

CHAPTER VII.

NOTES OF LIFE FROM 1814 TO 1824.

Wisdom's self

Oft seeks a sweet retired solitude ;
 Where with her best nurse, Contemplation,
 She plumes her feathers, and lets grow her wings,
 That in the various bustle of resort
 Were all too ruffled, and sometimes impaired.

MILTON.

BREWSTER'S continental holiday was not much of a holiday to those at home. His door was besieged with letters, messengers, and printers' devils—the *Encyclopædia* irregularities grew worse and worse, and many an application was made for the editor's speedy return to the scene of action, to regulate contributors and publishers. When he did return, it was therefore to double tides of work, which he plunged into with unabated ardour. He sent to the Royal Society of London a series of nine papers, spreading over several years, most of them on his favourite subject of the Polarization of Light, in which demesne he had already made great and original discoveries, contributing also many papers to the Royal Society of Edinburgh on this and other subjects. In 1815 he became a Fellow of the Royal Society of London, which afterwards bestowed upon him the Copley Medal; three years later, the Rumford; and subsequently one of the Royal Medals, in each case for fresh discoveries in Light. In this year he was invited

to conduct the class of Natural Philosophy during the absence of Professor Playfair, who was abroad, at the especial request of the Corporation of Edinburgh, as well as by the wish of the Professor himself. He did not undertake this task, however, as it was not suited to his taste, and would have robbed him of the scanty time he possessed for experiments and discoveries—ever the work which he fell back upon, in the intervals of a life so busy, that few would have discovered in it interstices of leisure sufficient to be of any use. In 1816 the French Institute awarded half of the prize of three thousand francs given for the two most important discoveries in physical science made in Europe, to the “boy,” who had sat in their most distinguished seat, and who, even in the two years that had passed since then, had made fresh and important progress.

In this year Dr. Brewster invented the Kaleidoscope, which, though of little practical advantage, spread his name far and near, from schoolboy to statesman, from peasant to philosopher, more surely and lastingly than his many noble and useful inventions. This beautiful little toy, with its marvellous witcheries of light and colour, spread over Europe and America with a *furor* which is now scarcely credible. Although he took out a patent, yet, as it often has happened in this country, the invention was quickly pirated, and thousands of pounds of profit went into other pockets than those of the inventor, who never realized a farthing by it. Two years after, Dr. Brewster went up to London, in the vain hope of rectifying this mismanaged business, and making it profitable in a way which would have been very useful with the claims of an increasing family pressing on him, and only the precarious profession of

literature to fall back upon. The following letters give an amusing idea of the ferment on the subject which prevailed both in England and Scotland, and show also the mismanagement which had taken place. He writes to his wife from Sheffield, May 17, 1818 :—

“ We arrived here this forenoon from Leeds, and have been obliged to remain all day, in consequence of there being neither coach nor mail for Birmingham after our arrival. We have, however, spent our day very agreeably in visiting the principal manufactories, with which we were much delighted and entertained. We were introduced to most of them by Mr. Cutt, the partner in the house of Cam and Cutt, who have undertaken to manufacture the kaleidoscopes for Mr. Ruthven. They have agreed to make and sell the instruments under my patent on the same terms as Mr. Carpenter, provided I get his permission to allow them to be employed. This I must do, as he cannot possibly supply the demand. On my arrival at the Tontine Hotel here, the first sight that displayed itself was a pair of kaleidoscopes in two tubes (most deplorable instruments) lying on the chimney-piece. The waiter told us that they were invented by a doctor in London, who had got a patent for them,—that, by some variations, the tinmen had invaded the patent, and that the said doctor was trying to find them out and prosecute them! The Sheffield newspaper lying on the table contained a flattering paragraph about the same instrument; and when I called on Mr. Cam, I saw lying on his table a kaleidoscope, most beautiful on the outside, but deplorable within. I am wearying sadly to see you and the four dear boys, and shall make my stay in London as short as I possibly can. I have often

repented leaving home in search of what could not make us happier; but it is perhaps right that I have done this, and if any good comes of it, I shall have the more reason to congratulate myself upon having taken this step."

And a week or two later he writes:—

"LONDON, *May* 1818.

