

INAUGURAL ADDRESS.

READ BEFORE THE ABBRETHIAN SOCIETY.

OCTOBER 3rd, 1892.

By Dr. LAUDER BRUNTON, F.R.S.

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With kind regards from the writer.

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T. LAUDER BRUNTON, M.D., F.R.S.

LONDON:

PRINTED BY

J. E. ADLARD, BARTHOLOMEW CLOSE

1883.

INAUGURAL ADDRESS.

GENTLEMEN,—I am greatly sensible of the honour you have done me in asking me to deliver the inaugural address here to-night.

In choosing a subject to bring before you I have had no difficulty in selection, inasmuch as an event which has occurred in the last year almost forces me to take one subject and no other. For, in the last year, not only we, but the world at large, have had to deplore the loss of Mr. Darwin. Untimely his death could hardly be called, for he died at a good old age, and was fortunate enough to see the labours of his life bearing much fruit; yet, untimely, in another sense it was, for though full of years he was not old, his eye was not dim, nor were his mental powers abated. Up to the last he continued to give to the world the fruits of his labours as carefully worked out, and as admirably put as in the days of his prime. It is now rather less than a quarter of a century since his book on the 'Origin of Species' was published, a book which has revolutionised our modes of thinking, not only in the special branches of which it treated, but in every department of mental activity. It takes a long time for the mind to grasp the proportions of anything really great, when it is close at hand. When we are near the foot of a great mountain, its highest peak is frequently hidden from view by the lesser projecting spurs, and it is only as we recede from it that these sink

into their true place, and the peak itself stands out alone. When we hear a chime of bells, the sound of the largest may not seem more powerful, perhaps less powerful, than that of a somewhat smaller bell, but as we recede from them the strong note of the largest still sounds in our ears long after the others are silent. Mr. Darwin seems to us, even to-day, a very great man, but to those who live a century hence he will probably seem much greater. Now we see that he has directed the thought of the world into a new channel, but a century hence the depth and length of its course in the new direction will show more clearly the effect he has produced. In one thing, however, those living now and who have been personally acquainted with Mr. Darwin, know more thoroughly than those who may live hereafter will know what a great man the world has lost; for they appreciate, as none who have not known him can, the beauty of his character and the loveliness of his nature. Perhaps the most striking points about him were his truthfulness and unselfishness. He seemed to have no wish to advance any opinion because it was his; unless it were true he cared nothing for it; and if any one else, however humble, could provide him with an explanation of facts which he thought better than his own, he was ready to adopt it. His thoughtfulness for others it was impossible to exceed, the lowest as well as the highest were certain of his kind regard, if only they were like him, seekers after truth; and without thought for his own ease or convenience, he would give up valuable time to discuss their opinions, enter into their plans, and encourage their endeavours. In all his acts he seemed to be directed by the injunction given by Paul to the Philippians: "Let nothing be done through strife or vainglory but in lowliness of mind let each esteem other better than themselves. Look not every man upon his own things, but every man also on the things of others." (Philip. ii, 3, 4.)

Some narrow-minded people have railed at Mr. Darwin as an infidel, and regarded him as worse than a heathen, but nowhere can I find such a good description of his

character as in the words addressed by the Apostle Paul to the Galatians, regarding virtues of which Mr. Darwin seemed to be a living embodiment. "The fruit of the Spirit is love, joy, peace, longsuffering, gentleness, goodness, faith, meekness, temperance: against such there is no law." "For all the law is fulfilled in one word, even in this: Thou shalt love thy neighbour as thyself."

I must now proceed shortly to speak of his work, and some of its results as concerning us.

It may perhaps add to the interest we feel in him, if that were possible, to know that both his father and grandfather were medical men.

His grandfather, Erasmus Darwin, was very fond of experiments, and one of them nearly killed his son Robert, from whom Mr. Charles Darwin was descended. He had been much impressed with the utility of inoculation in smallpox, and thought that a similar practice might be useful in other diseases. He accordingly infected his son with scarlet fever, but the boy, unluckily, got it in a very violent form, and barely escaped with his life. In what way the infection was conveyed I do not remember, nor am I sure that Mr. Charles Darwin, from whose lips I heard the anecdote, told me. This is probably one of the first attempts at inoculation for a disease other than smallpox, although the researches of Pasteur make it probable that preventive inoculation may before very long become as important in other diseases as in variola.

