

## CHAPTER VIII.

## MISS EDGEWORTH—JUNIUS.

FRIENDSHIP is no plant of hasty growth,  
 Though planted in Esteem's deep fixed soil ;  
 The gradual culture of kind intercourse  
 Must bring it to perfection.

JOANNA BAILLIE.

As govern'd well or ill, States sink or rise ;  
 State ministers, as upright or corrupt,  
 Are balm or poison in a nation's veins ;  
 Health or distemper ; hasten or retard  
 The period of her pride, her day of doom.

YOUNG.

IN 1823 Miss Edgeworth visited Scotland, was received as a most honoured guest at Abbotsford, and remained some time in Edinburgh. Here she and Brewster commenced a most cordial friendship, extending also to other members of the family, as through his introduction she visited the Macphersons at Belleville, and enjoyed exceedingly her Highland experiences. Miss Edgeworth and Dr. Brewster carried on for many years a close and lively correspondence, in which he found time to communicate many of the subjects which engrossed his attention from time to time. With the exception of his correspondence with Mr. Veitch, and his regular home letters in any time of absence, this seems to have been almost the only long voluntary correspondence of general interest which he ever entered into *con amore*. With so much necessary writing to accomplish, he generally looked upon ordinary letter-

writing as an unpleasant task and a waste of precious time.

From the following letter we find that it was about this time that a subject was brought prominently before Brewster, which at intervals much engrossed his attention during the whole of his life. In his student days he had read the letters of that mighty unknown man who levelled the weapons of the fiercest denunciation and the most burning eloquence against the corruption of States and statesmen. The anonymous scabbard of "Junius" was all that stood between him and condign punishment; and frail as the interposition seemed, the preservation of his great secret is perhaps as wonderful as the daring and grandeur of his sarcasm. As we have seen hinted by Dr. Andrew Thomson, Brewster had perhaps somewhat profited by his perusal of the wit and satire of Junius, but it was probably not till the incident mentioned in his letter that the thought crossed him that he might discover the secret so marvellously preserved:—

"EDINB., 10 COATES CRESCENT,  
Dec. 8, 1823.

"MY DEAR MISS EDGEWORTH,—I fear that you have thought me negligent in allowing your kind and welcome letter to remain so long unacknowledged, but I am not without hope that you have imagined some apology for me. I had scarcely read your letter when my poor wife was taken so ill that I have hardly been sensible that there were any persons in the world but ourselves. She has now recovered so completely, however, by adding a little girl to our group, that I have again begun my commerce with the world by discharging one of the most agreeable of its duties. . . .

I had the pleasure of seeing a good deal of your friend Dr. Brinkley. Among the great men of the present day, so fatally characterized by want of principle of every kind, it is truly refreshing to meet with such a man. I was no less delighted with his lady and family, and ever since your visit and theirs to our metropolis, I have indulged in many an air-built scheme of treading upon your green island. If the spider goddess would only throw an iron web over the channel, or some teredo of an engineer cut out a tunnel beneath, I should then expect to realize these happy visions; but that boisterous Irish sea of yours is a sad enemy to those who, like me, cannot float in tranquillity upon salt water.

“When you were in Edinburgh I was anxious to have shown you some curious documents which I have collected respecting the author of ‘Junius,’ not only because I know that you would be much interested in them, but because I expected that you would give me some help in the inquiry. The subject is out of my line of study, but as it has crossed my path, I feel an obligation to pursue it. In looking over some old papers of the late Mr. Macpherson of Belleville, I found a packet of hurriedly-written notes on East-Indian affairs, signed ‘Lachlan Macleane’”—[both were confidential agents of the Nabob of Arcot; Mr. Macpherson was one of the Government writers against “Junius,” as “Scævola,” and various other signatures]. “The first that I read had the following sentence:—‘The feelings of the man are not fine, but he must be chafed into sensation.’ A passage so beautiful and so like Junius, that upon no other evidence I supposed that I had found out the great secret. On a little reflection I

recollected a story in Galt's *Life of West*, relative to 'Junius,' and was impressed with the belief that the name of Maclean was used in it. This I found to be the case, and I have now accumulated such a body of evidence that Henry Mackenzie, and many persons here who are good judges of evidence, consider the point as nearly made out.

