, and the *eucalyptus* ; their leaves hang edgeways from the

branches, and both the surfaces of the leaf being thus equally presented to the light, there is scarcely any difference between the front and the back.

New South Wales, he says, is a perpetual flower-garden; and in point of size, the trees are not surpassed by those of any quarter of the globe. Amongst others, he mentioned the cabbage palm, which rises sometimes one hundred feet above the rest of the forest; and another palm called the *seaforthia elegans*, equal in size to the cabbage tree, but with pinnate leaves like those of the cocoa nut. From the broad membranous spatha of the flowers, the natives make water-buckets, by tying up each end, just as they make their bark canoes. The farmers use them for milk-pails; and of the leaves, both hats and thatch are made; so that, altogether, this *seaforthia* seems as useful as it is elegant.

The Miss Maudes having alluded to the description I had given them yesterday of the difference between the woods in England and Brazil, my uncle said, that young people did well to make such observations, and to acquire a general idea of the productions that characterize the great divisions of the globe. He added, that on all subjects of natural history it is not enough to amuse ourselves with details, or to accumulate mere facts, however valuable,—they should be classed in our minds; we then perceive the

leading distinctions, and we become able to trace every new fact up to some general cause. This, he says, may be called gaining a sort of double knowledge—at least, it is making knowledge doubly useful.

28th.—I send you a long extract from the last of Hertford's Western Isle letters. He is now at Edinburgh.

“ I have been at the island of St. Kilda ; the passage to it was stormy and dangerous, which kept us always on the look out. St. Kilda is so remote and solitary, that I had expected to find it more interesting than it is in fact, for I had hoped to find some peculiarities among the inhabitants, in which I might trace the olden times. Unfortunately the clergyman was absent, and as the inhabitants have not learned to speak English, we could not have any very satisfactory intercourse with them.

“ They were a little alarmed at first, by the sight of strangers, and fled in all directions ; but they soon became calm, and treated us very hospitably. They seemed to be a most innocent contented set of people—about a hundred all together—and were very comfortably dressed. They use the quern, or hand-mill, as in all the Hebrides, to grind their oatmeal, and to make their snuff. Their usual snuff-box is a simple cow's horn, stopped at the large end, and a small

piece cut off at the point, to let out the snuff, where they fix a leather plug. This is still called a *snuff-mill* in Scotland, for they formerly used a machine attached to it, like a nutmeg-grater, which made the snuff, as often as a pinch was required; and my companion says that this is the custom also amongst the shepherds of the Alps.

“ Their houses are constructed without mortar, for there is no lime on the island; the stone walls, which are raised only three or four feet from the ground, are double, and the interval is filled with earth. In the walls there are several recesses, each covered by a flag; and in these holes, like ovens, the people sleep. The windows and chimneys are simple openings in the roof; from which also hang their implements of husbandry, as well as of bird-catching, with their ropes, and fishing-rods, &c. and many long bladders, containing the oil of the *fulmar*, to supply their lamps, and also to use as a medicine. Every person has a dog, a small rough species of the Highland terrier, which scrambles along the cliffs, and creeps into the holes of the Ailsa cocks, who live in the ground, like rabbits.

“ As to music, for which St. Kilda was famous, I am sorry to say that neither bagpipe nor violin were in the island when I was there; the airs, it is said, are very plaintive, like the generality of Highland music.

“The mode of preserving the peat in winter, and also the corn and hay, is ingenious, and peculiar, I am told, to this island. They are kept in buildings, which from their domed shape appeared most extraordinary, till I discovered their purpose. They are the first objects visible on approaching from sea, and I, of course, thought they were the dwellings of the natives. The sides admit a free passage of air, but the roofs are rendered water-tight by a covering of turf; the domes are formed by the regular diminution of the courses of masonry, and the whole is closed and secured at top by a few large heavy stones.

“The bird-catchers of this island have long been celebrated. The puffins are caught in their burrows by the dogs, and the chase is usually managed by the children, while the men are engaged in the pursuit of more difficult game. Gannets, or Solan-geese, and other large birds, are taken by hand, or with snares, on their nests; for which purpose the bird-catchers descend the cliffs, by the assistance of a rope, which is sometimes made of hair, or sometimes of slips of twisted cow-hide.

“A party, who were provided with these ropes, led me to the brink of a precipice, of such a height, that the sea, dashing against the rocks below, was not heard above. Several of the ropes having been tied to one another, to increase their length, the man who was going down fastened

one end of it round his waist, and the other end he let down the precipice, to about the depth to which he intended to go; then giving the middle of the rope to a man to hold, he began to descend, always steadying himself by one part of the rope as he let himself down by the other. He was supported from falling only by the single man above, who merely held it in his hands, and sometimes with one hand alone, looking at the same time over the precipice, without any stay for his feet, and conversing with the young man as he descended. In a short time, however, he returned, with a fulmar in his hand; it was placed on the ground, and a little dog having been set at it, the angry bird repeatedly cast out quantities of pure oil, which it spat in the dog's face.

“ I accompanied the same party in one of their night expeditions, as far at least as the edge of the precipice, in order to see them catch the Solan-geese. These wary birds have always a sentinel to keep watch; the object is therefore, by surprising him, to prevent his giving the alarm; for this purpose, the catcher descends the rock, at some distance from the sentinel, and then passing along horizontally, comes upon him unperceived, and so quickly breaks his neck, that the other birds are not roused. He then quietly removes one into the nest of another, which causes an immediate battle; this disturbs all the geese on the rock, and while they are gaping at the

combat they are easily caught;—the man twisting the necks of as many as he chooses, and thrusting their heads into his belt—eight hundred are sometimes taken by this method in one night.

“There is a loose skin under their bill, in which these birds can carry four or five herrings at a time, besides sprats, which the young pick out with their bill, through the mouth of the parent, as with a pair of pincers. When the gannets observe a shoal of herrings, they close their wings to their sides and precipitate themselves head-foremost into the water, dropping just like a stone.—Their eye is so exact in doing this, that they are sure to rise with a fish in their mouth.

“I must also mention the *Foolish Guillemot*.—A rock-man descends at night by his rope to the ledge of a precipice, where he fixes himself, and tying round him a piece of white linen, awaits the approach of the bird, who, mistaking the cloth for a rock, alights on it, and is killed immediately. This silly bird lays but one egg, and without any nest to protect it: so that when disturbed, she frequently tumbles it down the rocks as she rises.”

29th.—I have been labouring most diligently at my garden, and many a time did I wish that my Mamma and Marianne could have seen how much the indolent Bertha, as she used to

be called, is improved in activity and in real strength. I was preparing a bed for hyacinths; taking out the old soil, and putting nice fresh earth, mixed with sand, in its place. Wentworth helped me to dig out the earth, and Frederick and his wheelbarrow were for a long time busily employed in taking it away. My aunt had given me the bulbs, and we were anxious to complete the job, before the weather should become too wet.

My uncle paid us a visit, and seemed pleased with us all. He likes to see that sort of patient perseverance—it is more valuable, he says, than genius; and in the evening, he read to us the following anecdote from Bakewell's Savoy, to shew how much may be done by it.

The mineral waters of Breda were formerly covered by a sudden inundation of the river Isere, and lost. In the summer of 1819, the breaking down of the side of a *glacier*, in one of the upper valleys of that river, produced another inundation, which brought down with it an immense quantity of stones and earth, that blocked up the river and forced it into a new channel. A miller and his family, who lived on the banks, narrowly escaped with their lives, and most of his little property and all his winter stores were swept away. He was then an old man; but nature had given him that resolute spirit, which regards common calamities only as motives for additional exertion. He lost no

time in useless lamentations, and immediately began, not only to repair, but to improve, and to provide, as much as possible, against a recurrence of similar misfortunes. He excavated with his own hands a large cellar in the rock near his mill, partly by the pickaxe, and partly by blasting with gunpowder; and there his stores and winter provisions were safe from any power of destruction, less formidable than an earthquake.

But this industrious man had long been the wonder of the *commune*. One of his performances, that almost exceeds belief, was the removal, in 1796, of an immense block of marble, and the working it into a millstone for crushing walnuts. The block had fallen into the valley, about three hundred yards from his mill. He had often viewed it with a wishful eye, but to remove it seemed beyond his power; he was, however, then in the vigour of life, and he resolved to attempt it. He began by cutting the stone into a proper form, which was a labour of many months; when this was done, by the aid of his wife, his mother, and his servant boy, and with some miserable pulleys, he contrived, for several successive weeks, to move it a few inches, or a few yards every day, according to the nature of the ground, till at length he brought it safely within his mill. It is about nine feet in diameter, and three feet in thickness; and cannot

weigh less than fourteen tons, as it contains about 189 cubic feet of marble. The removal of this huge stone, with the very slender means by which it was accomplished, is a striking instance of what labour can effect, by unremitting perseverance.

In the winter which followed the last inundation, his wife observed steam constantly rising from the opposite bank of the river, and, on going to the spot, she found a considerable spring of hot water, which being examined, and found to be mineral, baths were established there. Mr. Bakewell adds, that being desirous that this industrious miller should derive some advantage from his wife's discovery, he recommended his keeping mules to let out to the bathers, and cows to supply them with milk, during the season. With these suggestions he was much pleased, and should he adopt them, it will be equally advantageous to visitors at the baths as to himself, as there was neither horse nor mule to be hired in the place; and in the summer months, as all the cattle are pastured in the mountains, milk can be procured only once or twice a-week.

Oct. 1st.—I have just read such a pretty description of the humming-bird, that I must copy it for Marianne: it is from Buffon, who calls this bird *l'Oiseau Mouche*. "Of all animated beings," he says, "it is the most elegant in form, and the

most brilliant in colours—our precious stones cannot be compared in lustre to this jewel of Nature, who has bestowed on it all the gifts which she has only shared amongst other birds. Lightness, swiftness, grace, and the most splendid clothing, all belong to this little favourite.

“The emerald, the ruby, and the topaz, sparkle in its plumage, which it never defiles with the dust of the earth; and scarcely even deigns to touch the green turf for a moment. It is always on the wing, fluttering from flower to flower, and possesses their freshness as well as their brilliancy—it lives on their nectar, and only inhabits those climates where flowers never cease to bloom.

“It is in the warmest regions of the New World, that all the species known of these birds are found; for those which advance in summer to the temperate zones, only remain there a short time. They seem to follow the sun, to advance and retire with him; and to fly on the wings of Zephyr in the train of an eternal spring.”

I thought we had in Brazil the smallest humming-birds that were known; but I have read in Mr. Bullock's very entertaining book, that he procured one in Jamaica, that was less than even some species of the bee. It had taken its station on a large tamarind tree, which was close to the house, and overspread part of the yard; there it spent most of the day, and kept absolute posses-

sion of its dominions; for, the moment any other bird, though ten times larger than itself, approached the tree, it furiously attacked and drove off the intruder; always returning to the same twig, which it had worn quite bare, by continually perching on the same spot.

Mr. Bullock observed these birds feeding on insects,—which contradicts the general idea that they live only on the honey of flowers.—When he was in Mexico, one of them took possession of a pomegranate-tree, and sat on it the whole day catching the flies that came into the flowers; and on dissection he has found other insects in their stomach. Though naturally petulant, and very tenacious of intrusion, they seldom quarrel in captivity; for example, when a great blue-throated humming-bird occupied the perch, he has seen the diminutive Mexican star settle on its beak, and quietly remain there for some instants, without the insult having been resented. In the air, indeed, they fight desperately till one falls, and Mr. Bullock witnessed a battle in heavy rain, every drop of which he thought would have been sufficient to beat the little combatants to the ground.

They are still worn by the Mexican ladies as ornaments for the ears; and their name in the Indian language signifies “Beams, or locks of the sun.”—But he says, what is very true, indeed, that the stuffed humming-birds can give but little

idea of their real brilliancy ; for the sides of the fibres of each feather being of a different colour from the surface, the least motion of the bird continually changes the hue. For example, the topaz-throated humming-bird of Nootka Sound is ever varying from a vivid fire colour to the bright green of the emerald.

They are very cunning little things ; the house in which Mr. B. lived was of one story, inclosing a garden round which it was built. The spiders had spread their numerous webs from the tiles of the projecting roof, to the trees in the garden, so closely, that they resembled a net. The humming-birds endeavoured to seize on the entangled flies ; but, afraid of entangling their own wings, and perhaps a little alarmed by those great spiders, they would fly rapidly round and round, as if to reconnoitre the best avenue ; then darting in, they picked out the smallest fly, and escaped without touching a single thread.

I was surprised to find that some of these birds were found as far north as Nootka Sound ; and I asked my aunt if she thought there was any mistake in the name of the place. She said, that though the winters are very severe in that part of America, the summer is extremely hot ; and she added that an intimate friend in Upper Canada, with whom she corresponds, mentions the humming-birds as being constant visiters in summer I had not before heard that she had a corre-

spondent there. How interesting, said I, her letters must be from those frozen regions, where everything is so different from the part of America in which I have lived!

“You shall see her letters with pleasure,” replied my aunt; “and I hope at some future time you will know the amiable and excellent writer herself.”

2nd. Sunday.—In speaking to-day of reading the Bible, my uncle regretted that indolence so often prevents people, when they find difficulties, or apparent contradictions, from taking a little trouble to try if they could not be reconciled. “How often,” said he, “by a small degree of attention, might we perceive that the seeming disagreement arises from some oversight of our own, and that it might be made quite clear by a little reflection.

“For instance, in 1st Kings, vii. 26, it is stated that the molten sea contained *two* thousand baths;—while in 2nd Chronicles, iv. 5, we are told that it received and held *three* thousand baths. Now the case is this: the writer of the book of Chronicles states that ten lavers of brass were made, which joined the molten sea. ‘Five on the right hand, and five on the left, to wash in them; such things as they offered for the burnt-offering they washed in them; but the sea was for the priest to wash in.’

“Hence it appears that the molten sea, with its appendages the lavers, were altogether for the washings; but each part was appropriated to distinct purposes—the lavers for the washing of burnt-offerings, and the sea for the washing of the priests; as it would not have been proper for the priests to have washed in the same water in which the burnt-offerings were washed. The lavers are not noticed in the book of Kings, in which the contents only of the sea are alluded to—but in Chronicles you perceive they are both mentioned. The lavers received one thousand baths, exactly the difference which makes these accounts appear contradictory—but which is completely explained by observing that a part only of the sea is alluded to by one writer, while the other describes the whole of it.”

My uncle mentioned some other passages in the Old Testament, which are misunderstood, in consequence of some slight inaccuracy in the English construction. I think I can give one of them nearly in his words.—“In 2nd Chronicles, chap. ii., an astonishing number of men are said to have been employed in building the Temple—a number that at first sight appears incredible, supposing them employed on the Temple only. But we are told by the learned that the original does not signify that they were all employed on what, properly speaking, was called the Temple, or inner-house, where the cherubim were kept.

The expression applies equally to the outer division before the veil, which was called the *greater house*; and we are therefore to consider that all the buildings attached to the Temple are included in this account of the employment of the workmen. Now the buildings around the whole area where the temple stood were intended not only for the residence of the priests and Levites, but were also adapted to contain their portion, or tenth, of the produce of the land; and certainly, for these purposes, the out-buildings must have been very capacious. And besides, we must recollect that great numbers of men were necessarily occupied in quarrying stones for buildings of such extent, as well as in preparing the materials for fitting up the interior."

When my uncle had finished this satisfactory explanation, Mary said that she had lately been comparing the history in the books of Kings and Chronicles, and that she had met with a little difficulty. In 1st Kings, ix. 23, we are told that the number of chief officers over Solomon's work was five hundred and fifty.—But in 2nd Chronicles, viii. 10, they are said to be two hundred and fifty.—“Now, papa,” said Mary, “I know you can clear up this difficulty.”

“The accounts do seem contradictory,” said my uncle, “yet both are correct. You see in 1st Kings, v. 13, that Solomon levied out of all Israel thirty thousand men. This army was

divided into tens, and every tenth man was an officer. These three thousand officers, if divided by twelve, (the number of the tribes,) will give two hundred and fifty chief officers, according to Chronicles. But we had been already told (chap. ii. 18) that Solomon employed one hundred and fifty thousand workmen, and that over them he appointed three thousand six hundred overseers. These overseers were regulated in the same manner as the officers of the army; and, therefore, if three thousand six hundred be divided by twelve, it will give you three hundred chief officers; which added to the two hundred and fifty, selected from the guards, makes five hundred and fifty officers that bare rule over the people, according to your quotation from the first book of Kings."

3*d.*—I had a nice walk with my uncle to-day, to Farmer Moreland's, with whom he had some business. As we passed through the field in which there had been meadow this year, my uncle made me observe what a fine growth had sprung up since it was mowed; the after-grass he called it. I asked, did he not consider the grasses as amongst some of the most useful plants?

He said, "The tribe of grasses yield more sustenance to man, and to the larger animals, than all the rest of the vegetable kingdom put together. Their herbage is perpetually springing,

and it is adapted to almost every soil, climate, and situation. The grasses are a very extensive tribe, and yet throughout the whole of it, nothing poisonous or injurious is found, except, perhaps, the stupefying quality attributed to the seeds of the *lolium*, or rye-grass. The farinaceous produce of wheat, rye, barley, rice, maize, and many others, supplies mankind with the most general and wholesome nutriment."

As we walked along, I shewed him quantities of wild ranunculus mixed with the grass, and I asked, was there no way of preventing the growth of all those weeds. He answered, that a certain proportion of what we vulgarly called weeds, are now considered useful in making the grass more palatable to cattle, and even more wholesome—"Just in the same manner," said he, "as men could scarcely live on flour alone, so cattle cannot be well supported by mere grass, without the addition of various plants, in themselves too acrid, bitter, or narcotic, to be eaten unmixed. Salt, spices, and a portion of animal food, supply us with the requisite stimulus or additional nutriment; and, in the same manner, the ranunculus tribe, and many other plants, season the pasturage of cattle."

My uncle afterwards told me, that some of the grasses run chiefly to stalks, the leaves decaying as the seed advances towards perfection: such as rye-grass, dog's-tail grass, and fine bent;

while others, whose leaves continue to grow after the seed is formed, retain their verdure and juices during the whole season, as in the *poa* and fescue tribes, whose leaves are green and fresh, when the seeds are ripe. Ignorant farmers do not attend to this, and often, in mistake, sow those very grasses that run all to stalk and seed. Besides the numerous families of real grasses, there is also a great variety of plants cultivated by farmers, to supply their places, and are, therefore, called the *artificial grasses*.

“ In some cases they are of more rapid growth than a crop of grass—in others, the change is of use to the soil. Sainfoin, for instance, of which you see so much in Gloucestershire, is found to be particularly adapted to a soil exhausted by repeated corn crops, because its root enters deeply into the ground, while the fibrous roots of corn spread close to the surface. Lucern, clover, vetches, and other succulent and quickly growing plants of this nature, are also called artificial grasses—and are thus of great advantage to the farmer, by supplying his cattle with excellent food, and at the same time by alternately giving rest to different portions of his ground.”

4th.—Some visiters have just arrived ; they are to spend a week here, and I am sure we

shall not go on half so pleasantly, for these people will interrupt all our employments, and will, I suppose, be very formal. I said so to my aunt this morning, and I was surprised to find that she was not of that opinion; I thought she would particularly dislike having the regular, happy life here deranged.

I have been very busy in my garden this morning. With some help I have completed the little flower beds, which I intend to be so pretty next spring—they are intermixed with grass-plots, and are made up of good, fresh earth, properly prepared for the plants they are to contain. Mary, who seems to have a great deal of knowledge, has assisted me—for I find that much of the art of gardening consists in suiting the soil to the nature of the plants. In my jonquil bed, she advised me to put abundance of sand, and no manure. This has been done; and this fine mild dry day, I planted it with the bulbs as she directed me. I have a narcissus bed, too, and this has been made up with what the gardener calls hazel loam, and a small portion of manure. These two beds, along with one for hyacinths, that I described before, and one for carnations, make up what I call my regular flower-beds, on the upper part of the sloping bank. Besides these, I have two beds at one side, one for roses of different kinds, and one for white lilies. These

last have, I am told, very magnificent flowers, and in order to have them very fine, a great deal of fresh manure has been dug in to nearly two feet in depth.

Some days ago, I planted a number of rose-trees, contributions from all my kind friends. I have also made little edgings to all my beds; and I am now, like a mere child, already longing for the time when I shall see them covered with blossoms. But I have not nearly done yet all that I intend; for I heard a gentleman, who comes sometimes to see my uncle, Mr. Biggs, telling him of such a variety of nice plants, and the modes of managing them, that I am determined to try some of the things which he mentioned. I must first consult my uncle, because I have great plans in view; but I am afraid all these strangers will prevent him from having time to listen to me.

I find that this is a busy season in the garden, though the decline of the year, and that several plants, and almost all deciduous trees and shrubs, should be transplanted now. I have quite got into the spirit of gardening, I think; it is indeed a delightful occupation to the mind, as well as the body. There is not only much to think of, and to remember to do at the right time, but also to know why it should be done.

Tuesday night.—Though I am tired after all my hard work to-day, I must tell you, Mamma,

before I go to bed, that I see how foolish it is to judge of people in a hurry, or to think strangers must be tiresome, because they interrupt our usual habits. The strangers who arrived to-day appear to be very pleasing; Mr. Lumley, who has travelled a great deal, has many entertaining things to tell; and his daughters, and their mother also, are very nice people. They brought some pretty kinds of work with them, and I was glad to find that we might employ ourselves, instead of sitting up stiffly and formally.