Mr. Darwin himself studied medicine for two sessions. He disliked, however, the idea of becoming a medical practitioner. He therefore left Edinburgh, where he had been studying medicine, and took his degree at Cambridge with the view of entering the church.

Professor Henslow was at that time Professor of Botany, and stimulated by his teaching Darwin acquired a love for natural history. In their excursions they collected insects as well as plants, and the first time Darwin's name appeared in print, was in connection with the capture of an insect in the Fens. During one of the

excursions, Professor Henslow offered to Mr. Darwin the post of naturalist on the "Beagle," under the command of Captain Fitzroy. The offer was gladly accepted, and in this capacity Darwin started on a voyage round the world, which furnished him with many of the facts, and partly suggested the ideas which ascounded the world when published in his 'Origin of Species.' During this voyage he suffered much from sea sickness, and this, along with occasional privations in his journeys, laid the foundation for a chronic dyspepsia which made him more or less an invalid for the rest of his life. The Coral Islands, which occur in the Pacific, had, previous to Mr. Darwin's voyage, been an enigma to naturalists. It seemed impossible to understand how such islands could have been formed by the coral polyps at all, for some of them rise sheer up from a depth of hundreds of fathoms, and the polyps themselves die at a slight depth below the surface of the water. Their forms, too, were puzzling, sometimes appearing as simple reefs fringing an island, at other times as barriers encircling it around at a little distance, and at other times again, as a solid ring enclosing a central lagoon. Mr. Darwin took the facts as they were before him, and by the simple hypothesis, that the coral polyps built round the top of a partially submerged and still sinking mountain, he at once brought the facts into clear relation with one another, and rendered the whole formation of coral reefs and islands easily intelligible.

Important as his observations on the Coral Islands were, they were much less important than those which he made all through his voyage in relation to the origin of species. At an early period in the voyage he began to make these observations: one of the first being on a family of birds resembling quails in some respects, but snipes in others. In regard to this he observes: "This small family of birds is one of those which, from its varied relations to other families, although at present offering only difficulties to the systematic naturalist, ulti-

mately may assist in revealing the grand scheme common to the present and past ages on which organized beings have been created."*

In this passage he clearly announces the theme upon which he had already begun to concentrate his attention; and shortly afterwards we meet with remarks which indicate that he had already begun to work it out in detail.

He observed a kind of snake which Cuvier had placed intermediate between the rattlesnake and the viper. This snake produces a rattling, but the apparatus is much simpler than that of the rattlesnake, and consists only of a slightly enlarged point which constantly vibrates. In regard to this fact, Darwin notices that it appears to him "very curious and instructive as, showing how every character, even though it may be in some degree independent of structure, has a tendency to vary by slow degrees."†

In La Plata he was struck by the change effected in the plants of a district by the grazing of cattle, and by the introduction of foreign plants. One of these, the cardoon (*Cynara cardunculus*), a kind of wild artichoke, has become exceedingly common, and in Banda Oriental covers hundreds of square miles, so that Mr. Darwin doubts "whether any case is on record of an invasion on so grand a scale of one plant over the Aborigines."

In comparing the extinct with the living species of animals in America, he observes that they nearly all belong to the same genera. "This wonderful relationship in the same continent between the dead and the living will, I do not doubt, hereafter throw more light on the appearance of organic beings on our earth and their disappearance from it than any other class of facts."‡

The imperfection of the geological record attracted his attention to Chili, where modern beds rest upon an ancient tertiary formation containing shells apparently all extinct. The explanation of the absence of recent shells must, he

* Darwin's 'Naturalist's Voyage round the World,' p. 98.

† *Ibid.*, p. 98.

‡ *Ibid.*, p. 173.

thinks, "he sought in the fact that the whole southern part of the continent has been for a long time slowly rising, and therefore that all matter deposited along shore in shallow water must have been soon brought up and slowly exposed to the wearing action of the sea-beach; and it is only in comparatively shallow water that the greater number of marine organic beings can flourish, and in such water it is obviously impossible that strata of any great thickness can accumulate."⁴

But his observations on the flora and fauna of the Galapagos Islands (a group lying about 600 miles westward from Peru) were much more important than those on the Coral Islands, for it was the peculiar character of the animals and plants in this group which strongly attracted his attention, and led him to work out the great question of the origin of species. To quote his own words, "the natural history of these islands (of the Galapagos Archipelago) is eminently curious and well deserves attention. Most of the organic productions are aboriginal creations, found nowhere else; there is even a difference between the inhabitants of the different islands, yet all show a marked relationship with those of America, though separated from that continent by an open space of ocean between 500 and 600 miles in width. The Archipelago is a little world within itself, or rather a satellite attached to America, whence it has derived a few stray colonists, and has received the general character of its indigenous productions. Considering the small size of the islands, we feel astonished at the number of their aboriginal beings, and at their confined range. Seeing every height crowned with its crater and the boundaries of most of the lava streams still distinct, we are led to believe that within a period geologically recent the unbroken ocean was here spread out. Hence both in space and time we seem to be brought somewhat near to the fact—that mystery of mysteries—the first appearance of new beings on this earth."