"Maclean was an Irishman, and his father, who was a Scotchman, was minister of Rachry, near Belfast. He studied medicine at Edinburgh, and went out in Otway's regiment to Canada as an army surgeon. His talents were of that kind that he became private secretary to General Monckton, commanding in the West Indies, and he afterwards practised as a surgeon in Philadelphia. An intrigue with one of his patients drove him from that city, and in crossing the Atlantic in the same ship with Colonel Barry, this gentleman became acquainted with his great talents, and recommended him to Lord Shelburne (the late Marquis of Lansdowne), as Under Secretary of State. In this capacity he acted for some time, till he and Lord Shelburne were turned out of office by the Duke of Grafton's ministry. Maclean lived in London during all the time that Junius wrote. He was a great gambler and dabbler in the funds, and made much money. It was well known that he moved in the first political circles; and though he and his party were out of office, he had a splendid appointment created for him in India, namely, that of Commissary General in Bengal, with the emoluments of a Junior Counsellor. This appointment was conferred upon this ex-secretary three months after Junius ceased to write. On his return from India in 1780, he was lost with all his

papers in a vessel [‘a crazy vessel, commanded by a crazy captain,’ as he described it before sailing], which was never heard of. His talents were of the first order, but they were not generally recognised, as he stammered greatly, and therefore never tried to shine in conversation.

“I have learned that he had two sisters resident in the North of Ireland, but I have not been able to find their place of residence. It is very probable that they could communicate some important facts. . . . Having thus afflicted you with a long story, I must not try your patience any longer. A packet came here a few days ago for Mrs. Macpherson, which, from its form and specific gravity, I judged to be your tabinet. I sent it off immediately, and I daresay you will in a few days hear of its safe arrival.

“We are all impatient here for the appearance of St. Ronan’s Well, which is said to be excellent. I was highly amused a few days ago at the anniversary dinner of the Antiquarian Society, to see Sir Walter joining in all the honours, when the ‘Author of Waverley’ was given as a toast. He is in great health and spirits. Mrs. B. joins me in kindest compliments to you and Miss Harriet and Miss Sophia, and I am, my dear Miss Edgeworth, ever most faithfully yours,

“D. BREWSTER.”

Brewster turned his energies most characteristically at this and other times towards unearthing “the mighty boar of the forest,” as Burke termed Junius, sparing no pains by correspondence in Scotland, England, Ireland, and America to get new facts bearing on the weird authorship, Lachlan Maclean being, however, his favour-

its claimant to the doubtful distinction. He thus collected much fresh and important evidence in favour of Maclean; his birth as an Irishman, yet his intimate connection with, and knowledge of Scotland, the frequent terse and technical medical references scattered throughout Junius, the similarity of handwriting, the identity of dates between the first publication of the letters and Maclean, with his patron, going out of office; and again, the sudden stoppage of the warfare just before Maclean got the sop of a lucrative appointment, bestowed under very unlikely circumstances, and the appearance of his supposed portrait in a curious contemporary print found in Dublin, called "The Tripartite Junius." These, with many other curious particulars, Brewster gave to the reading world in two most interesting and clearly written articles in the *North British Review*, in which he submitted the arguments in favour of Sir Philip Francis, Lord George Sackville, Colonel Barré, Lord Temple, and Lord Lytton, to a most searching and critical investigation. His own arguments for Maclean, if they did not carry entire conviction to the public, certainly created a strong rival to the claims of Sir Philip Francis, the only other formidable competitor. To avoid recurrence to the subject, I may mention here that the *Memoirs of Sir Philip Francis*, by Mr. Parker and Mr. Merivale, published in 1867, was the last secular book which my father read. It occupied him greatly; he particularly requested his daughter-in-law to read it, and he said to her that though "not convinced," it had "greatly staggered" his previous firmly held views of the authorship of Junius.

Brewster's admiration of the composition, intellect, and eloquent denunciation of wickedness in high places,

found to perfection in the writings of Junius, was intense. The following extracts from the *North British Review*, while offering an eloquent apology for Junius, may be taken as a recognition both of his vices and his virtues :—