5th.—I mentioned last night, that the Lumleys seemed to be a very agreeable family; yet, when I woke this morning, I felt that some of my apprehensions were returning. Night, however, has come round again, and I must tell you, dear Mamma, that we have passed the day most pleasantly; partly in our usual occupations, for I found that my cousins never neglect those which are most important, for any guests whatever; and partly in walking and in gardening.

The Miss Lumleys pleased me very much, by appearing interested in the progress of my garden, and they even helped me to transplant several of my flowers. Then came my uncle and Mr. Lumley; they examined every part of my garden, and asked me several questions. My uncle inquired about the new scheme of which I had been talking, and said he would

assist me as much as possible. I shewed him the old quarry, and boldly described all that I intended to do—frequently referring to hints I had picked up from his conversations with Mr. Biggs. My uncle said he was rejoiced to find that I could attend so well to general conversation, and gave me the quarry to reward me. When I had finished what I had to do in my garden, he and Mr. Lumley took Frederick and me to walk with them, and I heard numbers of entertaining things,—much more than I can now put in my journal.

We left the forest, and passing through the open fields which lie between it and the Severn, we walked for some time close by the edge of the river. I saw a beautiful bird sitting on a projecting stone, and we all stopped to observe it; sometimes fluttering its wings, and exposing its brilliant blue, green, and red plumage to the sun. It then took wing, and hovered in the air for some time, watching for the moment to dart on its victim. At last we saw it make a spring of twelve or fifteen feet upwards, and then drop perpendicularly into the water, where it remained several seconds. It was a kingfisher, which Mr. Lumley told me is a very common bird on the continent. He says it is shy and solitary, frequenting banks of rivers, where it will sit still for hours, as we saw it. It usually takes possession of a hole in the bank, which had previously

been made by a martin, or a mole, and which it enlarges a little for its own purpose. The hole has generally an ascending direction, and penetrates two or three feet into the bank; at the end it is scooped into a hollow, where quantities of small fishes' bones are often found. Mr. L. has seen these nests frequently; and he told me that as the old birds appear to have nothing in their bills when they feed their young, it is thought that they discharge from their stomach the requisite nourishment.

There are several species, but this one is the *halcyon* of the ancients, which poets imagined had a floating nest endowed with power to calm the winds and seas. Some of the gravest of the ancient writers relate, that it sat only a few days, just in the depth of winter, and that during that period the mariner might sail in full security—whence the expression, “*halcyon days*.”

Mr. Lumley has studied the habits even of the despised house-sparrow, which, however, he does not at all despise; for he says that it is a most useful creature, destroying various kinds of grubs that would be most injurious to our crops. Though it generally builds in holes and gutters, and under the eaves of houses, yet it sometimes builds in the top of a tree; and then its nest, which is carelessly formed, because in a place where it is protected, is made as large as a man's head, with a cover to keep off the rain. It is

composed chiefly of hay and straw, but warmly lined with feathers, and fragments of thread or worsted, bits of cloth, or any material that can be picked up about a house; and should their nest be destroyed, they will build up another in twenty-four hours.

In some parts of France, Mr. Lumley saw earthen pots hung out of houses, for the sparrows to breed in, for the purpose of having a supply of young sparrows for the table; and it is said that the kings of Persia have them trained to hunt the butterfly.

6th.—My uncle and Mr. Lumley have been conversing to-day about the trees and woods of Europe. I had been saying so much to my cousins lately about the forests of tropical countries, that it was delightful to hear them continue the subject; and finding that I listened, they tried to make me comprehend all they said.

They remarked that each region of Europe may be distinguished, in some degree, by the different character of its forests; the pine and birch being invariably found in the cold northern countries; the lime, beech, ash, oak, chesnut, and walnut in the temperate regions; and, approaching the warmer climates, the cork tree and the olive.

The most useful of the tree families are bountifully extended, said my uncle, from nearly the

frigid to the torrid zone ; and if we do not possess the rich variety of the tropical regions, the palms, the teak, the mahogany, the banyan, and the baobab, yet are we, on the other hand, provided with some tribes that cannot be surpassed in usefulness or in beauty. And it is worthy of remark, he added, that some one species of the oak and of the pine, those two most useful trees, are to be found in every climate of the earth, excepting in the immediate polar regions. The woods of northern Russia, of Norway, and Sweden, consist, with little variation, of the pine tribe. The Scotch fir retains its dense foliage during the long winter, and affords shelter to the wild animals of the forest ; and the greater the intensity of cold, the firmer and more dense the timber becomes in texture. This tree supplies the peasantry with their cottages, their boats, and their fuel. Tar, rosin, and turpentine, are extracted from it by very rude methods of distillation, and its ashes produce potash. On the mountainous ranges of the Alps, the Pyrenees, and the Apennines, it grows luxuriantly at that elevation where the temperature is similar to that of the northern regions. In the mountains of Thibet, which are now considered the highest in the world, six different species of pine flourish ; and even at the elevation of 12,000 feet, forests of pine are found mixed with birch and rhododendron

In Finland, and in the neighbourhood of Petersburg, the birch, which comes next to the pine in quantity, is inclined to grow by itself; but it abounds in the natural woods of Great Britain and of other parts of Europe. In the central parts of our continent, elm, maple, and ash are common, and grow to a noble size; but their extent is small in proportion to the northern forests of birch and pine, and they seem to prefer an open situation. In the sheltered parts of Savoy and Switzerland the walnut is a very profitable as well as ornamental tree; and the olive flourishes on the sloping sides of the hills, particularly in Italy. In low and warm situations there, the cypress and poplar grow to a great size—above them comes the chesnut, and still higher, approaching the pines, appears the magnificent oak. The grey foliage of the olive gives a peculiar appearance to the country; and the cork-tree, also, Mr. Lumley says, excites the admiration of all travellers. Spain, Portugal, and the South of France are the countries in which this beautiful tree is most prominent;—it grows higher than the oak, of which it is a species, and has more slender branches and smaller leaves. The chief distinction is the spongy bark, which the tree throws off naturally; and it is said that the growth of the tree is improved by peeling it.

Besides the common and well known uses of the bark, he told us that it is employed in Por-

tugal for beehives, for covering stables, and for many domestic purposes. Near Cintra he saw a convent built between two perpendicular rocks which actually formed the outer walls; and the monks, by neatly lining them with large flat pieces of cork, had effectually excluded all dampness. The timber is employed for the same purposes as oak; the acorns fatten immense droves of hogs; and the acorn-cups of this useful tree is one of the principal ingredients in tanning the Portuguese goat-skins.

Cork trees are found in great perfection in the South of France. From Bayonne, where the low sandy heaths called *les Landes* commence, and extend as far as Bordeaux, the woods consist almost entirely of that tree, and of the *pinus maritima*, which is scarcely less useful. The wood is excellent, and yields an extraordinary proportion of turpentine resin, and tar; the fruit contains a kernel which has a pleasant flavour of the almond, and is often used in cookery; and from the root is obtained a brown dye which the fishermen use to preserve their nets. They are, however, in many parts of that tract of country prohibited from touching the roots, because their long matted fibres, by running along the surface, fix the loose sand and prevent its blowing away.

Mr. Lumley spoke with admiration of the woods of Old Castile, particularly of the fine evergreen oaks and the bushy laurel-leaved

cistus, neither of which he has seen anywhere else in such beauty. The acorns of the former, when roasted, form a large part of the food of the poor peasantry.

7th.—Mr. Lumley and my uncle have been studying Dr. Richardson's remarks on the climate of the Hudson's Bay countries, and I have noted for you all I could understand.

In the neighbourhood of Fort Enterprise, lat. 64° N. the white spruce advances nearer the northern limit than any other pine. The largest of those trees were between eight and nine feet in circumference. The elm, ash, sugar-maple, and arbor-vitæ extend to nearly the same latitude.

Oak and beech terminate about lat. 50° . The balsam poplar sends straggling trees as far north as lat. 63° , and the aspen grows in pretty large clumps a degree farther north, beyond which it was not seen. The balsam poplar forms a large proportion of the drift timber observed on the shores of the Arctic Sea, and is supposed to come principally from M'Kenzie river.

Fort Enterprise was supposed to be elevated about 800 feet above the Arctic Sea, and the banks of the river on which it was built are ornamented with groves of the white spruce tree. On each side of the river, an irregular marshy plain extends to ranges of unconnected hills, at

the base of which there is commonly a thin stratum of mountain peat. The bottom of the valleys is generally occupied by lakes of a considerable depth, which are entirely land-locked, and communicate with each other only when flooded by the melting snow. The sides of the hills, and all the drier spots of the valley, are clothed with a beautiful carpet of the lichens, which form the favourite food of the reindeer; and some shrubs, such as the great bilberry, the marsh ledum, some of the willow tribe, and different species of andromeda, arbutus, and the *kalmia glauca*, frequently enliven the scene.

In sheltered situations, where the peat is deeper than usual, a few starved larch and black spruce are scattered. There are also thin clumps of the paper birch on the borders of the rapids, as well as of the white spruce, which thrives better there than any other tree; but all are of slow and stunted growth. Of the spruce cut down at Fort Enterprise, the increase seemed to have been in general at the rate of four rings, or years, to one inch; and though the house which the travellers built there was only 24 feet wide, it was with difficulty they obtained half a dozen beams of sufficient length, the trees tapered so much.

It appears by Dr. Richardson's tables, that up to the 20th of June, 1821, there was no appearance of vegetation among the flower-bearing

plants, except the gradual opening of the willow catkins. Early in June, the first, or female band of reindeer passed to the northward of lat. 65° ; their progress seemed to be regulated by the uncovering of the lichens. When the thaw is much farther advanced, the lichens become too tender and pulpy, and the deer resort to the swamps to feed upon the grass, or rather hay, which having been frozen up in the preceding autumn, retains its sap and nutritive qualities, when the snow melts from around it in spring. In a few days, however, the stalks become dry, and the seeds are shed; but the deer by that time have reached the sea-coast, where other plants supply them with food, which, however, are not so fattening as the lichens.

On Midsummer-day the dwarf birch opened its buds; a fortnight afterwards the ice on the larger lakes broke up, and several plants flowered. But on the 5th of September a storm set in, which clothed all the country with snow for the winter; and in the beginning of October the party again walked over the lakes which they had crossed on the ice in the middle of June; an interval of only 116 days.

The sap of the trees and shrubs freezes there in winter; and the wood becomes so hard that the chips produced by an axe flew off more like splinters of stone than of wood.

In all those dreary districts there are no traces of the influence of man over the appearance of

the vegetable kingdom. Cultivation is entirely confined to a few small gardens at the fur-posts; and the only mode in which the arts and customs of the natives affect the vegetable kingdom, is by their setting fire to the forests. These fires spread rapidly in summer, and are only extinguished by heavy rains. Years elapse before anything grows in the places thus laid waste. The branchless trunks of the burnt trees are in a season or two stripped of their bark and bleached, if not sooner thrown down by the wind. The surface of the ground in time acquires a little verdure from a few mosses and lichens; other vegetables take root; and, at last, the place where a pine forest had been, is occupied by dense thickets of slender aspens. The growth of this tree,—instead of a renewal of the pine forest, which might have been expected,—is a curious circumstance, and can be attributed only to its winged seeds favouring their dispersion.

I hope what I have written will amuse you, as in your last letter you wished to hear something of the discoveries made by Captain Franklin's party.

8th.—I have much to tell you, dear Mamma, of all that we have seen and done this day; some of it quite out of our usual course, for we went to see a magnificent place, about nine miles from hence, belonging to Lord S——. My

uncle, Mr. Lumley, and my cousins, rode, except Frederick, who came in the carriage with the ladies. The grounds and woods are extensive; but the gardens, stove, and conservatory, are remarkably fine, and were our chief object. Few private gardens have such a collection of the palm tribe, and of South American plants. I saw many of my old Brazilian friends; and moreover many plants and trees from Brazil, and the neighbouring countries, of which I was quite ignorant.

The house where the palms are kept was built on purpose for them, of an uncommon height; and Lord S—— has endeavoured to arrange the numerous specimens, as well as he could, according to Humboldt's division of the tribe: the first, those which grow in dry places or inland plains, such as the fan-palm; secondly, those on the sea coast, as the cocoa-nut, &c.; next, the palms which flourish at the elevation of 1400 to 3000 yards above the sea, and which were unknown till Humboldt's visit to the Andes; and, fourthly, those of fresh-water marshes, as the *Mauritia* palm. This is the sago-tree of South America; it extends along the swamps as far inland as the sources of the Oronoko, and supplies the inhabitants with flour. In the season of the inundations, these clumps of *mauritia* appear as if rising from the bosom of the waters. They serve as habitations for a tribe of wretched Indians; and as they grow in great abundance

in the low grounds of the Delta, at the mouth of the Oroonoko, strangers sailing up the river at night are astonished at seeing the tops of the trees illuminated by large fires. The poor natives suspend strong mats between the trunks of the trees, and fill them with moist clay, on which they kindle the fire necessary for their household wants. These people have preserved their independence, and probably owe it to the quaking and swampy soil which they alone know how to pass over, to their dwellings in the trees.

This mauritia palm is called the Tree of Life by the missionaries ; for it not only affords the Indian a safe dwelling, but supplies him with food and wine, and cordage. Its fruit and farinaceous pith supply food—its saccharine juice ferments into wine, and the fibres of the leaf-stalks furnish thread fit for weaving hammocks, or twisting into ropes. How very singular, Mamma, to see a whole nation of human creatures depending on one single species of palm-tree for their existence !

We had much conversation about the various species of palms which we saw ; and particularly the real sago-tree, which grows in the East, and which exceeds all other plants in the quantity of nutriment it affords to mankind. My uncle told me that a single tree, in its fifteenth year, sometimes yields six hundred pounds weight of sago or meal ; for the word sago signifies meal, in

the dialect of Amboyna. Mr. Lumley said that, as these trees grow about ten feet asunder, an English acre could contain four hundred and thirty-five of them; and, supposing their average produce to be only one third of what my uncle mentioned, it would amount to eight thousand seven hundred pounds yearly of meal, from each acre. This, he said, was three times as much as would be considered a good crop of corn in this country. Sago is collected from five different palms, but not in the same abundance as from the real sago-tree.

We then examined some fine specimens of the date-tree, so famous in all our Eastern tales, and so delightful to all travellers. Mr. Lumley has often seen it near Lisbon, where it grows well; but the fruit never ripens perfectly in Europe. It is found in great abundance in Africa, and particularly on the borders of the vast desert of Sahara, where the parched sandy soil is so unfit for the production of corn. But the date-tree supplies the deficiency, and furnishes the inhabitants with almost the whole of their subsistence. Forests of this most useful palm may be seen there, of several leagues in circumference: their extent, however, depends on the quantity of water that can be procured, as they require constant moisture. The Arabs say these trees are very long lived; and there is scarcely any part of them which they do not

make useful. The wood, though of a spongy texture, lasts such a number of years, that they say it is incorruptible; most of their instruments of husbandry are made of it; and though it burns slowly, it gives out great heat. The Arabs strip the bark and fibrous parts from the young trees, and eat the substance in the inside of the stalk. It is nourishing and sweet, and is called the marrow of the date-tree. They eat also the young leaves, with lemon-juice; and the old ones are dried, and used for making mats, baskets, and many other articles, with which they carry on a considerable trade. From the stumps of the branches arise a great number of delicate filaments, of which ropes, and even a coarse cloth, are manufactured.

Indeed I believe all the palms are very useful, even the humble dwarf fan-palm, which we saw also in this collection, and which Mr. Lumley says is very plentiful in Algarve, the southern province of Portugal; it seldom grows more than three or four feet high, though the stem is thick: its fan-shaped leaves are used for making the baskets in which the dried figs are packed; and its young shoots are eaten as vegetables.

But I was surprised not to see in this collection the silk-thread palm, that celebrated tree which you and I have had the pleasure of seeing in its own country, with its beautiful, long, serrated leaves, composed of innumerable fibres,

both finer and stronger than silk, and of which the fishing-nets are sometimes made. How useful it would be if this tree could be induced to grow in England—and how my uncle and aunt would laugh at me if they saw this sentence !

We returned by a different road, and I enjoyed the day very much ; the drive was in itself so pleasant, and it is so satisfactory to see any thing new with people who have real knowledge like my companions, and who are alive to the pleasure of seeing what is curious. The Miss Lumleys have seen very little, they have seldom been out of the forest in their lives ; yet they are not at all ignorant. They told me that they have not much time for reading, but that what little knowledge they have, has been acquired by the conversation of their father and mother.

Mrs. Lumley is rather silent in company ; she seems to have much tenderness, mixed with a firm mind—and though always cheerful, she looks as if she had suffered a great deal. I imagine they are in confined circumstances, for she said to-day that till the morning they came here she had not been for many years in a carriage.

9th. Sunday.—After breakfast this morning my uncle conversed a little with us about the Epistles of St. Paul, which I had been saying were very difficult to understand ; he remarked,

“that if we attended to the long parentheses that St. Paul makes, and in which his energy and warmth sometimes seem to carry him away, we might easily connect the chain of his argument. But,” said he, “there are other causes of occasional obscurity. One is the nature of epistolary composition, leading the writer to refer to personal and local circumstances, and particularly to conversations, which were well known to those whom he addressed, and therefore not needing explanation to them. Another arises from the many allusions to peculiar laws and customs that were familiar to his readers, but requiring much research to comprehend them now. There is a third, and a very important circumstance, which is a source of frequent perplexity to commentators, and which, in some degree, affects all the writings of the New Testament, particularly those parts where doctrines are taught rather than facts detailed. Our great philosopher, Locke, alludes to this difficulty: he somewhere observes, that the subjects treated of in the Epistles are so wholly new, and their doctrines so different from the notions that mankind had previously adopted, that many of the most important terms have a different signification from what the same Greek words bear in the heathen authors. Indeed it is obvious that the common Greek language of the day could not furnish accurate expressions for doctrines either entirely

new, or derived from the Mosaic law, and the writings of the Jewish prophets. Hence the writers of the New Testament were obliged to employ Greek words, whose meanings were determined rather by analogy, than by their original derivation; and to combine them according to the idioms of the Hebrew and Syriac languages, rather than by the natural construction of Grecian phraseology.

“It is remarkable,” he continued, “that this circumstance is one which some rash infidels have presumed to consider as inconsistent with the idea of a divine interference in the promulgation of Christianity; and yet on sober inquiry, it will be found materially to strengthen its evidence. For if no phrase had been used which was not in conformity to the purity of the Grecian tongue, we should lose one of the great marks of authenticity in the New Testament—its peculiar language. You will readily perceive that the Hebraisms and Syriasm by which it is distinguished, and which could have proceeded only from men of Hebrew origin, prove it to have been a production of the first century; for after the death of the first Jewish converts to Christianity, we find hardly any instance of Jews becoming preachers of the gospel: and as to the Christian fathers, they were mostly ignorant of Hebrew. This distinguishing mark is to be found in all the books of the New Testament, in different degrees; nor

have these idioms the appearance of art or design, being exactly such as might be expected from persons who used a language spoken, indeed, where they lived, but not the dialect of their country.

“ Obscurity, from this cause, more particularly applies to St. Paul’s Epistles, because they were designed principally for the Jews. St. Paul, indeed, was born at Tarsus, and his native language was therefore Greek; but having been a very zealous Jew, it was natural that his language should be tinged by Hebraisms; and it is probable that had he studied to avoid the air of a Celician Jew, in speaking or writing, his language would not have been so well adapted to his purpose, and would have made far less impression on the multitude.”

11th.—I have made such a discovery! I long to tell you, Mamma, though I dare say you have already guessed it. I have discovered that Mr. Lumley is the very person whom my uncle met at the harvest home, and whose history I wrote to you. But I never heard my uncle speak of him by any other name than Fitzroy, which I now find is one of his Christian names.

This evening we happened to be speaking of accomplishments, and Miss Lumley said that she had none to boast of.—“ I believe you know,” said she, “ that since we left Strath Morton, a

place I shall never forget, though I was then very young, we have been obliged to employ ourselves in what was useful only; and, until very lately, to assist mamma even in the menial work of the house. I do not feel ashamed to mention this," she added; "for it is really gratifying to think and speak of all that my dear mamma was able to do; I only wish you could have witnessed the cheerfulness that accompanied all her exertions."

She described their little cottage as it was at first, and their way of living; and then continued—"We were anxious to save mamma from some of the drudgery there must be, even in the smallest family; and, though often against her will, my sister and I shared, as much as children could, in her laborious occupations.

"She and my father gave us the best of all knowledge, that of religion—they taught us to feel well the weakness of our nature, and to look up with trust to that Power, who gives assistance to the humble. Their leisure was devoted to giving us solid instruction, to the cultivation of our minds, and even to directing our taste to literature.

"If sometimes we amused ourselves with a pencil, or tried to sing one of Mamma's songs, she was delighted to encourage and assist us—and instead of lamenting that we could not do more, it raised her spirits to see even our child-

ish attempts. Indeed, she has often said that the delight of seeing us gay, open-hearted, and good, was all she wanted; and when we danced merrily to our own singing, or made a scratchy drawing of a tree, she used to reward us with one of her sweet encouraging smiles, and would say, 'Perseverance will do much; and as music and drawing are useful accomplishments, when kept in their right places, your attempts give me pleasure; but I value your cheerful dispositions, and grateful hearts still more.'