"I dine to-morrow with the Royal Society Club, and in the evening I undergo the ceremony of being admitted a member, which is a more formal business than I had supposed. I called yesterday at Sir Joseph Banks', and met Sir Everard Home, and other wise men there. Both of these gentlemen assured me that had I managed my patent rightly, I would have made one hundred thousand pounds by it! This is the universal opinion, and therefore the mortification is very great. You can form no conception of the effect which the instrument excited in London; all that you have heard falls infinitely short of the reality. No book and no instrument in the memory of man ever produced such a singular effect. They are exhibited publicly on the streets for a penny, and I had the pleasure of paying this sum yesterday; these are about two feet long and a foot wide. Infants are seen carrying them in their hands, the coachmen on their boxes are busy using them, and thousands of poor people make their bread by making and selling them."

Mrs. Brewster, on the other hand, gives the experience of Edinburgh on the same subject. She wrote to her husband:—

"*Friday, May* 22, 1818.

"MY DEAREST HUSBAND,—I was very much dis-

appointed that I did not get your promised *long* letter to-day, and so was poor Mr. Ruthven, who flattered himself that you might naturally have made some mention of Carpenter's extraordinary conduct in not supplying him with any instruments, nor even sending him a line to account or apologize for the same. You never saw a person in such real distress as Ruthven is—the public are becoming impatient and clamorous now at the delay, and he has orders to an amount that is prodigious. One person offers him the money for 150 to send abroad in ten days. The ship sails then, and he will not take the instruments after that period. Mr. Ruthven has come to the resolution of setting off to-morrow for Sheffield and Birmingham. People insist on leaving their money in advance in order to secure their chance, and from six in the morning till six at night his room is beset with people. They cannot understand how completely mismanaged it has been, and that the capital of Scotland, and your place of residence, should not contain a single kaleidoscope for sale for the last eight days! I am sorry to vex you, but if you saw Mr. Ruthven's face you would not wonder at my urgency. . . . I told him about the cheap instruments, but he says that here he can sell any number of the pound ones, and thinks it quite useless to begin any lower at present; indeed he is not in a train for anything just now, for he is evidently ill with extreme vexation and fatigue. Patrick was at his house this evening at half-past eight o'clock, and found it full of people all wanting kaleidoscopes, and this has been the case for the last ten days.

“*Saturday.*—Mrs. Ruthven has now to bear the toil of the people wanting instruments, and she has sent to

beg that I will desire you to send down kaleidoscopes of all sorts. You would make a fortune at the present period, but this delay is worse than all the piracies that ever were attempted. Ruthven could sell a hundred per day, and at Glasgow they are quite wild, and at Montrose the same, and at Paisley, and, in short, everywhere, but if this *fever* is to be balked much longer, I am afraid people will be quite disgusted. *Do something about the kaleidoscopes, or Mr. Ruthven will lose his wits!*"

The *Edinburgh Magazine* had now taken a different form, and under the name of the *Edinburgh Philosophical Journal*, Brewster edited it in conjunction with Professor Jameson, the eminent mineralogist, and afterwards alone, as the *Edinburgh Journal of Science*, of which he published sixteen volumes, which were remarkable for freshness and variety, and for the eminence of the contributors. Editorial labours, indeed, occupied him for a large portion of his life, and he contributed many original articles to the works under his charge. In 1821 he took an active part in founding the Royal Scottish Society of Arts, of which he was named "Director,"—the original intention being to establish permanent Schools of Arts in Edinburgh and other large towns. This idea was afterwards abandoned, and although for some years Dr. Brewster continued to interest himself in the affairs of the Society, his office in it was somewhat an anomalous one, and after 1827 his name only occurs in connection with its meetings in 1849, when he contributed a paper upon Stereoscopes. In 1820 he became a member of the Association of Civil Engineers in London, and in 1822 of the Royal Irish Academy of Arts and Sciences. In the latter

year he edited a translation of Legendre's *Geometry*, and also four volumes of Professor Robison's *Essays on Various Subjects of Mechanical Philosophy*, and in 1823 he edited Euler's *Letters to a German Princess*, with notes, and a life of the author.

Through all this network of interests and occupation, it is interesting to find the long-loved telescopes and the Inchbonny correspondence still holding their own place, although the letters were necessarily less frequent as the press of other work got more burdensome. We have the following request for experiments on different telescopes, to the man of more leisure, but not less mental activity, and his response:—

“EDINR., 13 HOPE STREET, April 25, 1816.