“There are infirmities, however,—there are even vices, which shrink from the public gaze, and which neither invite our imitation nor demand our rebuke. Charity throws her veil over insulated immoralities, into which great and good men may be occasionally betrayed, and which accident or malignity may have placed before the public eye. When remorse or shame pursue the offender, public censure may well be spared. Vice has no attractive phase when the culprit is seen in sackcloth or in tears. But when licentiousness casts its glare from a throne, or sparkles in the coronet of rank, or stains the ermine of justice, or skulks in the cleft of the mitre, or is wrapped up in the senatorial robe, or cankers the green wreath of genius; when acts of political corruption or public immorality are mingled with individual, domestic, or social vices, courting imitation or applause, and offering violence to the feelings and principles of the community, it becomes the duty of the patriot and the moralist to hold up to public shame the enemies of public virtue. Such a patriot and moralist was Junius. The flash of his mental eye scathed as with a lightning-stroke the minions of corruption, and men paused in their career of political mischief in order to avoid the fate of his victims. Envenomed with wit and winged with sarcasm, his shafts carried dismay into the ranks of his adversaries, and they struck deeper into their prey in proportion to the polish with which they had been elaborated; and when he failed to annoy and dis-

lodge his antagonist by the light troops of his wit and ridicule, he brought up in reserve the heavy artillery of a powerful and commanding eloquence. In thus discharging the duties of a public censor, and in defending, at the risk of his life, the laws and constitution of his country, we may admire the courage of Junius, and even proffer to him our gratitude, though we disown his political principles and disapprove of his conduct. The good done by Junius has lived after him; let the evil be interred with his bones. But though the character of Junius, while he himself remains in the shade, may be pure and noble, it may assume a different aspect when he is identified. Were Lord Chatham or Lord Sackville, or Burke or Sir Philip Francis to stand forth as Junius, his morality would disappear, and his patriotism sink into disaffection and disloyalty; and were either Barré or Maclean to be honoured with his laurels, we must brand them as traitors to the cause which they advocated, and as men who bartered their obligations to the community for a mess of pottage.

“It is always instructive, and now more than ever, to *beware of patriots*, to scrutinize the pretensions of popular leaders, and to estimate the value of their labours. Junius was a very moderate reformer, liberal in his political views, but hostile to innovation. His object was to defend constitutional rights, and not to create them. It was ‘*the unimpaired hereditary freehold*’ which he strove to bequeath to posterity. It was the ‘liberty of the press—the palladium of all the civil, political, and religious rights of Englishmen,’ and the right of juries to return a general verdict, for which he combated. Had he lived in the present day he would neither have been a Repealer nor a Confederate nor a



Chartist. He would have hesitated even to extend the suffrage till the people were fit to exercise it, for he declared that both liberty and property would be precarious till the people had acquired *sense* and spirit to defend them. Education and religious knowledge must precede the extension of political privileges. No person is entitled to a political right till he has learned how to use it; no man is qualified for a trust till he knows how to fulfil it. The rights of the subject are not the rights of an individual, but the rights of the community; and he who either prostitutes or sells such a birthright, dishonours and robs every member of the community to whom the same inheritance has been bequeathed."

The following request and response are in letters without dates, but must have been written about this time. Miss Edgeworth writes:—

"I am writing a philosophical tale upon the dangers and follies, tragic and comic, of 'Taking for granted.' I wish you would help me to a few good instances either in science or common life. I asked Sir H. Davy, and he gave me one on demand. People having at first *taken for granted* that stones, commonly called thunder-stones or moon-stones, *could* not have fallen from the moon or planets, prevented all inquiry or reasoning, and made others take for granted they must be thrown from volcanoes. I am sure you could furnish me with better instances."

Dr. Brewster gave a ready response:—

"I fear my instances of 'taking for granted' may have too much prose or pedantry in them for your use, but if they suit you I could easily give you more, as almost all the grave blunders which mark the history of science are referable to that source of error. The

most remarkable example that has ever fallen in my way is that of Sir Isaac Newton in his celebrated analysis of the Prismatic Spectrum. He took it for granted that at equal refractions the length of the spectrum was the same for all substances of which his prism could be made; or, in other words, that all bodies had the same dispersive power. So thoroughly had he taken this for granted, that his eye seems to have been blind upon this subject alone; for though he used spectra formed by water, and by different kinds of glass, yet he never saw, what is easily seen, that they are very different in magnitude at equal angles of refraction. Hence he missed the great discovery of the achromatic telescope, which he must have invented instantly had he not indulged in 'taking for granted.' Nay, he was so convinced that there was no difference in the spectra, that he actually prevented others from making the very experiments which every person presumed he must have made.