"And indeed Mamma was right, for never were there happier creatures than we have been, though enjoying but few of what are called comforts. Our gardens, our forest plays, and the pains we took in watching the habits of birds and insects, were our never-failing amusements; and we desired no more, if we were but sure that Papa and Mamma were pleased with us. To the constant visits of Mr. Benson, our good old clergyman, we are indeed indebted for much of what we know; he speaks to us so kindly, and he often reads with us, and removes our difficulties by his clear explanations. He has always approved of our acquaintance with the creeping and flying inhabitants of the forests, for he says, natural history is not only a most entertaining occupation, but well suited to a religious mind."

12th.—My aunt, in the course of the last week, frequently turned the conversation on Mr. Lumley's travels : and he told us many interesting things that he had seen both in Italy and Portugal. First about the vine. In one of the Minho vallies, not far from Oporto, the fields are small, and surrounded by high oaks, chestnuts, and poplars ; the ground is artificially watered, and every tree supports a vine, which mounts to the top, and hangs its clusters to the highest branches. In other places, the vines are supported on rough trellises, so as to form shady arched walks in summer. But neither of those methods is supposed to produce as good fruit as when the vines are kept low ; and as these are planted in straight rows, corn and other vegetables are sown between them. They are pruned down every year into the shape of a bush ; and a short time before and after they come into blossom, all superfluous branches are removed, and some of the leaves are afterwards taken off to expose the fruit to the sun. The ground is hoed before the leaves come out in spring, and again before the flower comes. Rising grounds are usually preferred for vine culture, and when they are very steep, the earth is supported by dry walls, so as to convert the face of the hill into a succession of narrow terraces, which prevent the heavy rains from washing away the soil from the roots.

He then told us that when figs are gathered in that country, they are thrown into a heap, in a building prepared for the purpose, and that a syrup flows from them which is used for making brandy. They are then spread to dry in the sun, and after some days, are pressed into small baskets, made of the dwarf fan-palm, each basket containing 28 pounds weight.

The carob tree is one of the most beautiful of European trees, according to Mr. Lumley's account; it attains a considerable height, and has a wide shady top, with a graceful, evergreen foliage of small glossy leaves. The wood is hard and red, and very useful; and the large pods of seed when dry, make excellent fodder for cattle: this tree is also called St. John's bread.

But what made the greatest impression on me, was his description of a forest of date palms, near the town of Elche in Valencia. The fruit hanging on all sides, in large clusters of an orange colour, and the men swinging on ropes to gather them, formed, he says, a very striking scene. The trees were old and lofty; and their number was said to exceed two hundred thousand. Many of them had their branches bound up to a point, and covered with mats, by which process they became white; they are then cut off and sent by ship-loads from Alicant, to various parts of Italy, for the grand processions on Palm Sunday.

Mr. L. says, that the little chick pea forms a considerable part of the food of the poor in Portugal; and even common lupines, when soaked in running water to destroy their bitterness, are boiled, and sold in the market-place, and the people eat them out of their pockets. They are also used by the poor in Italy, but generally along with chesnuts, which are bruised and made into a sort of cake.

In ascending the Apennines, Mr. Lumley came to a mountain village, of very singular appearance; it gave him more the idea of a collection of huts in some savage country; no streets, no gardens, no appearance of cultivation, except a few great chesnut trees, that united their branches over the miserable houses. The people have large flocks of goats and sheep, whose milk supplies them with cheese, and whose wool is spun by the women in winter, and manufactured into a kind of stuff.

Most of the inhabitants of the Apennines depend on chesnuts, pigeons, bees, and milk, for their food; and like the natives of Auvergne, they make all their own furniture and clothes. They earn, however, a good deal by going every year to work, for the harvest season, in Lombardy and Tuscany, and the money they gain there, they bring carefully home.

The summer pastures, for the cattle of the rich plains of Tuscany, extend along the brow of the

lower chain of the Apennine mountains, where there are a few huts to shelter the wandering shepherds. Those plains, he says, are scarcely habitable in hot weather, from the pestilential effects of the *malaria*, which produces agues and fevers, and which probably arises from the exhalations of the low stagnant marshes. He also saw a vast number of goats; one flock consisted of twelve hundred, and though apparently very wild, they come regularly to their shepherds, twice a-day, to be milked, and are always rewarded with a little salt.

He afterwards visited the vale of Arno, and travelled along the right bank of that river, at the foot of the Apennines. He describes the forests of chesnut trees, which appeared on the higher slopes of the mountains, with their fresh and beautiful verdure, as forming a singular contrast with the pale blue tint of the olive trees, which cover the lower hills. The road was bordered on each side by pretty brick houses, consisting of a single story, and separated from the road by a walled terrace, on which are commonly placed stone vases, containing flowers or orange trees, or aloes; and the house itself completely covered with vines. At the doors, or seated on shady benches, were groups of young female peasants, nicely dressed in white linen, with silk bodice, and straw hats ornamented with flowers. They are constantly employed in plait-

ing straw for the fine Florence or Leghorn hats ; and they earn a great deal of money, which they are permitted to lay by for their dower ; but out of this they pay a certain allowance to poor women, who do their share of the farm work. He was assured that a crop of two acres would supply straw sufficient for the whole manufacture of hats in Tuscany. It is the stalk of beardless wheat, cut before it is quite ripe ; and the poverty of the soil, which is never manured, keeps it white.

Between Pisa and the sea, he passed through a forest of ilex. The leaves of all these trees were bitten off at the same height—just twelve feet from the ground ; and, on inquiry, he found that they had been eaten by camels. He soon after saw two hundred of these animals lying on the sand, waiting to return into the wood as the day became hotter. He was much amused by a group who rose up as he approached, and who, in trotting off with their young, bounded and leaped about with a vivacity which scarcely seemed to belong to their awkward-looking figure. It is said that this Asiatic race of camels was brought into Italy, at the time of the Crusades, by the Grand Prior of Pisa. Mr. L. says they do most of the farm labour.

On this plain he saw also a herd of nearly two thousand cattle. The cows are so wild and fierce, that it is impossible to milk them ; and

they are killed by the torreadors with short lances, after a sort of hunt, which affords great diversion to the country people. These Tartar habits, he says, are very opposite to those of the vale of Arno, where every thing has been brought to the extreme of art and civilization.

I have been so much interested in all these circumstances, that I have sat up very late to write them for you ; and though I have not got through half of them, I will now go to bed like a good girl. One word more : I must add that the shepherds in the neighbourhood of Rome, who resemble Tartars, with their long pikes and wrapped in mantles, come every evening with their flocks to seek an asylum within the walls of the city ; as they dare not sleep exposed to the noxious air of the adjoining country, where there are no cottages, and where the water even is infected. They take possession of houses and palaces which have been abandoned by the inhabitants, who have been driven into the interior of the city by the malaria.

13th.—To-morrow is the last day of the visit of these charming Lumleys. I shall be very sorry to lose them, for I have liked them better every day. The second has the sweetest voice that can be, and joined in some of our glees, which she easily learned. Once or twice they sang all together for us, in the way they do at

home; and, among other things, a beautiful little hymn, which we discovered was written by Mrs. L. If I can, I will send it to you and Marianne; and, perhaps, some time or other, we three may also sing it together. Oh! when will that time come?

Even now that I know their history, it is difficult to perceive in their appearance and manners that they have lived in such complete retirement, for they always express themselves in good language; and, though timid, they are not in the least awkward. Whatever they do, they do well. They are excellent arithmeticians, and answered some puzzling questions of my uncle's with a facility that surprised him. The power of calculating in the head he thinks highly useful; and, on this occasion, he encouraged me to try with the rest, by shewing me how to seize upon the leading points of a question. At first I made no attempt, but spent the time, that others were at work, in thinking that I had no chance of success. Having at last, however, recovered from this silly fit, I exerted myself, and actually gave the first answers to the three following questions: though I will not say that some of the party did not good-naturedly wait a little for me. I send them to Marianne, though I know they will appear trifling to her, for she was always quicker at arithmetic than I was; but tell her the great thing is, to do them in her head.

How much time, in the course of thirty years, does a person gain, who rises at six o'clock in the morning, over another who sleeps till nine; supposing that the former goes to bed at eleven, and the latter at midnight?

There is a cistern in this house, which contains 180 gallons of water: it is supplied by a feeding pipe, which admits 15 gallons in ten minutes; and the tap, or discharging pipe, lets off 12 gallons in six minutes. Now suppose, when the cistern was exactly half full, that both cocks were opened, and that, at the end of an hour afterwards, the tap-cock was shut: in what time will the cistern be filled?

Herodotus mentions a brass vessel, that was shown in Scythia in his time, which was six digits in thickness, and contained 600 *amphoræ*, or about 4300 gallons. It had been made of arrow points, collected by the king from his subjects, in order to ascertain their number—each individual being obliged to bring one. Such a vessel would be 11 or 12 feet in diameter; and, from the thickness of the metal, must have weighed about 71,000 pounds troy. Now, if each arrow point was half an ounce, the question is—Of how many fighting men could the Scythian monarch boast? for it is not probable that the women and children were included in that kind of warlike census.

My uncle was pleased at the efforts I made,

even when I failed, because it shewed that I had conquered my old enemy—indolence.

I wrote down these questions while they were fresh in my mind ; and then we all went to take our last walk together to Franklin's farm. We found him and his active wife fixing on the situation of the house and garden, and orchard.

They have chosen a place where there is a pretty slope in the ground, so that the drains will have a good fall from the house. The garden is to be in front, and the orchard at one side. They are going to double-trench the ground, by digging it to twice the depth of the spade. It is to be left in that state during the winter ; and the soil, being thus exposed to the action of air and frost, will be improved. In the course of the winter they will plant a young hedge round the garden.

This day was one of those lovely, mild, sunny days in October, of which I have often heard you speak.

When Autumn scatters his departing gleams.

We staid out till sunset, enjoying the balmy air and amusing ourselves capping verses. This we are all very fond of, and all strove hard for victory ; but I must confess that Mary was most frequently the conqueror.

14th.—It has surprised every body how much

knowledge these Miss Lumleys have acquired ; and yesterday, when we were out walking, my aunt expressed this surprise to Mrs. Lumley.

“Next to the great principles of religion and morality,” she replied, “we endeavoured from their infancy to give them habits of *exactness*, which we have always found lead not only to regularity and economy of time, but become great preservatives of truth. On such a foundation it was not difficult to engraft the love of knowledge ; and literature was always made an indulgence, not a task. After affectionately helping me in our many coarse and laborious works, they first sympathised in the pleasure they perceived I felt, when I had time to read a few pages of some interesting history or poem ; and, from sympathy, they soon began to taste the pleasure themselves.”

They continued the conversation till dinner-time, and both seemed equally pleased at finding how exactly they agreed in their sentiments on education. In the evening, after some music, my aunt, who had been particularly gratified with the piety that appeared in every thing that had dropped from Mrs. Lumley, but who knew that very good people sometimes differed in opinion on trifling matters, said to her, “I should be inclined to play some lively tunes, and set our young people to dance ; but I am not sure whether you approve of dancing, and in such a

slight thing I would not offend opinions that I am sure deserve respect."

"Indeed," she replied, "I feel, just as you do, great pleasure in seeing young people cheerful, and enjoying amusements suited to their age; nor can I find in any part of that Book which should be our guide, one word to indicate the impropriety of social amusement—if moderately indulged in, and not made the business of life. Moderation, in all things, I do indeed enjoin. My daughters, I fear, can ill take a part in a dance with yours—but I shall be delighted to see my good, homely girls amused. I must add," continued she, "that I should be sorry you mistook my opinions; misfortune has made me think seriously, but not harshly. It has given me deeper views of religion than I had in the careless hours of prosperity, but at the same time it has convinced me how much more there is of affected singularity than of real religion, in prohibiting a moderate degree of amusement. It is very probable that I might have become enthusiastic or melancholy, had it not been for the friendship of Mr. Benson, that good clergyman who lives near us. It is not too much to say, that in his conduct, as well as in his sentiments, he shews the happiest union of Christian piety with all the social virtues; and that his profound learning on the most important of all subjects,

is embellished by the graces and knowledge of this world."

My aunt then sat down to the piano-forte, and summoned us all to dance. Mr. L. and my uncle were so good as to join our party, and we danced very merrily for about an hour; and so ends our last night with these very engaging Lumleys.

MRS. LUMLEY'S HYMN.

Teach me, O God! to Thee my voice to raise
 In meek submission, and in humble praise;
 In all events, thy gracious will to see,
 In all misfortunes, to behold but Thee.

To feel, in want and anguish, all thy love,
 The tender father's discipline to own;
 To know that sorrow comes, my heart to prove,
 To feel the warning of thy awful frown.

O! make me grateful, that I'm timely tried,
 And forced from earthly cares to love Thee, Lord!
 That, by thy chastisement, thus purified,
 I live in Thee, and in Thy holy word.

As lightning clears the sky, by clouds o'er-cast,
 So shall adversity my heart revive;
 When worldly joy is gone, and sorrow past,
 My humbled heart in faith and hope shall live.

The sun behind our western hills declines,
 But gilds the evening clouds with golden ray:
 Thus when the morn of life no longer shines,
 Still Christian hope illumines our fading day.
 And as the rising sun dispels the night,
 So shall we wake with joy in Gospel light.

15th.—Mr. Lumley said the other day, that the inhabitants of the Apennines were like the people of Auvergne in their manners; so I took

an opportunity this morning of asking my aunt some questions about them. She told me, that Auvergne has been very little known till lately; even the remarkable fact, that the whole district is a collection of extinct volcanoes, has not been very long discovered. It has been visited by few travellers, and the people seem to have had but little intercourse with their neighbours. Bakewell's Travels were in the room, and she gave me the following passages to read.

“ It was market day, and we met a long train of carts with wood, each drawn by four oxen, coming to Clermont. The dress and appearance of the mountaineers who were conducting the carts, were very striking; with immense broad-brimmed hats, long, lank hair, gaunt features, and striped cloth cloaks, that reached nearly to their feet, they bore no resemblance to Frenchmen, and they spoke a different language. I believe they are the descendants from the same race who resisted Cæsar, for whatever changes may have taken place in other parts of France, none of the warlike hordes who ravaged the more fertile parts of the country in succeeding ages, would have wished to take possession of the sterile mountains of Auvergne, or to undertake the task of driving out the original inhabitants. I was much surprised, on entering some of the houses, to observe that the lamps, waterpots, and other earthenware vessels, were

of the same form as the Etruscan vessels from Herculaneum; they are doubtless made after models transmitted from very remote antiquity, as vessels of these forms are not found in any other parts of France that I have visited. The music of the Auvergnats is the bagpipe.

“ Many of the families in the lower or middle rank of life, have small vineyards, and make wine for their own use. A freehold vineyard, which costs two hundred francs, or about eight pounds sterling, produced wine, more than sufficient for a family of five persons, as we were informed by one of these little proprietors. They cultivate the vineyards themselves; and seem to live in contented and obscure independence, relying on their own industry for every thing, and preserving the customs of their remote ancestors.”

16th. *Sunday*.—The history of our first parents, and the nature of their transgression, was the subject of our conversation this morning. Towards the end of it, my uncle said, “ It is a strange error, though some sensible people seem to have fallen into it, to doubt the truth of this early part of sacred history, because the eating of a certain fruit was apparently too trifling to be considered a trial of obedience. But there is one circumstance which they do not seem to have sufficiently considered; that, if it was ne-

cessary to lay Adam under some small restraint, to remind him, that notwithstanding his dominion over all things, he was still the servant of the Most High; a trial of his obedience to any *moral* precepts could scarcely have been made, for there was no opportunity at that time of violating them. For instance, there was nothing to tempt him to idolatry, when every recent circumstance must have carried with it a conviction of the single power of the Almighty; and when the impression of the Creator's beneficent agency was kept alive by the frequent visits of his glorious presence. Highly favoured creatures, the voice of their God was a sound familiar to their ears!

“As there were no other inhabitants in the world, it was impossible to steal, murder, covet, or commit any crime against society. It had been, therefore, vain indeed, to forbid that which could not be done. There could be no virtue in abstaining from crimes to which there was no temptation. But there would have been virtue in submitting to the commands of God, who required only this simple abstinence, in token of their subjection; and no matter how small the trial, it was their part to have obeyed. It pleases God to try our virtue sometimes with very small temptations, and the weakness with which we transgress in the least things, may convince us that we are not very capable of resisting great temptations.

“ Insignificant creatures that we are, with narrow views and limited perceptions ; we are always ready to arraign the decrees of the Supreme Disposer of all, and to wonder why things are not otherwise. I have read a good remark, made by Philo a learned Jew, which may apply to this presumptuous disposition of mankind. In treating of the plagues of Egypt, he says, ‘ Some inquire why God punished the country by such minute and contemptible animals, as flies and frogs, rather than by lions, leopards, or other savage beasts that prey on man. But let them reflect, that God chose rather to correct, than to destroy the inhabitants—if he had desired to annihilate them utterly, he had no need to have made use of any auxiliaries. Let them remember, also, that when God—the source of all power—who stands in need of no assistance, chooses to employ instruments, as it were, to inflict chastisement ; instead of the strongest, he selects the mean and the despicable—but which, in his service, are endowed with irresistible force.’ ”

17th.—As my uncle saw how much I was interested about the Laplanders, and their reindeer, he was so good as to read to us, last night, an account of them, from De Capell Brooke’s travels, a very entertaining book, which has been lately published. I will transcribe a little of it here, as I know Marianne will like to see it.

“ My landlord having received intelligence

that the Laplanders, with their reindeer, were within a mile of Fugleness, I was anxious to avail myself of the opportunity of seeing them. After an hour's walk, we found the tent and its owner, Per Mathison; and inside the tent, into which we crept, Marit, his wife, was busy preparing the utensils for milking the deer, and making the cheese. She was not more than four feet nine inches high, and of a brown complexion, which seemed more the result of habitual dirt, and of living constantly in smoke, than of nature. She had on her summer dress of dirty white cloth, girt round by a belt, to which was suspended a small knife; and her *komagers*, or shoes, were of strong leather, forming a peak at the toes. On her head she wore a high cap, made partly of cloth, and partly of bits of coloured calico. This cap is peculiar to the Norwegian Lapland, and is rather elegant in its shape. Though wild and uncouth, her manners did not betray the surliness so conspicuous in her husband. The latter was dressed in reindeer fawn skins, which, being thin and pliable, were not likely to be too warm.

“ Another Laplander and his wife lived in the same tent. This man seemed to be a partner of Per Mathison; their deer were mixed together, but the superior number belonged to the latter, and he was evidently head of the family, which was easily perceived, from his idleness and

inactivity, mixed with a kind of gruff independence, that bespoke a laird of the mountains. He had, for the last two summers, brought his herd of deer to the mountains of Whale Island, from the interior of Norwegian Lapland—a distance of more than two hundred miles. Here he remained between two and three months; and, before the approach of winter, again returned to his native forests.

“ In about two hours, the distant barking of the dogs indicated the coming of the deer, which we at last discerned winding slowly along the mountains, at the distance of near a mile, appearing like a black moving mass. They now approached the fold, which was a large space that had been cleared of the brushwood, and inclosed by branches of dwarf birch and aspen, stuck around to prevent the deer from straying. As the herd came up to it, the deer made frequent snortings; and a loud crackling was heard, produced by their divided hoofs striking against each other. These animals, being endued with an exquisite sense of smelling, soon perceived there were strangers near; and our appearance, so different from the dress of the Laplanders to which they had been accustomed, alarmed them to such a degree, that it was necessary for us to retire till they had entered the fold. After some difficulty, the whole herd were at length collected within the circle; and

the women, bringing their bowls from the tent, began the operation of milking, which, as some hundreds of deer were assembled, was likely to take up a considerable time. In this both the men and women were busily employed. Before each deer was milked, a cord with a noose was thrown round the horns, by which it was secured and kept steady. The Laplanders are extremely expert at this; and it was surprising to see the exactness with which the noose was thrown from a distance; hardly ever failing to light upon the horns of the deer for which it was intended, though in the thickest of the herd. The cord for this purpose was made of the fibres of the birch, very neatly plaited together, and exceedingly strong. During the short time the animal was milking, this cord was either held by one of the women, or made fast to a birch shrub; some of the thickest having been stripped of their leaves, and left standing for this purpose. Many of the deer, instead of being tractable, as I had imagined, were very refractory, frequently even throwing the women down, and hurting them with their horns. They seemed very little to mind this; but, strong as the Laplanders are, they appeared to have little power over these animals, for when one had the cord round its horns, and refused to be milked, it dragged the holder with ease round the fold. The quantity of milk that each deer gave scarcely ex-

ceeded a tea-cup full; but it was extremely luscious, of a fine aromatic flavour, and richer than cream. Of this we eagerly partook, after we had permission; which, however, Per Mathison did not at first seem willing to grant, but his sullen nature was soon softened by brandy.

“In the middle of the herd of deer, suspended to the branches of a low birch, was a child about a year old, enclosed in a kind of cradle, or case covered with leather. The Laplanders, when obliged to go any distance from their tents, frequently leave their children thus suspended on a tree, by which they are secured from the attack of any ravenous animal.

“It was past midnight before the whole of the herd was milked. The sun had left the heavens about an hour, but a deep orange tint, on the verge of the horizon, shewed that it was not far below it. The deer were at length turned out from the fold; and, spreading themselves along the sides of the mountains, were quickly lost to our view. The Laplanders now collecting the milk, which amounted to a considerable quantity, proceeded with it to the tent, inviting us to supper. We crept in, and seated ourselves on reindeer skins, which were strewed on the ground. The business of making cheese now commenced: and Marit, emptying the milk from the bowls into a large iron pot, placed it over a fire, in the centre of

the tent, the smoke of which annoyed us much. In a short time, the milk assumed the appearance of curd; and, being taken off, was placed in small moulds, made of beech wood, and pressed together. The number of cheeses thus made amounted to about eight, of the size of a common plate, and barely an inch in thickness. The whey and curds that remained were for our supper, though the dirty habits of the people much diminished my appetite.