“I am glad you are occupied in determining the latitude and longitude of Jedburgh. I wish you would try some experiments on the difference between the Gregorian and Cassegrainian telescopes. It appears now quite certain that whenever the rays have a positive focus, a great quantity of light is lost by their collision. Hence the great superiority of concave eye-glasses above convex ones. Mr. Playfair had unluckily mislaid your method of casting and grinding specula, but he has now found it, and it will soon be printed in our *Transactions*.”

“INCHBONNY, 31st May 1816.

“I have made many experiments on the Cassegrainian telescopes, and I find when the telescope is short the Cassegrainian has the advantage of the Gregorian ones, perhaps more than one-third of the whole magnifying power; but when I tried it on my five-feet Gregorian reflector, I could discern no difference between the con-

vex and concave small speculums on Saturn, although the speculums were both the same radius, and equally distinct when tried on the double stars. I have made a Gregorian telescope, 34 inches focus, diameter of the metal $5\frac{1}{2}$ inches. It is first a Gregorian telescope with two set of eye-glasses magnifying 78 and 150, and then a Cassegrainian telescope with magnifying powers of 173 and 300; with the power of 173 Cassegrainian, it is equally bright and distinct as the power of 150 Gregorian. I see Jupiter's belts exceedingly well, and the disc of Jupiter, round and well defined, with the last power of 300. I sold this telescope the other day at twenty guineas.

"It appears from your letter that Mr. Playfair intends to publish my paper in the *Transactions*. You will be so good as to desire him to suppress anything that he sees superfluous in it, especially that part which estimates what we might expect from Herschel's 40-foot reflector,—it is far from my wish to undervalue any man's performance. You will get fine views of Jupiter at present; he is a fine object for trying the goodness of a telescope on, as the least imperfection in the figure will easily be perceived by a false glare of light blazing about the planet. Your Dictionary (*Encyclopædia*) is every day meeting with new applause, and I hope will continue so until it be finished. You have never sent your little telescope that I may put it right for you. I saw your picture at Dryburgh the other day, placed on the side of the window besides James Watt, just as you enter his Lordship's room. The painter has made your eyes as big as William Wilson's. In other respects it is not unlike you."

Copies and occasionally proofs of his own and other

scientific articles were always sent to Inchbonny, where appreciation and interest ever awaited them. Mr. Veitch's observations and experiments are always noticed as exciting his old friend's grateful interest, and of some he says, "I shall print them in next number of the Journal,"—while he looks to Mr. Veitch "for much valuable assistance in the article GRINDING for the *Encyclopædia*." Lenses, diagrams, and specimens are interchanged and commented on. On one occasion Brewster sends "a fragment of garnet, but cannot see how you can get it cut at Jedburgh." Genius laughs at impossibilities, however, for some years later Dr. Brewster, in his "Optics" in Lardner's *Encyclopædia*, says of this same piece of garnet, "Mr. Veitch of Inchbonny has likewise executed some admirable garnet lenses out of a Greenland specimen of that mineral given me by Sir Charles Giesecké." Then, in 1821, Brewster has the pleasure of forwarding to his friend an order for one of his best telescopes, a Gregorian reflector, from Professor Schumacher of Altona, Hamburg. It was, when completed, 2 feet 8 in focal length, and 5 inches aperture, and proved a very fine instrument. A telescope of the same description was made for the Earl of Minto.

Dr. Brewster about this time took a hasty run to Kelso to see his old friend the Rev. Mr. Lundie, and to Edgerston and Jedburgh. His visit being unexpected, Mr. Lundie was absent, and his sensitive temperament made the whole expedition one of extreme and impulsive distress. He thus writes to his wife:—

"KELSO, Saturday morning, 1820.