"It is now curious to observe, that while taking for granted deprived Sir Isaac of the honour of inventing the achromatic telescope, the very same invention was afterwards made in consequence of Euler taking for granted that the human eye was an achromatic instrument, which it is not. Conceiving that all the works of the Almighty must be perfect, he conceived that the errors of colour must be corrected in the human eye, forgetting that the supreme wisdom might be evinced in making that organ perfect, without any such correction. He therefore set about computing the curvature of lenses of glass and water for making telescopes, and out of the experiments and inquiries which sprang from this investigation of Euler arose the achromatic telescope, one of the finest inventions of modern times.

“It was then discovered, and proved beyond a doubt by Dr. Blair, that the opposite spectra formed by two kinds of glass, or two fluids, could not correct one another, as in each spectrum the coloured spaces had different proportions. The result was that there was a secondary spectrum left which affected all achromatic telescopes. The remedy for this Dr. Blair discovered, and he produced what he called a *planatic* telescope, in which all colour was perfectly corrected by three media or more. Notwithstanding all this, Dr. Wollaston took it for granted that what he could not detect with his eye could not exist; and in a paper on the spectrum, broadly asserts that in all the spectra which he could form, the colours had the same proportion in similar positions of the prism. This was a great mistake; the effect, which he did not see, required to be looked for carefully, and, in some cases, to be magnified; and there is no doubt that Dr. Blair’s doctrine is the right one. England used to supply the whole world with achromatic telescopes, but from the want of glass it became difficult to make them of a large size. It was literally taken for granted that flint-glass could not be made pure and free of veins in large pieces, and nobody ever made any attempt to manufacture it. A poor Swiss peasant imagined that he could succeed, and after many trials he was perfectly successful. He taught the art to Fraunhofer of Munich, who has made the most magnificent telescopes that were ever seen, and deprived England not only of her trade in this article, but of all her practical glory.

“You see that I cannot keep myself out of a dissertation, so that I shall not make any more such demands upon your patience, unless you tell me that such examples as the above will suit you.”

Another source of great interest arose from the following lively request of Miss Edgeworth's, dated Oct. 9th, 1823 :—

“ . . . I hope Mrs. Brewster's health continues to improve, and that she is not now confined to her sofa. The half hour I spent with her was very short and very sweet. I hope the boys go out sometimes without their great-coats! I am much tempted to make a bold request of you, and to give you what I know you hate above all things—a great deal of TROUBLE. I am writing a sequel to my father's 'Harry and Lucy,' which I am naturally desirous should be worthy of his beginning. But this is a hard battle to me, as I have not, what I once heard a gentleman boast he possessed, '*a little scientific knowledge that came naturally.*' Whatever I have, came very unnaturally, and with hard labour, and most of it from your *Encyclopædia*, and others. My wish would be to send you some parts of 'Harry and Lucy' to look over before going to press. But from this I am deterred by the hatred which I feel myself to looking over other people's MSS. and correcting them. I know, moreover, from your own dear bosom friends (who by the bye are always the people who tell one's snug faults) that you are one of the most indolent philosophers extant—a bold word—and that you never can bring yourself to finish your own undertakings for the press, even till the last gasp, though all the printers' devils are waiting for and urging you!

“Then how much the less could I expect that you should correct for me, who am neither devil quite, nor angel quite, nor anything at all to you?

“Then, supposing your good-nature, chivalry, Quixotism, or some of what becomes a Scottish gentleman-

philosopher, *should* work and egg you up to accept this troublesome task, which all the while would go against your natural stomach, there remains the difficulty of transmitting the pages of the ms. to you. Not a soul or body near but has too much conscience to be obliging, as they used to be, in franking large packets, before the Reformation and the Commissioner came to Ireland. So I give it up, and only write this to divert you some fine day when you have grown too pale over the midnight lamp."

The plan was not given up, however; officials proved obliging, the "Scottish gentleman-philosopher" was characteristically accessible, and all the mss. of the "Sequel to Harry and Lucy" were subjected, not only to Dr. Brewster's scientific criticism, but were read aloud to his four boys, in order to judge of the effect of the mixture of science and story on juvenile minds. The intense interest it excited was a true presage of the popularity which, when published, it continued so deservedly to meet with from all intelligent youthful readers. The philosopher threw himself into this occupation with all his heart, as is evident from the letters of judicious advice, criticism, and encouragement which accompanied each returned packet. I give some interesting extracts from these:—

"Feb. 7, 1824.