“After supper was finished, and the bowls and other utensils removed to a corner of the tent, fresh wood was placed on the fire, which again enveloped us in smoke. On its burning up, the flames reached the cheeses, which had been placed on a board directly over the fire, that the smoke might harden them. Their richness and the heat caused large drops of oil to trickle from them, which the men licked up with evident relish.

“The whole group was a curious one. Opposite to us, around the fire, were the uncouth figures of the Laplanders, squatting on their haunches. In one corner were two children asleep in deer-skins; and more than twenty small dogs were also reposing about us. It was soon time for the men to commence their nightly employment of watching the deer, and accordingly one of them left the tent. On making a signal, about half the dogs, whose turn it was to

commence the watch, started suddenly up, and followed their master to the mountains. I was greatly surprised to find the rest take no notice of the summons, and remain quietly stretched on their deer-skins, well aware, singular as it may seem, that it was not their turn."

18th.—Mary is reading Waddington's Visit to Ethiopia and Dongola, and she shewed me an account in it of the *mirage*, that most curious deception of the sight.

In crossing the immense sandy plain near Askán, in Dongola, Mr. W. says they had a good view of the mirage. It assumed at first the appearance of a broad winding stream, which he mistook for the Nile. It then changed rather suddenly from a river to a sea, covering the whole of the horizon in front of the party; while castles, trees, and rocks seemed to stand in the middle of the water, in which those objects were most distinctly reflected. The apparent distance of the nearest part was continually changing from one quarter to three quarters of a mile.

At Bakkil Mr. W. saw another beautiful mirage; and he remarks that the two or three places where he had seen this phenomenon in the greatest perfection, were peculiarly frequented by the antelope, as if she loved the banks of that fairy sea, and delighted to gaze upon its fugitive waters. It is a singular coincidence

with this observation, that the mirage is called by the Arabs of the Desert,—the lake of the gazelles.

I was anxious to learn something further on this curious subject, and not knowing what books to consult, I applied to my uncle. He tells me that a species of mirage is very common at sea; distant ships seem grotesquely caricatured by it either in length or in height; and sometimes, over the real vessel, an inverted picture of it appears suspended in the sky, with the masts of each prolonged, so as to unite. A similar effect was observed in the desert by the French, in their Egyptian expedition; the villages appearing distorted, or raised above their natural level, or as if built on an island in the middle of a lake. As they approached, the apparent surface of the water became narrower and narrower, till it disappeared; and the same deceptive appearance began again at the next village. But all travellers through sandy plains, in hot climates, mention this kind of optical deception, and particularly that of its having the appearance of water. Some of them, after having travelled for hours in a burning desert, faint and exhausted, have had their spirits revived by the sight of water, and have eagerly pushed on to refresh themselves and their poor camels; you may judge of their disappointment when they perceived that it was all illusion.

Another very remarkable instance of mirage, my uncle says, has been more than once seen at Reggio, in the straits of Messina, where it is called the Fata Morgana. When the rays of the sun form an angle of about 45° with the sea, and that the bright surface of the water in the bay is not disturbed by wind or current, if the spectator be placed with his back to the sun, there suddenly appears on the water the most incomprehensible variety of objects—pilasters, arches, and castles, lofty towers and extensive palaces, with all their balconies and windows—or perhaps trees, vallies, and plains, with their herds and flocks—armies of men, on foot and on horseback, and many other strange objects; all in their natural colours, and all in action, passing rapidly in succession along the surface of the sea. But if, besides the circumstances before described, the atmosphere happens to be loaded with a dense vapour, which the sun had not previously dispersed, the observer will behold a representation of the same objects in the air, as if traced there on a curtain; though not so distinct or well defined as those on the sea. These curious appearances were fancifully called by the Italians, the castles of the Fairy Morgana.

My uncle says that the celebrated Dr. Wollaston has proved, by some very ingenious experiments, that they arise from the irregular refraction of the rays of light, in passing through

contiguous portions of air, of different densities. One of these experiments he was so good as to shew us ; and as it is so simple, that Marianne can easily try it, I will endeavour to describe it here.

He put a little clear syrup into a square phial, and then poured about an equal quantity of water into it, over the syrup. The phial was set on the table, and having placed a printed card about an inch behind it, he made us observe that when we looked through the syrup, or through the water, the letters on the card appeared *erect* ; but, that when they were seen through that part where the two fluids were gradually mixing together, the letters were equally distinct, but *inverted*. A similar effect, he said, may be produced with hot and cold water, or even by two portions of cold and heated air ; and to shew us this, he performed another very easy experiment. He placed two of the library chairs back to back, and about a foot apart ; he connected the tops of the chairs with two bits of strong wire, and on the wires he laid the kitchen poker, the square end of which he had made red hot. Exactly in the direction of the poker he pinned a large printed A upon the wall, which was about ten feet distant ; and then desired us to look at it along the heated poker. We did so, and we all distinctly saw three images of the A, the

middle one being inverted, and the two others erect.

Dear mamma, how this reminded me of the day when you first explained to us the meaning of *refraction*, and shewed us the pretty little experiment of the stick, which appeared to bend just at the surface of the water. How often I now feel the benefit of all your patient instruction, and how often I wish I had your excellent memory, which enabled you to teach us so many things, without having any books to assist you!

20th.—My cousins like Eastern tales just as much as I do—and my uncle speaks of the Arabian Nights' Entertainments as if he was still a boy. He thinks that they are not only very ingenious, but that many of the apparent wonders, which are related as supernatural, may be easily explained, by means of the chemical and philosophical knowledge which is too generally supposed to be the result of late discoveries. I should like to read over all my favourite tales with him, for the benefit of his explanations. What brought them into my mind now, was a pretty little anecdote which I once heard him tell Grace, and which she has just been repeating to me.

In Khorasân, there was a certain old caravan-serai, called Zafferounee, which was once so

very extensive, as to contain seventeen hundred chambers, besides baths and shops, and besides accommodation for thousands of cattle within its walls. It is said to have been erected by one of those wealthy Eastern merchants, who delighted in perpetuating their names by acts of public utility. While it was building, and a large quantity of straw and clay were mixing up for that purpose on the road near it, a *cafilah*, consisting of a hundred camels, loaded with saffron, chanced to pass; and one of them, slipping into the clay, fell, and was disabled. Their owner inveighed bitterly against those who by so carelessly doing their work on the public road, had occasioned such a serious loss to him. The merchant, who was himself superintending the progress of the building, on hearing these complaints, inquired what might be the value not only of the camel, which had been disabled, but of all the rest; and purchasing the whole on the spot, ordered the saffron to be tumbled into the clay, and worked up with it, instead of chopped straw. It was from this that the *caravanserai* obtained the name of *Zafferounee*, or *Saffron*.

This rich merchant, however, fell afterwards into difficulties, as might have been expected, from his extravagance, and at last became a beggar. Travelling in search of subsistence, into foreign countries, he happened to visit the place where the camel-driver, now grown immensely

rich, lived in splendour. It came to the ears of the latter, that a stranger, in poverty, who spoke of his former riches in Khorasân, was living wretchedly in the town; and suspecting that this might be his old benefactor, he invited him to his house; and after feasting him superbly, induced him to relate his history: when, in concluding it, the unhappy Khorasânee described his destitute condition, the other interrupted him, saying, "How can you call yourself poor, when you are, in reality, a man possessed of great riches?" "Ah! no," replied the other; "once, indeed, I had much wealth, but all is gone; and I am now a beggar!" On this his host carried him to a secret chamber, which was full of money—"This," said he, "is all yours; it is the price of the saffron which you so liberally purchased from me: I have traded upon it and become rich, but the original sum I have always reserved as belonging to you; take it now, and live happily."

Grace is always encouraged to repeat to others the little stories which are told to her: I wish you could have heard her relating this to us before tea.

22*d*.—Well, I am in actual possession of the old quarry. Having settled all my plans, I at once set to work, and my uncle was so good as to let me have one of the workmen to help me, because he said my ideas were rational. The opening

of the quarry fronts the south-west; the rock at the back is high and steep, and a spring, which trickles from it, keeps the part which had been most deeply worked constantly full of water. In this I have put several pretty water-plants—Mr. Biggs, I know, lays a quantity of peat compost in his pond; but though I have not been able to obtain that yet, I have planted the white and the yellow water lily, which the gardener found for me a few miles off. A thick skreen of shrubs has been planted by my uncle's directions, above the rocks to the north, but no forest trees, for in a short time they would outgrow the place which they ornament only while young.

The middle and southern parts of the quarry are to be sloped and dressed; all the briars have been already taken out, and the loose splinters of the quarry are spread on the surface of the bank. Upon these, the gardener has laid a mixture of peat earth and sand, which he had to spare; and here I intend to have an incomparable bed of strawberries.

South of these, and where the rocky bank sinks, I am filling up the hollow and uneven spots with the same mixture and rotten leaves; for Mr. Biggs says that the natural soil of the beautiful North American shrubs is chiefly formed of decayed vegetables.

Groups of *rhododendron*, *azalea*, *kalmia*, and

many more, which, as I have learnt from that delightful book, Miller's dictionary, are suited to that soil and aspect, are to flourish there; and by Mary's advice, they are to be mixed with some of the Scotch roses. These are rather scarce here; but Mr. Biggs has been so generous as to send me a small piece of the root of each of his own rose bushes. There are a few fibres on them, and he assures me they will sprout in spring—so it will be a good experiment at least. I shall also have a little grass plat, with a few small beds for choice flowers, which I expect will blossom very early in this little snug spot.

I have planted some of the *lobelia fulgens*, and a *hydrangea*, which is a native of marshy ground, near the edge of the pond—and when spring comes, I hope to execute many other grand plans which I have formed, from hearing Mr. Biggs. My cousins approve of them, and all help me, and Mary wonders she never thought of adorning the old quarry before.

I am now very busy in making a bed for *ixia*, *gladiolis*, *lachenalia*, and *oxalis*—they are usually in a greenhouse, but I hear that, if planted late in October, in a soil composed of peat earth, and sharp sand, and over this, if a layer of peat, eight inches thick, be laid, to prevent the frost from reaching them, they will be in beautiful blossom in spring. I will try this—my uncle

encourages experiment; he says it is the high road to truth—and he assists all who wish to travel on it.

23rd., *Sunday*.—I asked my uncle this morning to tell me the meaning of Noah's prediction, "God shall enlarge Japhet, and he shall dwell in the tents of Shem." In reply, he told us the opinions of a very learned person, for whose writings he has a high respect; and I will endeavour to give you the substance of what he said.

"The most obvious meaning of the expression is, that Providence would bless Japhet with a numerous progeny, which should not only spread over an ample tract of country, but that they would afterwards encroach on the territory of Shem's descendants. And this sense of the words is supported by history; for the whole of Europe, and a considerable part of Asia, was originally peopled, and has been always occupied, by Japhet's offspring, who, not contented with their own possessions, have repeatedly made encroachments on the sons of Shem; as, for instance, when Alexander the Great, with an European army, attacked and overthrew the Persian monarchy; when the Romans subjected a great part of the East; and still more, when the Tartar conquerors of the race of Genghis Khan destroyed the empire of the Caliphs, took possession of their country, and made settlements

in all parts of Asia. Tamerlane also led his Moguls, who were another branch of Japhet's progeny, into Hindostan; and their descendants gradually obtained possession of that immense country, a part of Shem's original inheritance. These events, and others of the same nature, may be considered as the accomplishment of that prophecy; not only because they answer to the natural import of its terms, but because they have had great influence on the state of true religion in various parts of the world; so that in this interpretation we find the two circumstances which are the characteristics of a true interpretation,—an agreement with the facts recorded in history, and a connection of the particular prediction with the general system of the prophetic word.

“It would seem, however, that some amicable intercourse between parts of those two great families is implied by the expression, ‘Japhet's dwelling in the tents of Shem’; for the settlements made by the Portuguese, English, Dutch, and French in different parts of India, which was a part of Shem's inheritance, may be taken in this sense. And consequences cannot but arise of great importance, from such numerous and extensive settlements of Christians, in countries where the light of the Gospel has been for ages extinguished.

“There is still a third sense: but in order to

make it more apparent, it will be proper to consider the precise meaning of Shem's blessing—a blessing obliquely conveyed in this emphatic ejaculation, 'Blessed be Jehovah, the God of Shem!' This evidently implied that Jehovah was to be more peculiarly the God of Shem; and in the same sense that he afterwards vouchsafed to call himself the God of one branch of Shem's progeny—of Abraham, Isaac, and of Jacob, and of their descendants the Jewish people. Although the universal Father of all the nations of the earth, he may be said to have more particularly adopted the descendants of Shem, in choosing them to be the depositaries of the true religion, while the rest of mankind were sunk in idolatry and ignorance. Among them he preserved the knowledge and worship of himself, by a series of miraculous dispensations; to them he confided the representative priesthood, the type of the Messiah; and when the destined season came, he raised the Messiah himself from among the offspring of that chosen family.

"But the expression, 'the tents (or tabernacles) of Shem,' alludes to the Jewish tabernacle, which was one of the external means of preserving the worship of the true God. The word in Hebrew is the same for both tent and tabernacle. This holy tent was Shem's tabernacle, because it was entrusted to his descendants, and because none but them might bear a part in

its sacred service. Now this tabernacle, and this service, were undoubtedly emblems of the Christian church and Christian worship. It appears, then, that in the mention of the tents of Shem, Noah was inspired to make allusion to the Jewish tabernacle, as the symbol of the Christian dispensation; and that the dwelling of Japhet in those tents of Shem, took place when the idolatrous nations of Japhet's line became converted to the faith of Christ, and worshipped the God of Shem in Shem's tabernacles; that is, worshipped God in the truth and spirit of revealed religion.

“This prediction, therefore, bears directly upon the general object of all the prophecies—the union of all nations in the faith of Christ. And the fact is notorious, that the Gospel has, from the beginning to the present time, made the greatest progress in Europe, where the early and wide-spreading conversions of the idolaters of Japhet's line (among whom were our own ancestors) soon led to encroachments on the territory of Shem.

“How grateful should we be,” my uncle added, “to those learned men who thus elucidate the difficult passages in Scripture, and shew the beautiful harmony of the whole prophetic system!”

24th.—I am reading “Bartram's Travels in

North America." It is not a late publication, but very interesting to me, as I like to compare the productions of North and South America.

Among all the beautiful trees of our Southern regions, I do not recollect having seen or heard of the deciduous cypress, the majestic grandeur of which, he says, is surprising. It generally grows in low flat grounds, that are covered, part of the year, with water. The lower part of the stem, which is frequently under water, enlarges into prodigious buttresses; and they project on every side to such a distance, that several men might hide in the recesses between them. The stem is generally hollow as high as the buttresses reach, where it forms, as it were, another beginning, and rises, in a straight uninterrupted column, to the height of 80 or 90 feet. There it throws out its noble branches like an umbrella; eagles securely build their nests in them; they are the abode of hundreds of parroquets, who delight in shelling the seeds; and even the hollow stem is not untenanted, as it affords spacious apartments for the wild bees.

The trunks supply excellent timber; and, when hollowed out, make large and durable canoes. When the planters fell these mighty trees, they erect a high stage round them, so as to reach above the buttresses; and on these stages eight or ten men can work together, with their axes.

Another curious fact which I found in this

book is, that the inhabitants of East Florida prepare, from the root of the China briar, a very agreeable sort of jelly, which they call *conti*. They chop the root in pieces, which are afterwards pounded in a wooden mortar; and, when washed and strained, the sediment that settles to the bottom dries into a reddish flour. A small quantity of this, mixed with warm water and sweetened with honey, becomes a delicious jelly, when cool; or, mixed with corn flour and fried in fresh bear's oil, it makes very nice cakes.

26th.—I have just found, in "Bartram's Travels," some particulars that I do not think we knew before, of that curious species of the *Tillandsia*, commonly called long moss.

It grows on all trees in the southern regions of North America; and any part of the living plant, torn off and caught on the branches of another tree, immediately takes root. Wherever it fixes, it spreads into long pendent filaments, which subdivide themselves in an endless manner, waving in the wind like streamers, to the length of twenty feet. It is common to find the spaces between the boughs of large trees entirely occupied by masses of this plant, which, in bulk and weight, would require several men to carry. In some places, cart loads of it are found lying on the ground, torn off by the violence of the wind. When fresh, cattle and deer eat it in the

winter season ; and when dry, it is employed for stuffing chairs, saddles, and beds ; but to prepare it properly for these purposes, it is thrown into shallow ponds of water, where the outside furry substance soon decays : it is then taken out of the water and spread in the sun ; and, after a little beating, nothing remains but a hard, black, elastic filament, resembling horse-hair.

There is a curious anecdote about the name of this plant, in " Harry and Lucy concluded ; " but I need not mention it here, because my uncle has sent that delightful little book to you, and I am sure Marianne will have run through it with as much eagerness as I did.

28th.—I have just found some more instances of those strange optical deceptions, which seem to be of the same nature as the *Fata Morgana*. My aunt thinks that the term *mirage* only applies to the deceitful waters of the desert.

Mr. Dalby writes in the *Philosophical Transactions* that, ascending a hill in the Isle of Wight, he observed that the top of another hill, of about the same level, seemed to dance up and down as he advanced ; and on bringing his eye down to within two feet of the ground, the top of the hill appeared totally detached, or lifted up from the lower part, the sky being seen under it. This he repeatedly observed ; and he adds, that as the sun was rather warm for the season, with a

heavy dew, there was a great deal of evaporation going on.

Another very singular example of these extraordinary appearances in the atmosphere, is given by Dr. Buchan. Walking on the cliff, about a mile east of Brighton, in the latter end of November, just as the sun was rising, he saw the face of the cliff on which he was standing represented precisely opposite to him, at some distance in the sea; and both he and his companion perceived their own figures standing on the summit of the apparent cliff, as well as the picture of a windmill near them. This phenomenon lasted about ten minutes, when it seemed to be elevated into the air, and to be gradually dissipated; and he remarks, that the surface of the sea was covered with a dense fog many yards in height, which slowly receded before the sun's rays.

How frequently it happens, when the curiosity has been awakened by any new subject, that chance leads one to some circumstance in books, or conversation, that exactly applies to it! By mere accident, I opened Scoresby's voyage at the following passage, which I have just time to transcribe.

After describing the amusing spectacle of some distant ships, which were either curiously distorted, or inverted in the air, by means of this wonderful kind of refraction, he says, "When looking through the telescope, the coasts of ice,

or rock, had often the appearance of the remains of an ancient city, abounding with the ruins of castles, churches, and monuments, with other large and conspicuous buildings. The hills often appear to be surmounted with turrets, battlements, spires, and pinnacles, while others, subjected to another kind of refraction, seem to be large masses of rock, suspended in the air, at a considerable elevation above the actual terminations of the mountains to which they refer. The whole exhibition is a grand and majestic phantasmagoria; scarcely is the appearance of any object fully examined and determined, before it changes to something else; it is perhaps alternately a castle, a cathedral, or an obelisk,—and then expanding and coalescing with the adjoining mountains, it unites the intermediate vallies, though they may be miles in width, by a bridge of a single arch, of the most magnificent appearance.”

29th.—We have been visiting Franklin’s farm to-day, and have had a very pleasant walk, late as it is in the year. He is so diligent, that he has done a great deal to it since we were last there. Between it and the next land he has made a ditch, with a high firm fence of flat stones placed edgeways, in three rows, each row sloping a little, and all supported by a bank of earth behind them;

between the two upper rows of stones, he has planted quick-thorns, and on the top of the bank a few young oak and elm trees. The deep ditch will serve to carry off the water from some drains that are to be made in a part of the ground which is wet and marshy. These drains are to be covered with earth; and something must be done to keep them from filling up. Some people line them with stone, but that is too expensive; and as he has just clipped some of his hedges, he intends, I believe, to put the branches of the thorn-bushes into the bottom of the drains, which will also prevent the sides from falling in.

Springs are formed in the bosom of the earth, my uncle says, by the rain water which sinks through the surface, and which, gently oozing, or *percolating*, as he calls it, through the sand or gravel, or through other porous strata, continues to descend till it is intercepted by some bed of clay or rock. No longer being able to descend, it follows the course of this impassable bed, and if thus conducted to the outside of the ground, lower down the hill, it forms then a spring. But if prevented by any obstacle from flowing freely out of the ground, it diffuses itself under the surface, and produces swamps and marshes. My uncle has been of great use to Franklin, not only by teaching him how to discover from the form of the ground where it is

most likely to meet with and *tap* these concealed springs, but by laying out the drains for him with a levelling instrument, so that they should have sufficient fall into the main ditch, or into a little rivulet which skirts his farm. I could not have conceived that science might be made so useful even in common agriculture.

Franklin is also ploughing a field for wheat—and is going afterwards to plough up another field that looks all rough and ugly—but which is to be left unsown the whole winter; he intends to plough it two or three times, and then in Spring, after it has lain fallow in this way, he will sow it with barley. Another grand operation is the preparing a piece of ground for an orchard; my uncle has promised him some nice young fruit-trees for it; and Franklin, very prudently, brought over some American apple-trees, which he says are very productive.