"I set off for Jedburgh early next morning. The first person I met in the street was James Veitch, and

having learned from him that Dr. and Miss Somerville were from home, I set off with him to his house at Inchbonny. I found upon inquiry that scarcely any of my old friends were in existence. Most of them were dead, some deranged, and others ruined, so that I had really nobody to see or to inquire after. In short, notwithstanding the increased beauty of the picturesque scenery round the town, I found every object associated with the most distressing recollections, and would have been happy had I been able to place my mind in its former state of ignorance. The place was to me like a sepulchre, where some of the limbs of its tenants had scarcely expired. I had resolved, after seeing all Mr. Veitch's curiosities, to go to Edgerston, and just as I was returning to Jedburgh for that purpose, I met Mrs. Rutherford, and told her my intention. I accordingly went there to dinner, and stayed all night, and such was the state of agony in which I found myself when I had time to think of all the painful recollections which my visit to Jedburgh had awakened, that I resolved to return to Kelso by a shorter road, and leave all my visits in Jedburgh for another year. This was very selfish, but I saw no reason for incurring any further pain. . . . On Friday (yesterday), Mr. Lundie arrived; and Mrs. Lundie, who is one of the most charming and intelligent women I ever knew,¹ invited Dr.

¹ This lady afterwards married Dr. Duncan of Ruthwell, another friend of Dr. Brewster, the author of the *Sacred Philosophy of the Seasons*, and the *Cottage Fireside*. She was the mother of the beautiful and early sainted Mary Lundie Duncan, and the authoress of her charming *Memoir* and other interesting works. My father was much attached to all this circle, and in 1863 wrote thus to Mrs. Lundie Duncan,—“Your letter has indeed called up the remembrances of early and dear friends, and of the many happy days spent in their society; but in proportion to the distance of these days is the shortness of the time when we shall rejoin them.”

and Miss Somerville and General and Mrs. Elliot to dine with them. I have just come from breakfast at Rosebank. Lundie and I dine to-day at Fleurs Castle, where I stay all night, and set off on Sunday morning to church at Dryburgh Abbey, where I remain all Sunday night, and go to Stow on Monday by the Jedburgh coach, which passes Lord Buchan's."

One of the good results of Brewster's wonderful art of "making time" was that he still always contrived to keep some space for exercise and relaxation, without which he never could have lived such a life of labour with so few traces of overwork. Of this quality he thus wrote to Miss Edgeworth:—"I am one of those ill-organized people who cannot work by rule. I must be in a fit either of unremitting labour or of absolute relaxation, taking no amusement in the one paroxysm, and doing no business in the other." His intense love of the country, and of all country pursuits, contributed greatly to his health both of body and mind. His early love of shooting had not deserted the philosopher, although his skill does not seem to have increased greatly since the days of the Auld Wood and the Ana. We find a characteristic sentence in a letter:—"Determined to shoot better than last Saturday," followed by a triumphant announcement, "shot seven brace of grouse." He had now full scope for this amusement, as the beautiful and well-stocked moors of Belleville, his brother-in-law's residence in the Highlands, were open to him, and he proceeded thither almost every shooting season for many years. His wife's health was sometimes too delicate to allow of her accompanying him on these visits, and we have the following

graphic description of the pleasures and pains of the moors :—

“BELLEVILLE, *August 13, 1820.*

“Take great care of yourself, my dearest Juliet, and do not let any of the little vexations of this world give you the least uneasiness. If I had had you among the hills, where not a trace of worldly concerns or worldly localities are to be seen, you would have at least resolved to trouble yourself little about the miserable anxieties of the valleys. I know of nothing more grand and impressive than a day’s sojourning among the huge and unchangeable masses which compose this heathy wilderness. We can almost believe that we are without a home, without a country, without a family, when we see none of the circumstances which are usually associated with these distant ties, and have before our eyes only heaven and earth, and before our minds only the great Author of nature. I expect to enjoy these sensations still more powerfully to-morrow among the ravines of the Dulnain.”

Another year he writes :—“The 12th of August here brought along with it more than its usual allowance of disappointment. John Grant [of Rothiemurchus] and I prepared ourselves at five in the morning for the labours of the day, but we had scarcely finished our breakfast before torrents of rain fell from every part of the horizon. The weary four hours which preceded the appearance of the family were spent in two perusals of Rose’s Book on Monkeys—in twenty or thirty games at battledore and shuttlecock, and in many appeals to the barometer, and to the faithless skies. About eleven o’clock there was a sufficient intermission of the rain to