"I have safely received your different packets. I now return Nos. 4, 5, and 6, which have afforded much pleasure to my young people, and which I am sure they thoroughly understand. I do not think these are capable of improvement. I would only suggest the introduction of the Chinese fish or serpents (as they

are called), which are made of thin ivory, as a striking illustration of the effects of moisture. . . . In two days you will receive Nos. 7-10. After succeeding with the steam-engine, I expect that you will soon be found trespassing upon my manor among telescopes and microscopes and double refractors. If you continue to let the game pass through my hands, I shall be gentle with you before the justices, and have no doubt that they will reverse the order of their judgment by being less severe upon the last than upon the first offence."

"10 COATES CRESCENT, EDINR.,  
March 19, 1824.

"MY DEAR MISS EDGEWORTH,—I return your packet, and have been much gratified with the very perspicuous account which you have given of the phenomena of mother-of-pearl. The only remark that occurs to me is, that the reader might suppose that there are no other colours in mother-of-pearl but the superficial or communicable ones, while in reality there are others which are produced in the interior, and are therefore not communicable to wax.

"There is also a very extraordinary fact respecting these communicable colours in mother-of-pearl which deserves to be mentioned. One set of these colours is produced by the right side of the grooves, and another set by the left side of the grooves, and *both* of them are distinctly seen when the mother-of-pearl is *polished*: but when the polish is removed by rough grinding, one of the sets *invariably disappears*. The rough grinding, therefore, destroys the effect of one side of the grooves without affecting the other, a result which I have never been able to explain satisfactorily.

"Mrs. B. and I will read with much pleasure the

work you mention, and I am most anxious to see Ireland with my own eyes. I shall certainly make a great exertion to obtain this gratification this summer, but the exertion is great to those who, like me, are entangled in business, in country concerns, with children and printers' devils, and a lawsuit to boot."

"10 COATES CRESCENT, EDINR.,  
April 2, 1824.

"... I am almost afraid to put down in writing another observation, and yet it would be a weakness to omit it. The passage you quote from the Scotch novel relative to Mr. Watt is quite overstrained, and, in every respect, utterly incorrect. No man ever admired Mr. Watt more than I did, and I was peculiarly fortunate in corresponding with him during the last years of his life, and enjoying a good deal of his society, both here and at his own house. I admired him, however, for what he did, and not for what he never thought of doing; and I confess that I have been guilty, under the influence of personal attachment, of writing of his labours in very exaggerated strains. Mr. Watt's great invention was to improve the steam-engine by the use of a separate condenser; but great as this was, I am convinced that steam-boats and steam-engines would have been in the same state of perfection at this moment had Mr. Watt never lived. I do not mean to say that any person would have improved the low-pressure steam-engine by the invention of a separate condenser; but I maintain that the high-pressure engine, where there is no condensation at all, and which Mr. Watt and all his friends (including myself) reviled as of inferior utility, is in every respect superior to the low-pressure engine, and would have accomplished all

the great operations of modern times, even if the low-pressure engine and a separate condenser had never been heard of.

“Nay, I am disposed to think that the obstinate adherence of Mr. Watt and his friends to the low-pressure engine, long after accurate experiments, made and recorded in Cornwall, had demonstrated the superiority of high-pressure ones, has done much to retard the progress of invention respecting this engine. The same obstinacy is at this moment opposing the invention of Mr. Perkins, which is a step as far above the high-pressure engine as that was above the low-pressure one, even if Mr. Perkins realizes only one-third of the power which he expects.

“The author of *Waverley* has, moreover, forgotten the practical excellence of Boulton’s steam-engine, which drained mines and coal-pits as successfully as Mr. Watt’s, from which it differed chiefly in having a greater appetite for fuel.

“When the poet or the orator is called upon to declaim upon any great national invention, his art requires that it should be associated with one great name. The imagination can as little tolerate the subdivision of praise, as it does that of labour; and hence, whenever the objects of science or art come within its domains, all individuality is lost either in the brilliancy or obscurity of its creations.

“You would oblige me much by giving me the information you mention on double stars, in which I take a very great interest. I suppose the discoveries are those of Mr. Herschel, who has been long occupied with this curious subject.”