The blind basket-maker sometimes walks to the farm with the assistance of Bessy's arm; and it is impossible to see the happiness of the whole family without feeling the strongest interest in their welfare. She now looks quite blooming and healthy; and she is so industrious that besides her in-door occupations, she has persuaded her husband to give her an acre of ground for flax, with which she hopes to do a great deal. This will be a very uncommon crop in this

country, but I am sure, from what my uncle says, that it will be very profitable.

30th., *Sunday*.—We had a conversation this morning on the character of Joseph, which my uncle thinks a fine example of all the Christian virtues. “If we follow him,” said my uncle, “from his youth to the height of his preferment, we see him, in every part of his life, virtuous and religious; patient and courageous under misfortune; modest and temperate in the greatest success. He suffered injustice from his master who imprisoned him, though he had been just and faithful; but under this great trial he had the comfort of knowing that he was innocent. He had the still greater comfort of confiding in the support of God, who, in his own good time, delivered him from prison, and permitted him to be raised to a high situation, where his integrity might be made manifest. Then, if we consider his generous forbearance towards his brethren, how highly does it raise our admiration of his truly amiable disposition! When they were in his power—in just resentment of their former cruelty, he thought it right to mortify and humble them—but no sooner did he see that they were penitent, than his anger ceased.—And when he discovered himself to them, with what kindness and magnanimity he endeavoured to make them less dissatisfied with their former conduct!

“Be not grieved nor angry with yourselves, that ye sold me hither; for God did send me before you to preserve life: to preserve you a posterity in the earth. So now it was not you that sent me hither, but God.’

“Can any thing be more touching,” added my uncle, “than his generous anxiety to make his brethren forgive themselves, by shewing the advantages that were ultimately produced by their conduct to him?”

“There is one thing,” said Wentworth, “that I do not understand—why does Joseph say there shall be neither earing nor harvest, as if he meant two separate things?”

“The word *earing*,” replied my uncle, “sounds as if it meant gathering ripe ears of corn: but it is an old English term for ploughing, and is used in that sense in two other parts of scripture.”

“I had imagined,” said Caroline, “that earing was mentioned in that particular manner, in allusion to some blight, through which the corn should no longer give such an astonishing produce as seven ears to one stalk.”

“No;” said my uncle, “nor was that an unusual produce. A species of wheat still grows in Egypt, which generally bears this number of ears, and the stem is solid, that is, full of pith, in order to support so great a weight. The stem of our own wheat is, you know, a mere hollow straw. You see how necessary it is, my dear

children, when you do not perfectly understand what you read or hear, to have courage enough to confess your ignorance, and to ask for explanation.

“Before we finish the subject of Joseph,” he continued, “I will explain another small circumstance, of which perhaps Bertha at least may not be aware. The ancient manner of eating was for each person to have one or more dishes to himself; they were all first set before the master of the feast, who distributed to every one his portion; and as a mark of affection for Benjamin, Joseph sent him five dishes, while he only sent one to each of the others. In Persia and Arabia, every dish that is set before the master of the house is divided into as many portions as there are guests, but those of the greatest rank have by far the largest shares.”

31st.—Mr. R——, a friend of my uncle's, has been here for a few days, and has amused us very much.

Yesterday he shewed us a Proteus kind of substance; it had at first a milky transparency, and reflected a bluish white light, but when we looked through it, it was yellow. He slightly wetted it, and then it lost all transparency, appearing like chalk. He immersed it completely in water, and the edges became more transparent than before, and at the same time a little gas

seemed to escape from it. A small white ball appeared in the centre, but it gradually diminished in size, and the transparency extended through the whole mass.

He afterwards put some of this substance into oils of different colours—the colours it quickly acquired—and when it had completely absorbed the oil it became transparent, but when partially it was opaque. When steeped in oil, coloured with alkanet-root, it had quite the tints of the ruby; from a preparation of copper it imbibed the colour of the emerald; and from some acid exactly that of a Brazilian topaz. He then shewed us that all these brilliant colours could be discharged along with the oil, by exposing the substance to a strong heat.

Fortunately for us, when Mr. R. called here he was on his way home from London, where he had provided himself with these curiosities, and he was so good-natured as to unpack some of his treasures for our gratification.

I was much surprised at these cameleon-like changes; and at last I learned that this substance is the *tabasheer*, of which I had read something before. It is found in the cavities of the bamboo; while the plants are young, it is fluid, but as they advance in size it hardens. Mr. R. shewed us three specimens; the first was almost transparent, and so tender, that in carelessly taking it up, I crushed it. He was so

kind as to say it did not signify, as he had some more ; but I determined in future to see without the help of my fingers, as you have often advised me, dear mamma. The second piece was harder and more opaque, having only a little transparency at the edges. The third specimen was perfectly opaque, and looked like a bit of stucco ; it was on this piece that he shewed us the curious experiments I have mentioned.

Mr. R. endeavoured to make us comprehend the causes of all those changes which have appeared so contradictory. "In the first place," said he, "tabasheer is a remarkably porous substance ; now if one of the pores be filled with air, a ray of light in passing through it suffers very little refraction, and is therefore so little scattered, that the tabasheer appears transparent, and objects can be partly seen through it. This arises from the small difference between the refractive power of air and of tabasheer. Next," said he, "suppose a very small quantity of water introduced into this pore, so as not to fill it, but merely to line it with a film ; then the light, in passing through the tabasheer, the film of water, the air within, the film again, and lastly the tabasheer, is so much scattered by these six refractions, that the substance appears opaque. But when by complete immersion the pores are filled with water, the multiplied refractions caused by the films and the portions of air

within, cease, and the light is more freely transmitted."

My uncle and Mr. R. talked a long time on the subject, and tried several other experiments, explaining to us the reasons for each step they took; but I have said enough to shew you that I endeavoured to understand what they were doing, and this I am sure will give you pleasure. Indeed the advantages of being able to comprehend something of the conversation of such people is so great, that I cannot sufficiently thank you for having given me a little taste for science. You used to say that there was great danger of making girls conceited by giving them a smattering of science; but I assure you that I shall keep a careful watch over myself in that respect; the little knowledge I have is only a peep-hole through which I see the boundless stores that I can never hope to possess—and surely this can only make me more humble.

Nov. 1st.—I had not time yesterday to say any thing of the plant which produces the tabasheer; and perhaps Marianne might like to have the particulars that we were told.

It is the bamboo-cane, which is of the same natural order as the grasses; it grows in both hemispheres, almost anywhere within the tropics, and very abundantly in the East Indies. The main roots are thick and jointed,

and from these joints spring several stems, which are sometimes eighteen inches in circumference at the bottom. These stems or culms are round, hollow, and shining; they grow quite straight, and often to the height of sixty feet; and they are articulated, or knotted; the knots being about a foot apart, and each armed with one or two sharp spines. The leaves are narrow, eight or nine inches long, and supported on short foot stalks; and the flowers grow in large panicles, three or four together, from the joints of the stem.

The stalks of the bamboo, while young, are filled with a spongy substance which contains a sweetish milky juice; but they become hollow as they grow old, except at the joints, where they are crossed by a woody membrane—such as I believe there is in the knots of all culms. Upon that membrane the liquor rests, and concretes into the substance called tabasheer, or sugar of Mombu—which was held in such esteem by the ancients, that it was valued at its weight in silver. It had long been used as a medicine all over the east, but was first made known in Europe by Dr. Russell in 1790.

The young shoots are dark green; and, while tender, make a good pickle; but the old stalks are of a shining yellow colour, and prodigiously hard and durable: they are used in buildings, in all the farming tools, and in all

sorts of household furniture. By piercing the joints they are often converted into water-pipes, and they make excellent poles by which the porters carry casks, bales, and palanquins. In the island of Java, a sort of palanquin is formed of bamboos, resembling a small house in shape, and called a dooly. In short there are few plants which have such a variety of uses.

2nd.—This last summer is said by every one to have been remarkable for the quantity of seed produced by almost all plants; and acorns were particularly plentiful. Some were gathered for the purpose of sowing; but an immense number remained under the oak trees in the lawn, till within these few days, when they all disappeared, and what fell from the trees in the course of one day, had vanished before the next. After much puzzling about what could have become of them, Wentworth discovered that the sheep eat them; he caught them in the act to-day. He also observed that chaffinches and other birds eat beech-masts—but I do not wonder at that, for I think them excellent; and my aunt tells me that on some parts of the continent they are very much used as food by the poor inhabitants. The oil which is previously expressed from them is of the finest quality; and

in Alsace, as well as all along the borders of France and Germany, the peasants make a sort of cake with the remainder.

I saw the jay to-day for the first time; Mary shewed me several of these pretty birds under a hedge. We watched them for some time, and I actually saw one raise and depress the bunch of black and white feathers on his forehead repeatedly; the wing coverts are beautiful. Jays are very affectionate to their young, who remain with their parents during all the autumn and winter months, instead of separating early, as most birds do. In winter they are to be seen continually under high hedges, or on the sunny side of woods and copses, seeking for acorns, crab-apples, or for the grubs and worms to be found in fields where cows have pastured. They are timid and watchful, and feed in silence; but timid as they are, they are very destructive in summer to the gardens.

The Lumleys, you know, live in a very sequestered part of the forest, and the jays seem to have established themselves in that undisturbed spot. Miss Lumley told me that they make great havoc among the beans in June; and though in general cautious and wary, at that season their boldness is quite remarkable, and nothing seems to intimidate them. She has frequently seen one of the parent birds descend from a tree into the bean rows—they soon an-

nounce their discovery by a low but particular scream, and then all the family hastened to join in the plunder.

Their throat is so wide that they can swallow beans, acorns, and even chesnuts whole ; and it is said they can imitate various sounds, such as the bleating of a lamb, the hooting of an owl, the mewing of a cat, and even the neighing of a horse.

They appear to be fond of each other, but to other birds they are very troublesome, destroying their nests and eggs, and sometimes pouncing on the young ones, to the great vexation of the Lumleys.

4th.—Those poor travellers, whom more than a month ago I told you that good Mrs. Ando had so generously taken into her own house, have been obliged to continue there ever since ; and my aunt has two or three times driven to Newnham to visit them. They have, you know, one little child, but the man seems to be dying, and his wife, a foreigner, nurses him with the most tender care. They have told their history to my aunt, and she has given me leave to relate it to you.

The young woman is a Swiss, her name is Madeleine, and her father was a merchant of Geneva, where they lived in comfortable affluence till his wife died. His affliction on this occasion

was so violent that he resolved to quit Geneva for ever, and remove to a city in the south of France, where he might continue his business; but Madeleine was tired of a town life, and persuaded her father to give up commerce and retire to a little property he possessed in the district of Beaufort, in Savoy. She had formed delightful pictures in her imagination of the occupations of the farm, the vineyard, and the dairy, and she longed to realise them.

Her indulgent father yielded to her wishes, and they removed from all the comforts of Geneva to that remote and mountainous district. When they arrived, and that she saw the change which she had persuaded her father to make, she felt severe regret for having interfered; and would then have persuaded him to return, but he had arranged every thing for his residence in Savoy—he had made his decision, and he would not let it be again shaken.

His activity in a short time made the house comfortable, and he employed his time and his money in forming a garden and an extensive vineyard. The industry which he had devoted to trade, he now directed to the cultivation of the vine, and his unwearied assiduity was rewarded in a few years by a profusion of grapes, of which he made excellent wine. Every thing seemed to prosper, and Madeleine dearly loved a place where they had conquered so many difficulties,

and where they had seen comfort and plenty rise out of a bare and rocky valley ; a place which, with their endeavours to shelter and beautify it, and with the ornament of a remarkable group of fine old walnut trees on the hill behind the house, was now quite picturesque. The poor around them had also reason to like the change, for many a distressed family were now employed, and many an ignorant child was taught as well as clothed by Madeleine. But her father had laid out all his ready money on the vineyard and on a large stock of cattle ; so that every thing depended on the success of his plans.

According to the custom of the country, their cattle were sent every summer with those of the neighbours, to the fresh air and sweet pasture of the mountains. They were all intrusted to the care of one person, who during the season lived on the top of the mountain, in a little wooden hut, called a *chalet*. There the milk of the cattle was collected ; and in eight days after the cows had been driven up to the common pasture, the owners assembled, and the quantity of milk from each cow was weighed. The same thing was repeated once in the middle of summer ; and at the end of the season the whole quantity of cheese and butter was divided in due proportion. The cattle were then driven back to the vallies, when there was a general festival, in which the whole *commune* joined. All the young people

used to assemble at the chalet on this occasion in their holiday dresses, decorated with Alpine flowers; and with all the gaiety of youth, and with songs and dances, they attended the descent of their herds, which were also decked with ribbons, and bells, and garlands. At intervals the party sung together the touching song of the *Ranz des vaches*, or some of the pretty Savoyard airs.

On the morning of one of these festivals a traveller, who had missed his way in crossing the mountain, happened to apply at the chalet for assistance. The youthful crowd were actually setting out—the song which announced the general movement had already commenced—when seeing that the traveller was faint and in want of assistance, they stopped and hastened to relieve him. They gave him such refreshment as they could, and, unmindful of their own interrupted pleasures, they delayed their march to give him time to recover. When he was sufficiently revived by their hospitality, he accompanied the gay party to the village; and, charmed by their simple manners, he joined as well as he could in their happy and innocent festivity.

The traveller was an English officer, who had been wounded. He was then enjoying the bracing air and wild scenery of Savoy; and though he intended to winter in Italy, he wished to loiter a little longer among the glens and mountains of

this picturesque country. Madeleine's father was interested by his appearance of ill health, and pleased by the manner in which he expressed his gratitude for the kindness he had received, and therefore invited him, whenever his wanderings should lead him that way, to take up his quarters at Beaufort. He came more than once in the course of the autumn, and was always welcomed with warmth and hospitality by the good old Swiss and Madeleine.

At length he bade them adieu, and pursued his way to Italy, leaving them in happiness and prosperity. At the end of two years he again returned, and found them sunk into poverty and misery. The overflowing of the Doron, early in spring, had caused universal destruction in the valley: houses, gardens, and vineyards were swept away, and even the cattle, which were to have gone in a few weeks to the hills, were included in the general ruin. All was gone—a few hours had reduced these amiable people from affluence to absolute want. He who had been master there—whose active head and industrious hands had planned so well and executed so much, was now the passive object of his daughter's cares. The shock had irreparably injured his mind, for he had spent his whole fortune in making this place for her, and he had now the melancholy consciousness that both were beggars. But Madeleine's energy rose above mis-

fortune. She turned her whole thoughts to the comforts of her father and the means of procuring them; and she earnestly prayed for the blessing of Heaven on her exertions.

As soon as they were settled in a very small cottage in the neighbourhood, she determined again to try the cultivation of the vine—but considerably higher on the side of the hill—so as to be secure from a second inundation. She intended to have laboured at this new plantation herself, with the assistance of one old and attached servant, but numbers of people from the neighbouring villages, who loved her and were grateful to her, insisted on being allowed to help. It is a common custom in Switzerland to plant vines on very steep hills, with alternate rows of dry stone walls, to preserve the soil about the plants; and Madeleine resolved to accomplish such a vineyard. By the assistance of these good-natured people, a small plantation was made: while some were digging, others built the little walls; and Madeleine herself guided the donkies which were laden with earth to make a sufficient soil, or with her own hands disposed it round each vine plant, and dressed the whole.

Though the vineyard was small, she hoped to derive an additional benefit from it for her father, by planting a few useful vegetables, which might perhaps interest him in his favourite occupation of gardening. But when she tried to

rouse his mind to this, he only wept at the loss of their former pretty garden, for which they had both done so much.

The group of walnut-trees still remained; and, fortunately, they bore remarkably well. The gathering of the fruit and the pressure of the oil is one of the most important occupations of the Savoyards, and Madeleine was again assisted by her kind neighbours. The walnut harvest commences about September; the fruit is beaten off the trees with long poles, and the green husks are taken off as soon as they begin to decay; the walnuts are then laid in a chamber to dry, where they remain till the end of Autumn, when the process of making the oil commences. The first operation is of course to take out the kernel, and for this the neighbouring peasantry collect. They are usually placed round a long table; a man at each end of it cracks the nuts with a mallet, by hitting them on the point; and as fast as they are cracked they are distributed to the persons round the table, who take out the kernels and remove the inner part. The Savoyards are so lively, that this employment is in general accompanied by songs and various amusements. The day that Bertram, their English friend, returned, Madeleine was thus occupied; while her poor old father, placed in a chair beside her, was gazing vacantly at what they were doing.

Though changed so much in circumstances, she did not appear dejected—she had not sunk into despair; and though her countenance, as he told my aunt, no longer expressed gaiety, yet even in her tears she had the smile of hope and cheerfulness. He had always esteemed her, and was now so charmed by her various merits, and so anxious to assist and protect her, that he persuaded her to accept his hand. He wrote to his father, who is a clergyman in Wales; he obtained his consent, and for a few years lived happily with Madeleine in her cottage, enjoying those pleasures that follow laborious industry, and taking part in all the tender cares she bestowed on her poor father. His half-pay added to their comforts, but still he was obliged to work—to labour sometimes for the pleasure of making Madeleine's father comfortable at the close of his life, and he was rewarded by the success of their exertions.

But the severity of the climate in winter and his laborious life were too much for his constitution, which had never recovered the effect of his wounds. He felt that his strength was declining; and the poor old father having died, last spring, Bertram became anxious to return to his own country. They had no longer any tie to Savoy, and Madeleine willingly acquiesced in his wishes and sold her little property; yet it gave her many a pang to part for ever with the place where she

had been so happy with her father—a place so endeared to her by years of cheerful industry, and by the sympathy and kindness she had received from all the inhabitants.

Unfortunately, Bertram became so much worse on his journey, that they were frequently obliged to rest, and by the time they arrived in Gloucestershire they found their expenses had been so great that they should not have sufficient means to accomplish the remainder of their journey. Thus stopped by want of money as well as by illness, poor Madeleine was looking for some humble lodging, when that kind-hearted creature Mrs. Ando, prevailed on them to come to her house. He has repeatedly written to request his father would come to him, but till last Monday he received no answer. It appears that the old gentleman had been also very ill, and all his letters remained unopened. He is now expected every day—and a sad meeting it will be, for my aunt fears that his son is too ill to recover.

Mrs. Ando sent a messenger yesterday to tell my aunt that her poor patient very much wished to see her again. She instantly went, and they had a long conversation on religious subjects, which gave her heartfelt pleasure, his sentiments were so pious. He spoke in the most affecting manner of Madeleine's cheerful and tender care; and added that having been sepa-

rated from his father when very young, he had become careless and indifferent about religion;—for a soldier's life is rather unfavourable to religious improvement; but that his excellent wife had perceived this, and with prudent caution had gently led him to *think*; her good sense and admirable example awakened his mind, and while he taught her the English language, she taught him in return the principles, the humility, and the practice of Christianity.

Still long she nursed him; tender thoughts meantime
 Were interchanged, and hopes and views sublime.
 To her he came to die, and every day
 She took some portion of the dread away;
 With him she prayed, to him her Bible read,
 Soothed the faint heart, and held the aching head;
 She came with smiles the hour of pain to cheer;
 Apart she sighed; alone, she shed the tear;
 Then, as if breaking from a cloud, she gave
 Fresh light, and gilt the prospect of the grave.

5th.—I was rather naughty yesterday, I did not walk out; and my uncle reproached me for it this morning. “If you shut yourself up every cold day, Bertha, you will never become more hardy than the stove plants from your own country, which would certainly be more ornamental, and more valuable, if they could be reconciled to our climate, and made to grow here in the open ground. And you, too, would be happier as well as stronger, if you were able to enjoy the out of door pleasures of winter as well as those of the fire-side.”

“ Yes, uncle, I wish to do so, but I delayed till the day changed in hopes of having Caroline with me ; the straight beech-walk is comfortably sheltered from the north-east wind, but then the high ditch prevents one from seeing any thing, and makes it a dull place without a companion.”

My uncle laughed at my wanting to have a view from my walk, and said, “ Certainly it would have been pleasant to have had a companion ; but for my own part, I often enjoy a solitary walk : it is, I think, a great advantage to accustom the mind to submit sometimes to solitude, and to look for pleasure from within. Suppose there be nothing to see, why should you be dull ? Have you not memory and reflection for companions ? Do not your various pursuits furnish you with matter for consideration ? Study is absolutely useless, if you do not, by daily recalling what you have read, endeavour to class and arrange it in your mind ; can you feel alone and dull when thus engaged, and is not that retired walk exactly suited for such employment ? But, come with me, my dear,” he added, “ and I will shew you sufficient to occupy both eyes and mind even in that dull place.”

A walk with my uncle is one of my greatest pleasures, dear mamma.—I was ready in a minute—and to the beech-walk we went ; but it was no longer a dull walk ; all he says is so delightful, and he listens so patiently to every

question. After a few turns, in which I entirely forgot the North-east wind, he said, "There is no place, my little Bertha, that does not present some objects of interest to those who choose to open their eyes. For instance, even on this rough ditch, and on the old wall that joins it, you may see a curious variety of vegetation, which your finest embroidery cannot equal. Look at those mosses; they are among the meanest plants, yet there is not one that is not worth examining. The fructification is still to be seen on that tuft of *bearded thread moss*. Take your little magnifying glass and look at the cup which is so delicate, and yet so firm, its edge strengthened by that finely toothed ring, to which the slender conical lid is exactly fitted; its pointed top, you see, serves to attach that little shining scaly membrane, which is the principal defence of the flower and seed from the weather, and which is called the veil or *Calyptra*.

"Now, Bertha, look at this *silver thread moss*, here on the walk, with its diminutive leaves so closely pressed to the stem as to be hardly visible; it is now quite green, but in some weeks it will become of a shining silvery white, especially when dry; and this circumstance distinguishes it from all other mosses."