induce us to take the hill, especially as there was a party to dinner, which required some game, on the 12th of August. The first bird we saw I shot, but at the same instant broke one of my detonating locks, so that during the rest of the day I was confined to one barrel. After I had shot five brace, and John Grant four, during which time we were completely drenched, and no longer able to work our guns, we left the hills about three o'clock. The birds are by no means numerous; we never saw a larger covey than five during the day. Yesterday, the 13th, we were again equipped for the hills, and the horses waiting for us; but the day was again unfavourable, and I did not think it prudent to expose myself a second time to the elements. If to-morrow is at all favourable, I intend to have a complete day of it alone with James Donaldson, and as my gun is mended, I expect considerable success. If to-morrow is a bad day, as it threatens to be, I intend to go to Kinrara, to pay my respects to Lady Huntly, who arrived yesterday."

The acquaintance alluded to here with "Elizabeth, last Duchess of Gordon," then Marchioness of Huntly, ripened into an interesting correspondence, as was so often the case with Dr. Brewster; it was chiefly upon mineralogy, in which Lady Huntly was most intelligently interested, and she was able also to understand and appreciate Dr. Brewster's optical experiments. He was at this time greatly occupied with meteorology, taking much trouble to get a correct series of observations made throughout Scotland, and Lady Huntly got observations taken for this purpose both at Huntly Lodge and Gordon Castle.

Two other children, David Edward, born in 1815,

and Henry Craigie, born in 1816, had been added to the home circle, which now gathered in a commodious house, No. 10 Coates Crescent, then a new and almost rural part of Edinburgh. One summer Dr. Brewster took his family for a happy summer and autumn's residence to Venlaw, a pretty place on the Tweed, ^{which} near Peebles. ^{Sum. 1852?} Nowhere did the hard-worked man relax the fight-strung bow more completely than in this retreat. With his wife mounted on a beautiful little pony, called the Black Dwarf, and his two eldest boys, he thoroughly explored the beautiful scenery around. Congenial ¹⁸⁵² friends and neighbours crowded around them, and both husband and wife looked back to, and often spoke of, this time as one of the happiest of their lives. With one of their near neighbours ¹ a life-long friendship was commenced. A member of this family writes to me that my father and her father used to take at this time long walks together, which were a source of the keenest mutual enjoyment, not by any means from the least interchange of scientific or literary ideas, but simply from the intense sympathetic love of the beauties of nature which was prominent in both.

The happy summer at Venlaw doubtless inclined Dr. and Mrs. Brewster's mind to pitch some little country tent of their own in the picturesque Lowlands of Scotland. There was a beautiful little property near Jedburgh, named Allars, which they were much inclined to purchase, but with a characteristic timidity and strange foreboding, Dr. Brewster gave, as one of his principal objections, the dangers to his children from the vicinity of a mill-stream which ran immediately outside the gates. A place near St. Boswell's seems also to have

¹ Robert Montgomery, Esq., who was then residing for a time at Kailzie.

been on the *tapis*, for Mr. Veitch writes, not diminishing its disadvantages:—"I was looking at the house at St. Boswell's, and I think it is the most lonely place I ever saw, and probably much haunted by evil spirits. There is a deep ravine at the back of the house, and at the brae-foot the Tweed, with a whirlpool 20 or 30 feet deep; if one of the boys were to slip in, he would never come out again. If you had a house near Jeddart you would be far better, and against summer you and I would go to Stewartfield Wood and shoot 'craws,' and have fine fun!" At last a pretty site was fixed on, just opposite Melrose Abbey and the Eildon Hills, with the sparkling Tweed rolling between, yet, as was supposed, at a safe distance, and purchasing a small farm, Dr. Brewster built an unpretending dwelling—half cottage, half villa, which he named Allerly, partly from his pleasant recollections of Allars, with its green alders, and also true still to early memories, from the Allerly Well, a gushing spring between Jedburgh and Inchbonny, where he had as a boy so often quenched his thirst. The superintendence of the building, and the laying out the garden and grounds, every tree being planted with his own hands, took him often from Edinburgh to Roxburghshire, and proved a most healthy relaxation.

In October 1823 the birth of their only daughter nearly brought desolation into the home in Coates Crescent. The mother's life was for a time despaired of, and it was not, therefore, till the spring of 1824, that the family, in recovered health and spirits, moved to the little home beneath the shadow of the Gattonside hills, although for some years they continued to reside in Coates Crescent in winter.