Miss Edgeworth seems somewhat to have misunderstood Dr. Brewster's plain speaking, as was often the case with his statements, which were generally made with no other thought than the subject immediately before him. He writes, in answer to a letter of hers :— "I owe you one grudge, however, for supposing that I would not be pleased with the meeting in honour of Mr. Watt. I am sure that I expressed myself hastily on that subject, otherwise you could not have misunderstood me; but I am glad to be able to say that I had attended the Edinburgh meeting on the very day preceding that on which I was favoured with your letter." If not able to see eye to eye with many of Mr. Watt's friends on the subject of the steam-engine, it is pleasant to see the full justice which Brewster did to Watt long afterwards upon the priority of his discovery of the Composition of Water. The biographer of Watt thus writes :—"As an instance of the change which was wrought by the force of truth on the convictions of others' equally distinguished, we may mention a most eminent philosopher, who having, at a former period, on the imperfect information then open to him, been disposed to support the claims of Cavendish, on fully studying the fresh evidence which the correspondence of Mr. Watt first made public, unhesitatingly professed his entire conversion; and in one of those eloquent essays by which he has so often adorned the progress of scientific discovery, publicly announced, as the conclusion at which he had arrived, that the argument for Mr. Watt's priority 'had now been placed on a sound and impregnable basis.' That the name of Sir David Brewster should be known throughout the whole civilized world by the most brilliant discoveries in the

most beautiful of sciences, can scarcely be deemed more honourable to him as a man, than the perfect candour which he thus displayed; and such unreserved testimony, spontaneously borne under such circumstances, by such an authority, has evidently a most conclusive bearing on the question in regard to which it was delivered."

Another strongly expressed opinion meets us in this letter, from which he never receded, as the same sentiments are as decidedly stated in his *Memoirs of Sir Isaac Newton*, published more than thirty years afterwards:—

"April 26, 1824.

" . . . I would strongly recommend the omission of the passages about Lord Bacon in pages 703, 704, even if you should not agree with me in the opinion which I am about to state. The opinion so prevalent during the last thirty years, that Lord Bacon introduced the art of experimental inquiry on physical subjects, and that he devised and published a method of discovering scientific truth, called the method of induction, appears to me to be without foundation, and perfectly inconsistent with the history of science. This heresy, which I consider as most injurious to the progress of scientific inquiry, seems to have been first propagated by D'Alembert, and afterwards fostered in our University by Mr. Stewart and Mr. Playfair, three men of great talent, but not one of whom ever made a single discovery in physics.

"It is an undoubted fact that Kepler, Galileo, and Huygens were as well acquainted with the method of conducting scientific inquiries as any philosophers that

have flourished since the time of Bacon ; Dr. Gilbert of Colchester, before Bacon's time, gave the most perfect specimens of the method of investigating truth by experiment and observation ; and he speaks in the strongest language of the absolute inutility and folly of all other methods. Leonardo da Vinci too speaks in the strongest terms of the omnipotence of experiment and facts in all philosophical pursuits. It has been said, however, by the admirers of Bacon, that though a few philosophers knew the secret of making advances in science, yet the great body were ignorant of it, and that Paracelsus, Van Helmont, and many others, were guided in their inquiries by very inferior methods. In answer to this argument, it is sufficient to say that in the present day there are numbers of philosophers who are quite ignorant of the proper method of conducting physical inquiries, and who follow their own whims and fancies as much as Paracelsus and Van Helmont.

“ If Bacon introduced any new method into science, it seems very strange that his contemporaries never thanked him for it, nor seemed to be aware of it. Sir Isaac Newton, who is invariably said by some modern writers to have made all his discoveries by following Bacon's rules, never once mentions either Bacon or his method, and the good Mr. Boyle is equally silent on the subject. If Bacon had never lived and never written, science would have been just where it is at this moment.

“ It seems quite clear that Bacon, who knew nothing either of Mathematics or Physics, conceived the ambitious design of establishing a general method of scientific inquiry. This method, which he has explained at great length, is neither more nor less than a crusade

against Aristotle, with the words *experiment* and *observation* emblazoned on his banner. This hue and cry about experiment was so far good, that it was in a good cause. But the cry was old; all men of talent had obeyed it, and those who did not, namely, the charlatans of the day, were neither willing nor able to renounce their speculations and extravagancies. These empirics had in former times some hold on the public mind, which was then illiterate and ill-informed on all points, whereas the same class of persons, who are as numerous as ever, are kept in the background from the wide diffusion of sound knowledge and the prevalence of sober opinions among all orders.