I asked him the name of the moss that is so common on the roots of the trees, creeping

through the grass round them, and growing in tufts of long crowded shoots;—he told me that those long crowded shoots mark that species, and he shewed me the brown fibres by which they cling to the trees; and the leaves which grow in double rows, ending in little crooked hairs; he called it the *trailing feather moss*. He seemed to take as much pleasure in explaining a thousand things about them as I did in listening. How stupidly I had walked up and down there, and never cast my eyes on the beautiful structure of these little plants! We then examined several lichens, some in tufts hanging from the branches of trees and bushes, or encircling them with their crisp flat leaves; others covering the stems with an odd white crust; while on the damp earth beneath we found the *cup lichen* in deep sea-green patches, displaying its tiny cups like fairy wine-glasses.

“On those stones,” said my uncle, “you may trace the beginning of all vegetation, from the little black spots, which are scarcely discernible, to the larger lichens and mosses of different forms and sizes. Or, let us turn to the grassy bank, and you may there see a great number of herbaceous plants still green, mixing with that useful grass, the creeping bent, which throws out fresh pasture at this late season from the joints of its runners or *stolones*.”

He shewed me many of these plants; and

more than once said, "Everything here is interesting to persons of observation, and particularly so to those who know something of botany. But they are not merely for momentary examination—the variety and the design, to be found in each, supply ample subject of reflection."

Just at that moment I heard a shrill cry, and I interrupted my uncle to ask what it was.

He told me that it was the alarm-cry of the fieldfare, and pointed to a large tree at the end of the walk, where a number of fieldfares and redwings, lately arrived from a colder climate, had collected.

"You see," said my uncle, "that even without any fine picturesque view, you may have abundance of amusement here, not only in observing the growth of mosses and plants, but in watching the habits of birds. You may see the little woodpecker, and the still smaller creeper running nimbly up the stems of the trees, and pecking insects and their eggs out of the crevices of the bark; or the fauvette and the friendly robin waiting on every spray for a little notice; while in the thickets to the left you may see the missel thrush, and may sometimes distinguish its note, though it does not actually sing at this season."

As my uncle said this, we approached the tree on which the fieldfares were perched: they seemed at first unmindful of us; but, as we came nearer, one bird which I had observed sitting

alone at the very end of a branch, rose suddenly on its wings and gave a cry of alarm, which was the same I had heard before. The moment this happened, they all flew off together, except one, which remained there till we almost reached the tree, when it repeated the same cry and followed the rest.

My uncle told me that this is the constant habit of these birds ; they arrive late in autumn, and always collect in a flock, placing one on the watch to give the alarm. When they spread over a field in search of food, they never separate much, and fly off in a body at the first notice of their sentinel. The redwing sings sweetly in its native country, Sweden, though here it makes only a piping noise. As we walked along, he told me that fieldfares were formerly kept in aviaries by the Romans, who fattened them on bread and minced figs ; during which process very little light was admitted, and all objects were excluded from their sight, that could remind them of their former liberty. We watched these birds for a long time ; and as we returned home my uncle said, “ But in suggesting these subjects of observation, Bertha, I do not mean that you should always stand still in the cold to examine them ; nor do I suppose that in one walk you could attend to such a variety of objects. I only want to shew you how much amusement a so-

litary winter's walk, even along a *dull* straight high ditch, can supply for both eyes and thoughts.

“Besides all these, you, my little botanist, might have another endless subject for examination in our deciduous trees, on many of which you will find that, unlike those of tropical climates, the young shoots, leaves and flowers are formed in autumn, and cradled up in scaly buds, where they are secure from frost, till the following spring.

“Indeed, the comparisons you must be naturally induced to make between your two countries, might supply you with amusing and useful occupation; and the result will be, that in each you will discover how peculiarly every creature and every vegetable is adapted to the country where it has been placed.”

6th, Sunday.—I asked my uncle this morning, why Joseph said that every shepherd was an abomination to an Egyptian; and also, why Joseph expected, that when Pharaoh was informed that his father and brethren were shepherds, he would order them to dwell in the land of Goshen?

“In the first place,” said he, “it is supposed that Egypt had been invaded and subdued by a tribe of warlike shepherds from Arabia, called Cushites, or sons of Cush. They were also called

the Pali, or shepherds ; and their leaders called themselves the Shepherd-Kings. Six of these Shepherd-kings are said to have successively reigned in Egypt, till at length the native princes, weary of their tyranny, rebelled, and expelled them. They retired into the land of Canaan, and established themselves at Jerusalem, and in other strong situations in that country, which, from them, obtained the name of Palestine, or Palis-tan—the country of the Pali. These people afterwards became the Philistines, who were such troublesome neighbours to the Israelites.

“ The memory of their tyranny was still fresh in the minds of the Egyptians, at the time that Joseph’s family removed to Egypt; and it was, therefore, natural that every shepherd should be an abomination to the Egyptians. Cush, you know, was the eldest son of Ham ; the Egyptians were decended from Mizraim, the second son of Ham, and Egypt is to this day called Mizr, by the Arabs and Abyssinians.

“ As to your second question,” continued my uncle, “ in regard to their being ordered to dwell in the land of Goshen, it appears probable that there had been shepherds in those parts before ; otherwise Joseph could scarcely have foreseen that that portion of the land would be given to his brethren. Besides which, Goshen being chiefly adapted to pasturage, which was so con-

trary to the taste of the Egyptians, this region most likely lay neglected. Hence we see why the Israelites found such easy access into the country, so as not only to be allowed to dwell in it, but to have the land of Goshen given them for a possession, even the best of the land of Egypt."

"I wonder," said Wentworth, "why the Israelites were sent by Providence into Egypt, as they were, after a time, to be placed in Canaan, the land of promise, and would, therefore, be again unsettled and obliged to remove."

"It has been suggested," said my uncle, "that the promise made to Abraham, to give to his posterity the land of Canaan, was not to be fulfilled, till this great family of Israel was strong enough to take that land by force from the inhabitants, and to keep possession of it. Besides, the Canaanites had not then completed the measure of their wickedness, which was to be punished by the loss of their country."

"In the meantime, though the Israelites were obliged to reside amongst idolaters, and were enjoined to preserve themselves unmixed; yet Egypt was the only place where they could for so long a time remain safe from being confounded with the natives. For the ancient Egyptians were, by numerous institutions, forbidden all fellowship with strangers; and having a particular aversion to the employment of the Israelites,

they were, by that means, more completely separated. Besides, during their long residence of above 400 years in Egypt, the Israelites, who were but simple shepherds when they went there, had the advantage of acquiring a knowledge of the various arts in which the Egyptians excelled.

“The Bible here, as in many other cases, only records the facts: we cannot now penetrate, my dear boy, into the causes or motives which led to them; but we may be sure that what was dictated by Infinite Wisdom was just and proper; and in venturing to assign such reasons as we can infer from other circumstances in history, we should do so with great modesty and distrust of ourselves.”

7th.—My uncle has been obliged to go to London about business; he left us this morning, but his stay will not be very long, I hope, for we shall miss him excessively, and the more so, as winter is completely begun. We have now dark days, with frequent rain and storms; few trees have even a withered leaf remaining, and every thing out of doors has a forlorn and desolate appearance.

But though the leaves are all gone, we have still a few flowers; the China rose is still in bloom, and in the sheltered warm borders, we find a few wall-flowers, some lilac primroses,

and many Neapolitan violets, which are delightfully sweet.

9th.—When we were walking this morning in the forest, Frederick made me take notice of a flock of crows, which were quite different in appearance from the common rook. The back is ash-coloured, while the head, throat, wings, and tail, are black. I was surprised at my own blindness in not having observed them before; but Frederick told me that they had only arrived lately, as they change their abode twice in the year. About the middle of autumn, they appear in the southern parts of England in flocks; and in the beginning of spring they depart in a northerly direction; though in some parts of Scotland and Ireland, they remain through the whole year. This species is still more familiar than the rook, and in winter will go even to the yards of houses to pick up food. It is called the hooded crow, or scare-crow. I heard it give two cries, one was the hollow hoarse note of the crow, but the other was shrill, and not very unlike the crowing of a cock. They are remarkable for this double cry.

Mr. Landt, in his description of the Feroe Islands, says that one or two hundred of these birds sometimes assemble, as if by general consent. A few of them sit with drooping heads,

others seem as grave as if they were the judges, and others again very bustling and noisy. The meeting breaks up in about an hour, when one or two are generally found dead on the spot; and it has been supposed, by those who have observed them carefully, that they were criminals punished for their offences. Frederick says he has read that in the Orkneys, too, they meet in spring, as if to deliberate on concerns of importance; and after flying about in this collected state for eight or ten days, they separate into pairs, and retire to the mountains.

Along with those we saw several carrion crows with their glossy plumage of bluish black; they not only associate with rooks and other crows, but approach our dwellings and saunter among the flocks; and I really saw some hopping on the backs of pigs and sheep, with such apparent familiarity that one might have imagined they were domestic birds.

Towards the close of winter the hooded crow and the rook remove to other regions, but the carrion crows resort to the nearest woods, which they seem to divide into separate districts, one for each pair; and it is remarkable that they never intrude on each other's portions.

Crows may well be called *omnivorous* birds, for they eat every thing—flesh, eggs, worms, grain, fish, and fruit. Shell fish, it is said, they very ingeniously crack by dropping them from a great

height on a stone. Many people have seen this; and the great Mr. Watt, whose observation was always alive, watched one of these sagacious crows taking up a crab into the air, which it repeatedly let fall on a rock, till the shell was completely broken. The same ingenuity has been observed in another species of the crow family, in North America: a blue jay, which had been tamed, finding the dried seeds of Indian corn too hard to break, placed one in the corner of a shelf in the green-house, between the wall and a plant box: having thus secured it on three sides, he easily contrived to break it; and, having once succeeded, he continued ever after to apply the same means.

10th.—We have had a grand discussion in our walk this morning, on genius. Mary's opinion is, that it never exists originally; and that wherever biography affords us the opportunity of learning the small circumstances of early life, we may observe that something had occurred to turn the attention, while young, to that pursuit, in which successful perseverance had been afterwards ascribed to genius. For instance, in the thirteenth century, some Greek painters being employed in the churches of Florence, the youthful Cimabue gazed for whole days in admiration of their work: he afterwards devoted himself to the art, and quickly surpassed his masters. Here,

but for the circumstance of the Greek painters, his talent might have remained unknown even to himself.

“But,” said Caroline, “his own pupil, Giotto, may be opposed to your theory; you know he was a shepherd boy, whom Cimabue found accurately drawing the figures of his sheep on the sand.”

“I confess,” said Mary, “that does seem rather against me, but we do not know what previous opportunities he might have had. Canova’s genius, it is said, shewed itself in the obscurity of village life; yet we learn from his Memoirs that he lived with his grandfather, who, though only a common stone-cutter, was in the habit of designing and working architectural ornaments, and surely that accounts for the tendency of his pupil’s mind.”

“Very well,” replied Caroline, “I will leave you in possession of Canova, and only ask what you think of West—the great West? Belonging to the sect of Quakers, who disapprove of making any representation of the human form, and born in North America, where the arts were not at that time cultivated, he had never seen any sort of drawing; yet while he was a very little boy, being desired to watch a sleeping infant, he was so charmed with its little face and attitude, that he made an excellent sketch of it with a bit of half-burned

wood. Was not that, Mary, from the impulse of genius?"

"I see," said Wentworth, "that Mary does not think herself quite conquered; but as it is going to rain, suppose we adjourn the debate, as papa says, to another day. Caroline shall then have Bertha on her side; I will do my best for Mary, as a true knight is bound to assist the weak; and Frederick shall be the umpire, and adjudge the wreath of victory."

We all agreed to this plan; and I am sure it will produce a great deal of amusement. My uncle and aunt approve of these good-humoured contests, in which we never lose our temper, and all gain information.

11th.—Our *genius* conversation of yesterday having been mentioned in the evening at tea, my aunt encouraged us to repeat our arguments, and to defend them by fresh examples; and my uncle so nicely threw himself, sometimes into one scale, and sometimes into the other, that both parties valued themselves on his support. I am rather in doubt which will amuse you most, the anecdotes of various people that he related, or some circumstances in Canova's life that my aunt afterwards told us: I believe these interested me the most, so I shall begin with them.

"The beautiful country round Passagno, and

the refreshing breezes from the Alps, made it a frequent summer residence for the Venetian nobility. Old Pasino Canova, who lived there, was often employed in the repairs or embellishments of their villas, and on these occasions he was accompanied by his grandson. Young Canova thus became known to the senator Falier, who was afterwards his most zealous patron; and an intimacy was formed between him and Giuseppe Falier, the youngest son, which ceased only with Canova's life.

“The ingenuous disposition of Canova, his animated countenance and his modesty, interested the elder Falier; and he took him, when about twelve years old, under his immediate protection. But it was by a mere accident that his talents were first noticed. At a festival celebrated at the villa of Falier, and attended by many of the Venetian nobility, the domestics had neglected to provide an ornament for the dessert. The omission was not discovered till it was too late; and, fearing the displeasure of their master, they applied to Pasino, who, with his grandson, was then at work in the house.

“The old man could suggest no remedy; but young Antonio desired to have some butter, and in a few moments he modelled a lion, with such skill and effect, that, when it appeared at table, it excited the attention and applause of all present. The servants were questioned—the whole

was disclosed, and little Tonin declared to be the contriver. He was immediately called for; and blushing and half reluctant, was led into the brilliant assembly, where he received universal praise and caresses."

"There is a circumstance strikingly similar to this," continued my aunt, "which is told of our celebrated sculptor Chantrey, and of which I believe there is no doubt, as I was told it by a person to whom Chantrey, with noble candour, had himself communicated it. When quite a boy, not more than nine or ten, he used frequently to visit his aunt, who was housekeeper to a lady of fortune in Derbyshire. During one of these visits, it was observed that the flowers and ornaments of the pastry at table were executed with particularly good taste; and the housekeeper acknowledged that she had allowed her little nephew to amuse himself in making whatever ornaments he fancied. The lady determined on giving him other opportunities of trying his talents, and finding how very superior they were, she actually sent him to London to receive instruction. With what delight this benevolent and judicious woman must now behold the works of this great artist; and how much she must enjoy the fame which he has so justly acquired!

"The progress which Canova made, and the perfection even of his earliest works, is known to

all the world ; but perhaps you may not have heard that during his whole life, both while suffering opposition from envious artists, who threw every obstacle in his way, and afterwards when he had attained the highest success, he preserved his unpretending modesty and simplicity. He neither yielded to occasional disappointment, nor to the vanity of shewing that he could surpass his rivals. Improvement was the one great object which he unremittingly pursued, and all his ideas were subjected to rigid examination ; he compared them first with nature, and he then flew to the Vatican, where he compared them with the antique.—The result always calmed his solicitude ; he returned with fresh confidence to his *studio*, and in solitude laboured to perfect his style, without either boasting to his friends, or triumphing over his opponents.

“ This modest reserve always marked his conduct. To the observations of friends, whether of approbation or criticism, he seldom replied. ‘ To praise,’ he used to say, ‘ what can I answer ?—to the censures of well-wishers I must listen in silence ; for if wrong, their feelings would be hurt by telling them so, and if correct, I endeavour to profit by their remarks.’ But it frequently occurred that he reminded his friends of their former criticisms, and candidly pointed out the consequent correction.

“ His high talents were combined with the

most amiable disposition, and a most grateful heart. His good old grandmother lived to see the success and the excellence of the object of her care; and Canova, who cherished every affectionate feeling, enjoyed that first of pleasures—the repaying former benefits. After the death of his grandfather he brought her to reside with him at Rome, and his friends still remember his tender anxiety to make the close of her life happy.

“ Canova sculptured the bust of his grandmother, in the dress of her native province, which was the same as that of Titian’s mother; and this bust he kept in his own apartment.—Pointing it out one day to a visiter, he said, with much emotion, ‘ That is a piece which I greatly value;—it is the likeness of her to whom I owe as much as it is possible for one human being to owe to another;’ adding, ‘ you see she is dressed nearly as Titian’s mother; but unless affection renders me a partial judge, my grandmother is much the finer old woman.’ ”

12th.—Mary has a most enviable memory; she has just been entertaining me with what she read in Waddington’s travels in Dongola.

She says, the houses there are either a sort of mud fortresses intended for defence, or else low cottages of straw and branches, tied together with bands, and supported at each corner by

the dry stem of a palm, to which the walls are united.

The vale of Farjas is described as a most romantic little spot; a green and cultivated valley not two hundred yards broad, closely shut in between a range of high granite rocks, and a narrow branch of the Nile; and flourishing in freshness and fertility, in the middle of the wildest waste. The simple inhabitants offered a great many little civilities to Mr. W. and his companions.

She mentioned also two very curious passes through the hills; one called the "Pass of the Water's Mouth," near the entrance of which are two immense stones, as regular as if formed and placed there by art; and the other a winding pass amongst high rocks, that required an hour and forty minutes to travel through it; it is oddly called "The Father of the Acacias," though from beginning to end it contains not one symptom of vegetation.

But I can write no more now, for my aunt has sent for me to walk with her, if I am so inclined—and that indeed I am.

13th, *Sunday*.—The conversation, at breakfast this morning, having turned on the history of Moses, my aunt observed, that the entire account of his life is told in the most plain and artless manner, unmixed with any circumstances

likely to exalt his personal character, and is throughout distinguished by that candour and impartiality, with which Moses always speaks of himself.

I asked her, how soon after the death of Joseph, the destruction of the first-born of the Israelites was decreed by Pharaoh.

“There is reason to think,” said my aunt, “that it was about sixty-four years after the death of Joseph; probably soon after the birth of Aaron, who had not been subject to this decree; and about one hundred and thirty-three years after their settlement in Egypt.

“You are of course aware, Bertha,” continued she, “that Pharaoh was the title of all the Egyptian sovereigns at that ancient period; the Pharaoh who had favoured Joseph was dead, and his successors were ill-disposed towards the Israelites, who had increased so much, that the Egyptian kings began to fear them, for they still recollected the thralldom in which they had for a long time been held by the Cushite or Shepherd invaders. And besides, Egypt was still subject to incursions from the Arabians, on that very side where the Israelites dwelled; which accounts at once both for their jealousy of the Israelites, who had the power of betraying them, by admitting the invaders, and also for the fear expressed by Pharaoh, lest they should ‘get them up out of the land;’ because, as long as they

were in Goshen, they were, if faithful, a sort of defence to his kingdom, by being thus situated on its frontiers.

“ But to return to the history of Moses—the ark of rushes which his mother ‘took for him,’ was a little vessel or basket, made of reeds, and daubed with slime or pitch, to keep out the water; it was probably of the form of one of those boats, with which the river was always covered, and made, like them, of ‘bulrushes,’ by which is meant the papyrus of which the Egyptians made their paper, and which grew in abundance on the banks of the Nile. This papyrus was strong enough to resist the water, and well adapted by its lightness to swim with a child’s weight. The vessels of bulrushes mentioned in both sacred and profane history were made in the same manner on a larger scale. Bruce, the traveller, saw them in common use in Abyssinia; and even at this day they are to be seen on the Nile; though the introduction of plank and stronger materials has caused them to be laid aside in a great degree.

“ It was customary for the Egyptian females to express their veneration for the Nile, by plunging into it, when it began to overflow the country; and it is probable, that when the daughter of Pharaoh bathed, it was in compliance with some such custom. Modern travellers tell us, that a ceremony is still observed by the Egyptian fe-

males, of going to solemnize with songs, and dance, and bathing, the first visible rise of the Nile.

“Observe here, my dear children,” continued my aunt, “the chain of small circumstances by which God leads mankind to the accomplishment of his high decrees. When the daughter of Pharaoh goes to celebrate a heathen ceremony—when she finds the babe, and calls the Hebrew woman to be his nurse, and when that nurse turns out to be his own mother—what a singular concurrence of events, simple and obvious in themselves, but wonderful in their combinations !

“Josephus, the Jewish historian, states that Pharaoh’s daughter was married but had no children, and therefore adopted Moses, and gave him a princely education ; that he became a man of eminence amongst the Egyptians, was made a general and leader of their armies, and fought some battles with success. While he was instructed in all the wisdom of the Egyptians, he was taught at home a knowledge of God ; his father Amram imparted to him the promised redemption of Israel, and his mother fixed the true faith in his heart ; so that it became the guide and the principle of all his actions.

“The land of Midian, to which Moses fled when he killed the Egyptian in defence of the ill-treated Israelite, was a part of Arabia Petraea,

where some of Abraham's posterity were settled; it lay upon the further side of the Red Sea, to the east of the wilderness of Sin. During his long absence from Egypt, Moses never forgot that he was separated from his family and his nation; and to mark his feelings he called his son Gershom, a desolate stranger. While he was thus an exile, he was trained in the school of adversity; his faith was strengthened, so that it prepared him for the arduous mission which he was born to undertake; and he became 'meek above all the men which were on the face of the earth.' No man, indeed, had greater trials—but about them and the important part he afterwards performed, I will take some other opportunity of conversing with you."

14th.—I had so many questions to ask about papyrus, that I thought it better not to interrupt my aunt yesterday, when Moses was more particularly the subject of our conversation. This morning, however, I begged of her to tell me some particulars about the paper made from that plant, and I will now put down here the substance of what she told me.

"The *papyrus*, or Egyptian reed, as it is called, grows in the marshy ground, caused by the overflowing of the Nile, and rises to the height of six or seven cubits above the water.