“The method given by Bacon is, independent of all this, quite useless, and in point of fact has never been used in any successful inquiry. A collection of facts, however skilfully they may be conjured with, can never yield general laws unless they contain that master-fact in which the discovery resides, or upon which the law mainly depends. It is often some hidden relation, some deep-seated affinity, which is required to complete, or rather to constitute, a great discovery; and this relation is often discovered among the wildest conceptions and fancies after they have been sobered down by the application of experiment and observation. The extravagant speculations which often precede and lead to discovery differ in no respect from the creations of a rich poetical fancy. Wild and unsubstantial in themselves, they pass over the mind like a shadow, and it is only when they are clothed in the imagery of external nature, and invested with the realities of human feeling, that they begin to exercise their power over the heart.

“In short, it is just as true that Scott and Byron composed their works under the tuition of Horace’s *Art of Poetry*, as it is that Newton made his discoveries by following the method of Bacon. Horace, too, was a poet, and capable of laying down some technicalities for the advantage of future bards; but Bacon was no natural philosopher, and has even demonstrated the utter inanity of his method by the ridiculous results to which he was led in applying it to the subject of heat. The application of Horace’s maxim of *nonnum in annum premere* would not more effectually extinguish all modern poetry than the application of Bacon’s method would extinguish all modern science.”

The following short extracts from some of the other letters may be given, as showing the different topics of interest which were crossing Brewster’s path at the time; the mutual friendship felt for “Sir Walter” showing itself by frequent allusions throughout the correspondence. There appears to have been a frequent interchange of plants and minerals between Edgeworthstown and Coates Crescent:—

“I have forgotten to thank you for the American moss, which derives double interest from its description in *Harry and Lucy*. I have enclosed some specimens of Tabasheer, a substance of extreme rarity and great interest as a sort of mineral product of vegetation,” and in the next letter—“I do not remember if I mentioned to you when I sent you some Tabasheer, the singular phenomena that relate to the distribution of silex in the cuticle of several plants, and which gives them the power of polishing wood and even brass. I enclose a brief printed notice of what I observed, which is given

in Dr. Greville's *Flora Edinensis*." The following is what was enclosed :—

"*Equisetum Hyemale*—*Rough Horsetail*.—This species contains more silex beneath its delicate epidermis than any other, and is consequently most employed in polishing hard wood, ivory, and even brass. The silex is so abundant, that the vegetable matter may be destroyed, and the form retained, as was effected by Mr. Sivright.

"My friend Dr. Brewster has obligingly permitted me to consult an unpublished paper, written by him on this subject. On subjecting a portion of the cuticle to the analysis of polarized light under a high magnifying power, Dr. Brewster detected a beautiful arrangement of the siliceous particles, which are distributed in two lines parallel to the axis of the stem, and extending over the whole surface. The greater number of the particles form simple straight lines, but the rest are 'grouped into oval forms, connected together like the jewels of a necklace, by a chain of particles forming a sort of curvilinear quadrangle; these rows of oval combinations being arranged in pairs.' Many of those particles which form the straight lines do not exceed the 500th part of an inch in diameter. Dr. Brewster also observed the remarkable fact, that each particle has a regular axis of double refraction. In the straw and chaff of wheat, barley, oats, and rye, he noticed analogous phenomena, but the particles were arranged in a different manner, and 'displayed figures of singular beauty.' From these data, the Doctor concludes 'that the crystalline portions of silex, and other earths which are found in vegetable films, are not foreign substances of accidental occurrence, but are integral parts of the

plant itself, and probably perform some important function in the processes of vegetable life."

"Jan. 8, 1827.

"Napoleon is now finished, excepting the Appendix. It has annoyed Sir Walter more than any of his other productions. He said lately to a friend that he did not know whether he would finish Napoleon or Napoleon finish him. . . . Can you tell me if it is the opinion in Ireland that the salmon fry which go down to the sea return in the shape of grilse; or in the shape of sea trout, finnocks, or whitlings?"

"March 24, 1829.

". . . I have such a love for Ireland that I would fain congratulate you, if I could, on your prospects. You are under the influence of Paradise gas, which, I fear, will neither fill your bread-baskets nor cover your epidermis, nor change your masters. When the imagination has had its triumphs, your cottagers will, I fear, discover that in the division of the once forbidden fruit, the rich has seized the kernel and given them the shell. How happy shall I be to confess to you some years hence the delusion under which I write!

"Sir Walter Scott is just about to make a fortune by printing his novels at a cheap rate for general circulation. Why should *you* not make ten thousand pounds by doing the same?"