The stalk is triangular, and terminates in a crown of small filaments, resembling hair, which the ancients used to compare to a *thyrsus*.—It was very useful to the inhabitants of the country where it grew, for the stem not only served for building small boats, but was likewise used for making cups and other utensils. The pith of the plant was eaten as food, and the root, being full of a sweet juice, was frequently chewed.

“But the manufacture of paper was the most important of all its uses; for I need not tell you, Bertha, that before mankind had some means of noting events, the recollection of them was either lost, or became so mixed with error, in being preserved by mere oral tradition, that we have no records of the ancient transactions of the inhabitants of the globe; except those contained in the Bible, which were, you know, written by Moses retrospectively. Before the invention of letters, mankind may be said to have been perpetually in their infancy, as the arts of one age or country generally died with their inventors.

“When the outer skin or bark of the stem of the papyrus,” continued my aunt, “was taken off, several slender films or pellicles were found one within the other. These pellicles were carefully separated with a pointed instrument, and spread on a table so that the thickest parts were all ranged together. On these, another layer of

pellicles was then transversely placed in a similar manner, and moistened with Nile water; the whole was heavily pressed, and when dried in the sun, formed a smooth substance well fitted for writing upon with pens made of hollow reeds, through which a coloured liquid was allowed to flow. The saccharine juice in the bark helped to make the adhesion perfect, but sometimes a thin coat of gum was laid upon the first layer. Thus large sheets were prepared for writing, and when formed into books, the boards or covers, we learn from some of the early Greek writers, were made from the woody parts of the same plant.

“The Egyptian name of this plant is *Babr*, from whence both *papyrus* and our word *paper* seem to have been derived. The bark of a species of mulberry tree was afterwards used for paper; and *liber*, which properly meant the bark of a tree, was, therefore, applied to signify a book.”

Caroline, whose memory always serves her at the right moment, immediately repeated these lines,—

Papyrus, verdant on the banks of Nile,
Spread its thin leaf, and waved its silvery style;
Its plastic pellicles Invention took,
To form the polished page and lettered book;
And on its folds, with skill consummate taught
To paint, in mystic colors, sound and thought.

My aunt smiled, and then added: "To form those little bulrush vessels that are alluded to in the Bible and elsewhere, the papyrus was made up in bundles, and by tying these bundles together, and placing a piece of timber at the bottom to serve as a keel, they gave their vessels the necessary shape. Several ancient writers describe them; Lucan speaks of the Memphian or Egyptian boat, made of the *thirsty* papyrus; which corresponds exactly with the nature of the plant, as well as with its Hebrew name, which signifies, to drink or soak up.

"This plant requires so much water that it perishes when the river on whose banks it grows is much reduced; and it is for that reason that Job mentions it as the image of transient prosperity."

15th.—My uncle has returned, to the joy of the whole family; he looks a little tired, but seems rejoiced to be at home. He has seen numbers of curious things, and has already told us some of them.

One thing that he mentioned was very interesting to me; he met a gentleman who had lately arrived from our southern regions, and who had seen that wonderful luminous creature of those seas which I mentioned to you in my journal when on board the Phaeton. According to this gentleman's account, each of

these brilliant animals diffused a sphere of light of eighteen inches in diameter ; “ Think then,” said he to my uncle, “ what the effect must be on the spectator, when the sea is absolutely full of them as far as the eye can reach, and to many yards in depth. One evening, in particular, from seven to eleven o’clock, the ship sailed upwards of twenty miles through these living lamps ; and the strong light they gave enabled him to distinguish many fishes, even ten or twelve feet beneath the surface of the water, that appeared to be accompanying the ship.”

My uncle then gave us a very entertaining account of an experiment he witnessed on the common house-spider, which proves that it possesses a natural diving-bell, to assist it in crossing water. The spider was placed on a small platform in the middle of a large tumbler full of water, the platform being about half an inch above the edge of the glass, and two inches above the water. It first descended by the stick that supported the platform, till it reached the water, but finding no way to escape, it returned to the platform, and for some time employed itself in preparing a web, with which, by means of its hinder legs, it loosely enveloped its body and head. It again descended, and without hesitation plunged into the water, when my uncle observed, that the web with which it was covered contained a bubble of air, probably in-

tended for respiration. The spider, wrapped up in this little diving-bell, endeavoured on every side to make its escape ; but in vain, on account of the slipperiness of the glass ; and after remaining at the bottom for about thirteen minutes, it returned, apparently much exhausted, as it coiled itself closely under the platform, and remained there for some time without motion.

Another beautiful thing that my uncle was shewn by Dr. W., was a veil woven by caterpillars—actually a gossamer veil. The ingenious person, a German I believe, who had managed those little manufacturers, spread them over a large glass, and contrived to place them so that the work of each was connected with that of its neighbour. As he could direct or change their progress at pleasure, he was not only able to form the veil of a tolerably regular shape, but by sometimes inducing them to go two or three times over the same spot, to give it the appearance of flowered lace. The whole veil, though of a large size, weighed only three grains and a half ; and a breath blew it up into the air, where it floated like a cloud.

16th.—When my uncle was in town, he was present at the opening and examination of an Egyptian mummy, along with several members of the Royal Society. Some mummies, he says, have two cases ; in these, the outer one is orna-

mented with stripes of painted linen, and the inner case is covered with a kind of paper on which figures and hieroglyphics are painted with great brilliancy of colour.

The one which he saw had but a single case, which appeared to be made of sycamore-wood, two inches in thickness; the back and the front being fastened together by pegs. The case is made to stand upright, and is covered, inside and out, with a kind of shell or coat of plaster, to a considerable thickness. This coat is painted outside with hieroglyphics in horizontal lines on a deep orange ground; and the whole is highly varnished. The internal surface is likewise divided into broad stripes, alternately white and yellow; and on both are inscribed hieroglyphics and other characters about an inch long, probably consisting of prayers or invocations for the dead, or perhaps of some biographical notice.

My uncle told us that the embalmed body was most carefully secured from the air, by a covering of cerecloth, and by bandages that were applied with a neatness and precision that would have done honour to the most skilful surgeon of modern times. Of the many species of bandages which are employed in surgery, there is not one that did not appear to have been used; and they were so many times repeated, that after their removal, they were found to weigh twenty-eight pounds. Each limb, nay, each finger

and toe had a separate one ; and over all, another of great length, which, though without stitch or seam, after making a few turns round both feet, ascended spirally to the head, from whence it returned as far as the breast, and terminated there in loose threads like a fringe. In unraveling all these bandages, my uncle and everybody were struck with the judicious selection of their size and form, so as to adapt them to the different parts, and to give the whole a smooth surface, without a wrinkle.

They appeared to be made of a strong compact kind of linen, and were all of a dark brown colour, the result probably of some vegetable solution that contained a large proportion of the *tannin* principle. Many of them were daubed with wax and some resinous or bituminous substance ; and some little crystals were found, from which a chemist who was present seemed to think that lime had been used in preparing the skin.

The circumstance that most astonished my uncle was that some of the sinews were still elastic and flexible, and that the joints moved as easily as in a living body. My aunt and he afterwards had a long conversation on the origin of the ancient Egyptians ; the principal circumstance that I picked up was that the celebrated Cuvier has examined the skulls of above fifty mummies, and that, in his opinion, they

have the same characters as those of the Armenians, Georgians, and Europeans; or, to use his expression, that the common origin of them all was Caucasian. The skull of that which my uncle saw leads to the same conclusion, and differed essentially from the form of the negro head. It is a curious fact, which he says has been noticed by more than one traveller, that whole families are still to be found in Upper Egypt, in whom the general character of the head and face strongly resembles that of the mummies discovered in Thebes, as well as the figures represented in the ancient monuments of that country.

17th.—A friend of my uncle's, Colonel Travers, who has lately returned from India, where he served for many years, arrived here yesterday. He has been in various parts of the East, and is so entertaining, that I am sure I shall forget to note down half the curious things which I have heard him mention.

The conversation turned on bees, and he told us that in Mysore, where he was for a long time stationed, he saw four different kinds. That which makes the finest honey is a beautiful little bee of very small size, and which does not sting. It is called the *cadi*. It forms its combs round the branches of trees; the honey is excellent, and can be procured with very little

trouble, as the bees are easily driven off with a switch. But the bee from which the greatest quantity of honey is procured is large and fierce, and builds under projecting ledges of rock, or in caverns. The honey is gathered twice a year, for which purpose the people kindle a fire at the foot of the rock, and throw into it the leaves of a species of *cassia*, which emit a smoke so acrid that nothing can endure it—even the bees are forced to retire. As soon as the smoke subsides, a man is quickly lowered by a rope from the top of the rock; he knocks off the nest, and is immediately drawn up again, for were he to make any delay the bees would return, and their stinging is so dreadful as to endanger life.

In a tour which Colonel Travers made through a part of Ceylon, he found a species of bees which might at first be mistaken for black flies. Their heads, compared with their bodies, are extremely large. The honey is very liquid, and has a disagreeable flavour. I asked him if he had ever seen the honey-bird or Indicator, when he was at the Cape?—he did see it,—and heard its shrill note of *cherr, cherr*, which announces the discovery of a bees' nest. He followed this sagacious bird along with a party of bee-hunters, and it soon pointed out a bees' nest, by redoubling the frequency of its cries, and by hovering over the place. Having taken most of the honey, they left only a small

portion for their little guide, so that not having enough to satisfy him, he immediately flew off to find more. These birds construct very singular nests: they are composed of slender filaments of bark, woven together in the form of a bottle; the neck and opening hang downwards, and a string is loosely fastened across the opening, on which they perch.

Colonel Travers told us, that the skin of these birds is so extremely thick, that it can scarcely be pierced by a pin; and the bees therefore attack them by endeavouring to sting their eyes.

18th.—Colonel Travers was describing to-day the areca or betel nut palm. The berry of this tree is, you know, constantly used by the Indians, who chew it both green and dry.

The preservation of the fruit during the rainy season, and the cutting it down when ripe, require much expertness and agility. He says, that from the middle of winter to the middle of spring, the leaves fall off: each leaf is attached to a broad leathern petiole or leaf-stalk; and these membranes, which are about three feet long, and half that breadth, are preserved for the rainy season as covers for the young bunches of fruit. This business is performed by a particular set of people; for the stem of the tree, which is about fifty feet high, straight, smooth, and without branches, like most of the palm

tribe, is very difficult to ascend. Round his ankles, and under the soles of his feet, the climber fixes a rope; his feet, thus bound together, he places against the stem, and while he holds on steadily with his hands, he gently draws up his feet. He thus moves one hand forward and then the other hand, and afterwards again draws up his feet. In this manner he slowly reaches the top of the tree, where he makes fast a rope, the end of it being tied to the middle of a short stick on which he seats himself and performs his work; drawing up whatever he wants from below, by means of a line hanging from his girdle. When he has covered all the fruit, he unties his seat, secures it round his neck, and swings the tree backwards and forwards, till he can reach another tree, upon which he throws himself, and again makes fast his seat. In this way he swings from tree to tree, and covers or cuts the fruit in the whole garden without once descending to the ground.

19th.—I hear such quantities of amusing things from this East Indian friend of my uncle's, that I scarcely know how to select from them. I wish you were here to listen to his adventures and to see his beautiful drawings. He lent me a sketch of the famous talipot tree of Ceylon, which I have been trying to copy. What a magnificent object it appears, crowned at the top by

those immense leaves, one of which, it is said, can shelter fifteen or twenty men from the rain! They seem to be formed purposely for this use, for they fold up like a fan, so that the whole leaf, or any portion of it, becomes portable; and though tough and impenetrable to water, they are easily cut with a knife. When a leaf is spread out, it is nearly circular; but it is cut for use into triangular pieces, one of which every Singhalese soldier carries as his parasol or umbrella by day, and his tent at night. The fruit is not eaten; but the pith, like that of the sago tree, is very good, if the tree be cut down before the seed ripens; when beaten in a mortar, it produces a kind of flour, from which cakes are made, that taste something like wheaten bread.

Colonel Travers made an excursion into the interior of Ceylon, and he described to us today a very curious mode of hunting which they have there. Near the side of a large pond, a hole is dug four feet deep, and wide enough to contain two or three persons. It is covered with leaves, branches, and earth, except a small opening, through which the hunters can keep a look out, and when necessary point their guns. Before dark they conceal themselves there, in order to watch the wild beasts, which come from the woods to drink, and the different species of which always come in separate herds. The elephants come first, and stay longest, as they

usually bathe before they drink, and when the water is not deep enough, they draw it up into their trunks, and refresh themselves, by spouting it over their bodies. The buffaloes come next; after having satisfied their thirst, they amuse themselves by lying down in the water, and playing and tumbling about. The tigers and the bears also take their separate turns, and towards morning, the wild boars and deer, and other smaller beasts. It is for these that the hunters generally adopt this plan, which, however, is exposed to more dangers than one, for there are instances of elephants falling into the pits and crushing the people; and even of tigers and buffaloes having discovered them by their scent. To avoid such misfortunes, the hunters go in parties, and one person is placed in some secure position, to warn the others, and to frighten away the straggling animals that come too near, by firing upon them, or throwing rockets. Colonel Travers and his companions joined a party of this kind, and here is his history of it.

“ We were called at two o'clock, and having carefully loaded our pieces, and filled our pouches with cartridges, we slowly advanced along the river. At a distance on the other side, the noise of various animals was echoed deep and terrible through the forest; and we heard, in almost every watery place around us, rustling and mo-

tion. We pitched upon one of the largest of these places, and crept softly, but at a little distance from each other, into the bushes and thorns with which it was surrounded. This pool seemed to be about five or six hundred yards in circumference, and we all agreed not to fire at an elephant, or at any of the large fierce beasts, but to wait patiently the arrival of the smaller animals.

“ We had not been long concealed in our thorny hiding place, when two tigers approached at the opposite side, and we observed that they drank one after the other, though there was sufficient space for both. Another half hour elapsed before any thing more made its appearance, but the noise increased on all sides, and made us rather uneasy. At last we heard the deep low of approaching buffaloes, and three soon made their appearance. After having drank for a long time, they waded into the deep part and lay down, so that nothing could be seen but their noses; and no one, who had not seen them go in, could have suspected that such huge animals were concealed there. In a short time a fourth buffalo arrived, and after snuffing round him for some moments, he began to drink. Though the others put their heads out of the water, they did not interfere with him while drinking, but when he appeared inclined to advance farther into the water, one of them in-

stantly attacked him with a hideous roar, and as the moon shone very brightly, I could see distinctly the whole of their furious battle. At every charge they retired some steps backwards, making the sand fly in clouds, and then, with dreadful snortings and at full speed, again rushed upon each other. At last the intruding buffalo received such a tremendous blow, that he fled; and the conqueror, disdaining to pursue him, merely belled twice, with a clear and terrific sound, that re-echoed on every side, when he quietly returned his companions.

“The pleasure I had felt in beholding this furious combat, was soon changed into alarm, by the unexpected report of a gun! The three buffaloes started suddenly from the water—for a few moments they stood together snorting with rage, and then two of them rushed off in the direction of the flash, while the third came out near me, as if to search the bushes on all sides. I endeavoured to get out of my bush before the monster could approach; but unfortunately I became entangled in the thorns, and it was impossible to extricate myself in time. By a violent effort, however, I tore myself loose, leaving most of my clothes behind, and instantly began to run—but the furious beast was now close—I almost felt his breath, and looking round saw him not six paces distant, when throwing myself flat on the ground, he passed over me and continued at

full speed! I again crept into the thicket, and in a few minutes I heard the voices of my companions, who were in search of me, armed with flaming pieces of wood. I had felt much incensed against them for firing—but I found that they had not been to blame, a branch had struck the lock of one of their guns, which went off, and they had been exposed to as much danger as myself.”

20th.—“ And he hardened Pharaoh’s heart, that he hearkened not unto them, as the Lord had said.”* My uncle told us to-day that this passage should be expressed thus:—“ And the heart of Pharaoh *was hardened*, so that he hearkened not unto them; as the Lord had *foretold*.” It is so rendered, he says, in the ancient versions; and the most judicious modern commentators agree that this is the proper meaning.

“ Indeed,” said my uncle, “ in allowing it to be inferred that the Lord had purposely hardened Pharaoh’s heart, the translators of the Bible have acted inconsistently with their own view of the phrase in several other places.† This is very striking in the following chapter, where it is said ‘ Pharaoh hardened his heart at this time also,’ which plainly implies that his resistance after the former plagues had proceeded

* Exodus vii. 13. † Exod. vii. 22, viii. 19 & 32, ix. 7.

from his own perverse and stubborn disposition. I have likewise been assured by some very learned men, that according to the Hebrew idiom, verbs active often signify *permission*; and in these verses it is much more consonant to our ideas of divine justice so to understand the expression: that is, that God permitted Pharaoh to proceed in his own proud and wicked career, insensible to the threatened judgments, which he had already despised.

“But even supposing that the verb is to be taken in the active sense, it is a remarkable fact, that the event was constantly suspended in order that Pharaoh might have it in his power to relent and to ‘set his heart,’ that is, to humble and change it, and become obedient to the word of the Lord; for after five plagues had already been wrought upon him, and that he still persisted, even then his punishment was withheld; in order to let him repent, if he would. Besides which, the delay afforded a far more conspicuous testimony of God’s patience, and gave greater dignity to his wrath.

“Pharaoh’s final obduracy therefore was not caused by God’s will, but was the effect of his own previous obstinacy;—that he hardened his heart was his sin;—that the Lord permitted him to harden it, was his punishment.”

My uncle said also that a Hebrew scholar told him that the word which is translated by the

verb to *harden* in the above text is, in other parts of the Bible, translated, to *grieve* or to *trouble*; and that, in his opinion, the construction of the sentence requires one of those words.

“In several parts of the English Bible,” continued my uncle, “*shall* is put in the place of *will*. For instance, in Exodus ix. 4. ‘And the Lord shall sever between the cattle,’ where the sense evidently requires *will*; and thus, ch. vii. 4, and xi. 9, ‘Pharaoh shall not hearken unto you,’ should undoubtedly be rendered ‘Pharaoh *will* not hearken unto you.’ This agrees exactly with the principle I have already mentioned, that verbs active sometimes signify permission.”

My uncle mentioned several other instances of this confusion between *shall*, which seems to ordain, and *will*, which only foretels. And he added, “There are several of these minor faults and mistakes in our translation, which make it very important that we should never judge of detached passages, but that we should compare different parts of the Bible together, in order that they may throw light upon each other.”

21st.—I forgot to tell you in the right part of my journal, that in preparing my carnation beds, the gardener observed a great number of those wire-worms, which are so destructive to all the pink tribe. I recollected that Mr. Biggs said that salt destroyed them, but that it was difficult

to apply just the right proportion; that is, enough to kill the worms, but not enough to render the ground sterile—which a great quantity of salt certainly does. In talking of this to my uncle, it occurred to him that the stuff called salt dross, which is often thrown away, would be a mild form of applying salt; and he was so kind and indulgent, that he procured, not without much trouble and difficulty, a boat-load; it is of an odd purplish brown colour, and retains many saline particles.

To each of my intended carnation beds, which are about six feet long and two feet broad, we put a wheelbarrow full of this stuff, which the gardener dug in, and thoroughly mixed with the earth. The beds were then thrown up in high ridges, to remain so for the winter, during which the salt will, my uncle thinks, destroy these mischievous worms, as well as the snail eggs.

If this succeeds, it will be a very satisfactory experiment, but many months must pass before we can ascertain its success.

This was done a few days before my uncle went to town.

22nd.—I have had another walk with my uncle to-day, in the beech-walk, of which he has made me so fond. I took that opportunity of asking him why some trees lose their leaves in winter, and others preserve them; for the fall

of the leaf has been a subject of great curiosity to me, and I felt quite sure that he could explain the cause clearly. But he told me that it has never been satisfactorily accounted for, and that there is some objection to every opinion yet published. He says it would be a very good pursuit for my cousins and myself, to begin a course of observations on the nature of leaves and leaf-buds, and their connexion with the stem; and he has offered a prize, as he says they do in the learned societies, to whichever amongst us takes the best view of the subject.

I asked, was it not caused by frost? "It is not always the effect of autumnal frost," he replied. "Some trees seem to lose their leaves at stated times, independently of the temperature. They fall from the lime, for instance, before any frost happens; and indeed all deciduous leaves, as the season advances, become gradually more rigid, less juicy, lose their down, and at last change their healthy green colour to a yellow or reddish hue.

He then asked me if I had observed anything of the order in which the different trees cast them. I answered that the walnut and horse-chesnut appeared to have lost their leaves before any other: then the sycamore and lime, and I believed the ash had soon followed; but that many of the elm, and most of the beech and

oak trees were still well covered, though they had changed colour.

“Yes,” said he, “but the leaves of the young beech, though they have become brown and dry, will not fall till spring; and the fibres of the oak are so tough, that the leaf does not easily separate from the branch. You may also perceive that the apple and peach trees remain green, very often till the beginning of December. Some botanists attribute the defoliation of trees to the drying up of the vessels which connect the leaf with the stem; and others to the swelling of the young buds for the succeeding year. This, they say, deprives the old leaf of its accustomed supply of sap, and as they enlarge, they push it out of their way; but there is a material objection to this theory, that the leaflets of *pinnated* leaves fall in the same manner, though there are no buds to push them off.

“It is also supposed that the vessels of the petiole gradually become woody, and incapable of freely transmitting the sap; it therefore stagnates, the vessels become overloaded, and the parts which connect the stem and the leaf crack at the insertion of the petiole. The vessels being thus interrupted, the leaf is no longer supplied with proper nourishment; it loses its elasticity, and becomes dry and brittle; and the least shock, whether the effect of frost or of wind, detaches it.

“Another opinion,” added my uncle, “is, that the fibres of the leaf-stalk are not a simple continuation of those of the twig or branch, but that they both terminate at that point from which the leaf falls; being only connected by a kind of adhesive substance, which dries up when the sap ceases to rise. This point of separation you may easily perceive,” said he, “like a cicatrice, in the form of a ring; and the same appearance of a natural separation is to be seen in the peduncles of flowers, which seem also to be attached by a sort of vegetable solder to the stem.”

“But, uncle, why then do not leaves fall much sooner, if they are so slightly attached to the stem?”

“Because this adhesive substance is a strong cement, as long as it is supplied by the vegetable juices. If you attempt to remove the stalk elsewhere than at that point where it is united, the fibres are lacerated; and this proves that the separation had been prepared for at that one point, by some peculiar organization which acts independently of frost or rain, or other external causes.”

My uncle then shewed me the ring which marks the point of separation. It is most easily seen in autumn, he says; it is double in the orange, and in the berberry he shewed me that it is above the point of contact between the leaf and branch, so that after the fall of the leaf, the

rudiment of the foot-stalk remains to preserve the bud. He took the trouble of pointing out a little triangle of thorns behind the young bud, which seems to be another beautiful contrivance of nature for its protection in that bush. We then observed this point of separation in other trees whose leaves were not at all gone, and he told me that it is very strongly marked in the horse-chesnut with five small dots.

I begged my uncle to tell me what I should particularly pay attention to in the course of our observations.

He said that as it has never yet been ascertained whether the leaves spring from the wood or from the bark, he would advise us not merely to observe the progress of the buds, but to take every means of tracing their connection with the interior. We may examine with his microscope all sorts of twigs, to see whether the vessels of the central part of the wood extend to the leaf-stalk; and he suggests that we should very carefully observe the difference of structure in evergreen leaves, and in those which perish in the autumn. He recommends us to lose no further time in beginning our task on the few remaining leaves, in order that we may see in spring whether evergreens shed their leaves in the same manner; and we are also to ascertain when their buds are actually formed. "Above all," he says, "I advise you to take nothing for

granted—examine every thing with your own eyes, and learn facts.”

I shall like this employment very much, and Mary, Frederick, and myself have agreed to work in concert. Both my uncle and aunt encourage us ; they say it will afford a large field for very entertaining experiments, and they think that inquiries of this sort are highly useful to young people.

23*d*.—The fields which were ploughed and sown with wheat not above two months ago, are now of a beautiful green ; how hardy it must be, to withstand the severe weather, which I am told may soon be expected ! My uncle says, that wheat grows in every variety of climate, except in regions of extreme cold.

It has not been ascertained of what country wheat was a native, and it is certainly a very remarkable fact, that, though cultivated so generally, no wild plants of those species that are used in agriculture have been found, though one of our late travellers imagined that he found it in the mountains of Thibet.

The ploughs are still at work preparing the ground for oats to be sown in spring ; or they are laying it up in fallows. The potatoes have all been dug long ago, and safely packed in houses, to preserve them from the frost, which spoils them. My uncle says, that, though pota-

toes are more used than formerly, they are not such a general article of food as in Ireland. The custom there is to store them in pits covered with a high mound of clay, which by excluding the air delays the progress of vegetation in the root, until the time of replanting returns.

“It is quite astonishing,” my aunt remarked last night, “how the cultivation of potatoes has spread since they were first discovered in South America, and imported by the Spaniards, who called them *papas*. Sir Walter Raleigh found them afterwards in Virginia; he introduced them into this country in 1596, and there is now scarcely a civilized spot on the earth to which we have not distributed them. Even to Persia, this valuable root has been conveyed by the benevolent exertions of our envoy, Sir John Malcolm; and at Abusheher the grateful inhabitants call it Malcolm’s plum.”

I have been very busy this morning clearing away all dead stalks and leaves in my garden, and completing the borders, which I have edged with thrift; and all my seed-beds have been lightly covered to preserve them from the expected frost.

The gardener is going to try two new methods of raising pine-apples; for my uncle always likes to ascertain truth by experiment. A great pit is to be filled with withered leaves, which in decaying undergo a fermentation that produces suffi-

cient heat to answer the purpose; and in this pit the pots of pine plants are to be plunged. The second method is to place the pine-pots on a brick stand, in a moderate heat, and without being plunged in either tan or leaves. He is a most valuable gardener, and finds time for many nice little experiments without ever neglecting his regular work. All his carrot, parsnip, and beet roots are taken up and preserved in dry sand; he is now sowing celery under glass frames for an early crop for next year; and Mary says they have had celery every day since July, in continual succession, as he constantly earthed it up, adding still to the height of the earthing in order to increase its size and whiteness. His peas and beans he sowed three weeks ago in the warm border in front of the south fruit-wall. He is now going to protect them from frost by branches of fir-trees, and he hopes to have some ready for the table by the second week in May.

What a contrast there is between the labour and attention necessary here for all these vegetable productions, and the luxuriance with which they spring up in Brazil! But there is a pleasure I am sure in successful industry, that is scarcely understood by the indolent inhabitants of those warm and fertile climates.

25th.—Yesterday being a bright lovely day, my uncle and aunt took advantage of it to go to

Newnham to see the poor travellers, of whom we had heard nothing for some time.

Beyond all our hopes they found Bertram considerably better. My aunt had requested her own physician to attend him, and he is now so much recovered, that if the weather continue mild he is to set out to-morrow on his way home. The old gentleman arrived last week; and though great agitation was caused at first by their meeting, yet it seemed to have a favorable effect on Bertram, as the anxiety and fear of never seeing his poor old father again had preyed on his mind.

Madeleine's spirits are a little improved; she allows herself once more to hope, but she is prepared to submit with true Christian resignation to whatever happens. She is relieved too from all anxiety in regard to her new father; he received her as a daughter, and expresses the greatest tenderness for her and her pretty little child; who has learned to say "dear grandpapa" among the few English words she has picked up.

When my aunt went in, she found him just going to read prayers to his son; she begged of him to go on, and she says nothing could be more touching than the scene—the weak but solemn voice of the pious old man; the calmness and devotion in the countenance of the son, and the gleam of hope that shone over Madeleine's subdued and sad countenance.

26th.—Now that winter has really begun, we make a circle round the fire after dinner ; and we are so comfortable and happy there that I am often sorry when the time comes for leaving the room.

We have various amusements ; on some days we each invent little tales which are to turn on some circumstance that is first agreed upon ; at other times we have some of those question plays in which you discover, by a particular set of questions, the thoughts of another person. One of our favourite occupations is doing arithmetical questions in our heads. We have often used a multiplier of three or four figures, which I assure you makes it hard work. My uncle and aunt now and then join in this ; and being of course very ambitious to outdo them, we all get into a sort of fever of exertion which makes it very diverting, and the conqueror very triumphant.—Then we compare the different methods which we took, and each person finds out what caused their mistakes. I am afraid I am oftener behind in the race than most of the party, for beside their being much better arithmeticians than me, I am so afraid of being wrong, that I do not speak out in time even when I have my answer ready and right.

I must tell you one of the questions we had this evening ; it was proposed by Caroline. In one of the vignettes to Bewick's birds, there is a man preparing to fasten himself to a team of

birds which are to convey him to the moon ; the team is wedge-shaped, and the birds are harnessed together in rows, each of which increases by one, from the single bird that acts as leader. Now, supposing that the man weighs ten stone, and that each bird can raise five pounds, how many rows of birds are necessary for his flight ?

27th, Sunday.—My uncle again took up the judgments inflicted on the Egyptians. He said that if they were considered with reference to that particular nation, it appeared that there was a peculiar meaning in some of those calamities, which would not have applied so well to any other people. He told us that they paid an idolatrous reverence to many of the inferior animals, and worshipped, as superior gods, the ox, the cow, and the ram. Among these, the Apis and Mnevis are well known ; the former, a sacred bull adored at Memphis, and the latter at Heliopolis. There were also a cow and heifer, which had similar honours, at Momemphis.—These judgments were therefore very significant in their execution and object ; as the Egyptians not only saw their cattle perish, but, what was still more dreadful, they saw their deities sink before the “ God of the Hebrews.” This satisfactorily explains what is said in Numbers : “ Upon their gods also the Lord executed judg-

ments*"; and these events had doubtless a useful influence, though not a lasting one, on the minds of the Israelites, to whom the gods of the Egyptians must at that time have appeared very contemptible.

"I will cause it to rain a very grievous hail:" this judgment, he told us, was also particularly adapted to the Egyptians. The rain and hail that were foretold must have appeared of all things most incredible to the Egyptians; for in Egypt little or no rain ever falls, the want of it being supplied by dews and by the overflowing of the Nile; and when they witnessed this storm of hail, "such as had not been in Egypt since the foundation thereof," and accompanied by "mighty thunderings," and fire that ran along the ground, what dread and amazement they must have felt! Pharaoh had received warning of these terrific prodigies, which the deities of Egypt could not avert; and even the fire and water, which had been held sacred by the Egyptians, were now employed they found as passive instruments of their punishment. Besides the formation of the hail, which was so uncommon in that country, its falling so miraculously on the day, and in the district foretold, must have overwhelmingly convinced them of the impotence of the creatures which they worshipped, and of the boundless power of the Almighty.

* Numbers, xxxiii. 4.

I asked my uncle at what season these plagues had happened, and why the injury to flax and barley were particularly mentioned.

“The season,” said he, “is not expressly stated; but as the departure of the Israelites was on the 15th of the month of Abib, which corresponds with the beginning of April, we may suppose that the seventh plague (of hail) was sent about the beginning of March, so as to leave time for the three succeeding plagues. This idea is confirmed by travellers, from whom we learn that the barley harvest in Egypt is reaped in March, and the wheat in April; and it explains why ‘the barley was in ear,’ though not yet fit for reaping; and ‘the wheat and the rye were not grown up.’ Abib means the month of the young ears of corn.

“Their barley must have been a grievous loss, as the principal beverage of the Egyptians was made from it; but scarcely any thing could have distressed them more than the loss of their flax, because the whole nation wore linen garments, and the priests never put on any other kind of clothing. This linen was manufactured from that fine flax for which the valley of the Nile was famous, and was in great request in other countries also; for though the Egyptians did not trade abroad themselves, yet they readily disposed of it to foreign merchants.

28th.—A question of mine this morning,

though it exposed my ignorance, gave me an opportunity of perceiving how much light is thrown by general knowledge on the difficult parts of Scripture history; and, indeed, on all other history. I had asked how it was that the locusts, independently of their coming at the appointed moment, could have been called one of the miraculous plagues, as they were so common in Egypt. I saw my cousins looking a little surprised, but they are so good-natured that they never laugh at my mistakes.

My uncle explained to me that I was wrong in supposing that locusts were common in Egypt. "They are very abundant," he said, "in the neighbouring regions of Arabia, which has been proverbially called their cradle, but the Red Sea appears to be an effectual barrier against their molesting the Egyptians. They seldom succeed in crossing any great extent of water; for though they frequently migrate into very distant countries, yet their habit of often alighting on the ground is fatal to them in traversing the sea.

"There is another circumstance that saves Egypt from the visits of these dreadful insects; when they take wing they are obliged to follow the course of the wind, and in that country, you know, the winds blow six months from the *north*, and six months from the *south*; but, at the time spoken of, an east wind prevailed 'all day and all night;' and the whole face of the country

in the morning was covered with the locusts. This strong easterly wind, which enabled them to cross the Red Sea, was plainly preternatural; and we are told distinctly that 'before them there were no such locusts as they, neither after them shall be such.'

"There are in Scripture ten names for locusts. The species mentioned here is called *Arbah*, which imports multiplicity; a very just name, indeed: for their prodigious numbers almost defy calculation; and the famous Dutch naturalist *Leuwenhoek* asserts, that every female lays upwards of eighty eggs. When a cloud of these insects alights upon the ground, the devastation they create is dreadful. *Adanson*, in his voyage to the western coast of Africa, says, that they devoured to the very root and bark; and that there was something corrosive in their bite, which prevented the trees from recovering their power of vegetation for some time. They even attacked the dry reeds with which the huts were thatched. Another traveller tells us that in Cyprus, as he went from *Larnica* to a garden at about four miles' distance, the locusts lay above a foot deep, on several parts of the high roads, and millions were destroyed by the wheels of the carriage. *Dr. Shaw* says, that he saw them in such multitudes in Barbary, in the middle of April, that in the heat of the day, when they formed themselves into large bodies,

they appeared like a succession of clouds darkening the sun: in June the new broods made their appearance; on being hatched, they collected together in compact bodies of several hundred yards square; and marching directly forward, climbed over trees, walls and houses, ate up every plant in their way, and let nothing escape. The inhabitants made trenches and filled them with water; they also placed quantities of combustible matter in rows and set them on fire; but in vain, for the trenches were quickly filled up and the fires extinguished by the vast numbers that succeeded each other.

“Strong winds, which can alone free a country from this plague, have several times blown large swarms over the central part of Europe, and even to England; and it was a ‘mighty west wind,’ which formerly carried them away from Egypt and cast them into the Red Sea.” I asked if these insects were really eatable, as St. John is said to have lived on locusts in the wilderness?

“As it is well known,” said my uncle, “that locusts have in all ages been eaten in the east, and are still esteemed a great delicacy in Barbary as well as in the south of Africa, some commentators have endeavoured to prove that St. John did eat them in the wilderness. But the word translated locusts, signifies also *Pods* or seed-vessels of trees. The pods of some of the *Robinia* and *Gleditsia* tribes are considered in

Syria to be sweet and nourishing; and it is, I believe, generally supposed that they were the food alluded to in the Gospels.

29th.—In our genius conversation to-day, several people were mentioned on each side: Mary quoted a passage from Johnson's *Lives of the Poets* respecting Denham, who, he says, was "considered at Oxford as a dreaming young man, given more to cards and dice than to study;—he gave no prognostics of his future eminence, nor was suspected to conceal, under sluggishness and idleness, a genius born to improve the literature of his country." "Of Swift, too," continued Mary, "there appears no early proof of genius or diligence; for when at the usual time he claimed a bachelorship of arts, he was found by the examiners too conspicuously deficient for regular admission—and at last obtained his degree by special favour; a term used, as Johnson says, in the university of Dublin, to denote want of merit." It is probable, therefore, that new circumstances combined together afterwards to *bring out* the powers possessed by these celebrated men; and I am sure, mamma, this little perpetual argument serves to bring out several very entertaining biographical facts.

Haydn, the famous composer, was the son of a wheelwright; such an employment was not

likely to lead to the cultivation of music, and we might be tempted to consider him as a natural genius; but it appears that his father played on the harp, and on holidays used to accompany his wife while she sang. Whenever this little domestic concert took place, the child, with two pieces of wood in his hands, to represent a violin and a bow, pretended also to accompany his mother's voice; and to the very close of his life, this great musician used to perform with delight the airs which she had then sung. A cousin of theirs, a schoolmaster, came to see them, and being well pleased with the boy's talents, proposed to educate him. His parents accepted the offer; and at school, having discovered a tambourine, an instrument which has but two tones, he succeeded in forming a kind of air, which attracted the attention of all who came to the school-house. He was then taught to sing at the parish desk, and was soon noticed by Reüter, who tried him with a difficult shake, and who was so delighted with the child's execution, that he emptied a plate of cherries into his pocket. He was eight when admitted to the choir of St. Stephen, at Vienna, and from that time practised above sixteen hours a day. "In all this," says Mary, "we see the natural effect of circumstances, and no mark of what is called absolute genius."

30th.—Colonel Travers was not present at our conversation about the locusts; but on its being alluded to this evening, he told us that he had once seen a flight of those creatures which contained such an incredible multitude, that nothing could have persuaded him of the fact, if he had not been an eye-witness to it himself.

Instead of going by sea to India, he went overland, that is, through part of Turkey, Arabia, and Persia; and, in 1811, he happened to be at Smyrna, in Asia Minor, when this extraordinary flight of locusts occurred. He says that for several days stragglers had been passing, but at last the main body came, and in such a dense column, as not indeed to obscure the sun, but to produce a curious quivering light. He thinks the lines in which they appeared to fly were about one foot asunder, and that locust followed locust at the distance of three feet. They came in a steady, undeviating direction from south to north, and continued to pass, without any diminution of their numbers, for three successive days and nights. The breadth of this prodigious column was at least forty miles, for a messenger who had been dispatched by the consul to the pasha of Sardis, passed through them all the way, both going and returning. Caroline immediately produced the map of Asia Minor, and we found that Sardis is fully that distance from Smyrna,

and that its direction is just at right angles to the direction of their flight.

My uncle was greatly interested by the Colonel's account of this remarkable swarm, and proposed that we should endeavour to make some estimate of the number of locusts of which it consisted. We all took out our pencils and went to work. In the first place, the breadth of the column was 40 miles, or 70,400 yards; and as their ranks were a foot apart, we have 211,200 for the number of locusts at each foot of elevation. Colonel T. was then examined as to the entire height; he thinks it must have been much above 300 yards, for on looking upwards with his pocket telescope, he could see them like little specks glittering in the sun. We contented ourselves with the 300, and taking them also at a foot apart, there were of course 900 locusts in height, by which we multiplied the former number, and the product was 190,080,000. Now, mamma, for the length of the column: he says there was a gentle breeze from the southward, with which, and their own velocity, he thinks that they were travelling at the rate of about seven miles in an hour, and that they succeeded each other at an average distance of three feet. In each mile, then, there were 1760, and in seven miles, 12,320, which, multiplied by 72, the number of hours in the three days which the flight continued, gives 887,040 for the number in

each line of the column; and this, finally multiplied by the 190 millions, gives the almost inconceivable total of 168,608,563,200,000 in this one swarm of locusts!

"I should like to know," said Mary, "the exact size of these creatures."

The Colonel said that he could not answer exactly, without referring to his journals, which were in town, but that he imagined they were about the same size as a large grasshopper: "But why do you want their exact dimensions?"

Mary said she would have tried what sized mountain they would have made if they were all heaped together. Frederick, who is a great collector of grubs and insects, immediately brought down some dried grasshoppers, but they were very small; and after much consultation, it was agreed to assume two inches for the length, and a third of an inch for the breadth and thickness of a locust. In a short time, Mary announced, as the result of her calculation, that the whole quantity would amount to 4818 millions of cubic yards.

"But in order to compare this huge mass with some tangible standard," said my uncle, "let us see what proportion it bears to the largest pyramid of Egypt. According to the measurement of Dr. Greaves, the base of the pyramid of Cheops is 693 feet, and its perpendicular altitude is 499 feet."

We again went to work, and Mary was again first with the answer, that her heap of locusts was 1030 times larger than the pyramid!

“Well, Bertha,” said my aunt, “you and I will try what sort of a girdle the Colonel’s locusts would make for the earth, supposing them to be placed close together; but what shall we assume for its circumference?”

My uncle said we might take 24,800 miles; and with my kind aunt’s assistance, I had the pleasure of astonishing the party with the information, that this great swarm of locusts would have encircled the globe with a band of a mile and an eighth wide!

If these locusts had alighted any where in a body, I suppose they would have destroyed every thing; as it was, Colonel T. says, the stragglers did a great deal of mischief throughout the country, and he mentioned a laughable story of the wife of an English merchant at Smyrna, with whom he was acquainted. This lady was very fond of her garden, and on the approach of the locusts she and her maids had spread sheets and table-cloths over all her choice flower-beds to protect the plants. Poor woman! she went to bed priding herself on her ingenuity, but when the morning came, she found all gone—not only the flowers, but the linen also totally demolished.

In answer to a question from my uncle, he said

he had not been able to learn whether any great proportion of these locusts had penetrated into Russia and Europe, but he knew that myriads had perished in the sea of Marmora and the Euxine. In the gulf of Smyrna he had himself seen a ridge of their dead bodies, which was two feet high, and which had been washed up along the whole extent of the beach by the waves. The smell was most noxious, polluting the air for several miles inland; and this, he thinks, may partly account for the plague which occurred in the following spring. There is a saying in that country, but for the truth of which he does not vouch, that every seven years Arabia sends a swarm of those destructive insects into Asia Minor, though very rarely of such magnitude as that of 1811; and that every locust-year is succeeded by a plague-year of more or less severity.

Wentworth asked him if he had ever seen locusts used as food; and he replied that they are eaten in a great many parts of the world, and cooked in a great variety of ways. In some countries they are stewed, or fried, or made into soup, or salted and preserved; in others they are ground, mixed up with flour, and baked into cakes; but he had frequently seen the Arabs eat them without any preparation whatever, merely pulling off the head, wings, and legs, just as we eat shrimps.

My uncle and he continued to converse on

the subject for some time, and I learned one more fact for you,—that their flight produces a sort of indistinct, tumultuous sound, something like the rustling noise of flames. The Colonel says this noise made his horse very uneasy, which no doubt was greatly increased by the locusts incessantly striking against him. In riding to Bournabat, where the English merchants have country houses, he crossed their line of flight; and in order to save his face, he was obliged to keep his hat on the side of his head, against which they pattered like a shower of hail. It appears that they never turn to the right or to the left, but fly straight forward, as if following one supreme leader, or rather as blindly impelled by some irresistible influence.

“How truly,” exclaimed my aunt, “it is said of them in the Bible, ‘The locusts have no king, yet go they forth all of them by bands.’”

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