We ought, perhaps, rather to say that Mr. Darwin's

* Darwin's 'Naturalist's Voyage round the World,' p. 344.

observations on the Galapagos Islands, instead of first directing his attention to the origin of species, first gave him sufficient material by which to work out and illustrate the views on this subject which had been originated by Mr. Darwin's grandfather Erasmus. In his '*Zoonomia*,' published in 1794, fifteen years before the appearance of Lamarck's '*Philosophie Zoologique*,'* Erasmus Darwin first considers the changes naturally produced in animals after their nativity; secondly, the great changes introduced into various animals by artificial or accidental cultivation; thirdly, the great changes produced in the species of animals before their nativity; fourthly, the great similarity which obtains in all warm-blooded animals; fifthly, by the fact that from their first rudimentum or primordium to the termination of their lives, all animals undergo perpetual transformations, which are in part produced by their own exertions, in consequence of their desires and aversions, their pleasures and pains, or of irritations or of associations, and many of those acquired forms or propensities are transmitted to their posterity.† "As air and water are supplied to animals in sufficient profusion, the three great objects of desire which have changed the forms of many animals by their exertions to gratify them are those of lust, hunger, and security. A great want of one part of the animal world has consisted in the desire of the exclusive possession of the females, and these have acquired weapons to combat each other for this purpose." "The final cause of this contest among the males seems to be that the strongest and most active animal should propagate the species which should thence become improved." Another great want consists in the means of procuring food, which has diversified the forms of all species of animals. All these diversities seem to have been gradually produced during many generations by the perpetual endeavour of the creatures to supply the

* '*Life of Erasmus Darwin*.' By Ernest Krauss. P. 173. London: Murray.

† Erasmus Darwin, '*Zoonomia*,' Section xxxix, 4. 8. pp. 235—248, 2nd ed. London, 1801.

want of food, and to have been delivered to their posterity with constant improvement of them for the purposes required. "The third great want among animals is that of security, which seems much to have diversified the forms of their bodies and the colour of them; these consist in the means of escaping other animals more powerful than themselves. From thus meditating on the great similarity of the structure of the warm-blooded animals, and at the same time of the great changes they undergo both before and after their nativity, and by considering in how minute a portion of time many of the changes of animals above described have been produced, would it be too bold to imagine that in the great length of time since the earth began to exist—perhaps millions of ages before the commencement of the history of mankind—would it be too bold to imagine that all warm-blooded animals have arisen from one living filament, which THE GREAT FIRST CAUSE endowed with animality, with the power of acquiring new parts, attended with new propensities, directed by irritations, sensations, volitions, and associations, and thus possessing the faculty of continuing to improve by its own inherent activity, and of delivering down those improvements by generation to its posterity world without end."

In the quotations just given Erasmus Darwin not only gives a theory of the origin of species exactly like that of his grandson, but he also foreshadows the "survival of the fittest" as the great factor in the production of the forms of life now existing. He does not, however, give to this most important factor in evolution sufficient weight.

It is the fact that so many more animals are born than can find their livelihood in their native place, that makes natural selection of such immense importance. If there had been free scope for every organism that was born to live and to develop without restraint, we should have had numberless forms of life, but not the definite species, genera, and classes that at present exist. For these owe their existence to the limitations imposed upon growth by

surrounding circumstances, uniformity being obtained by nature carefully weeding out all the organisms which do not conform to the circumstances under which they are placed.

To Erasmus Darwin is due the credit of sketching out the true mode of origin of species, the principle of sexual selection, and the descent of man, with great clearness; but it was his grandson Charles who succeeded in convincing the world of the truth of these ideas. The far-reaching intellect of the older Darwin was able to draw from a limited number of facts conclusions, the correctness of which is now acknowledged—nearly a century afterwards. But the data at his disposal were insufficient to convince his less clear-sighted contemporaries, and so his views were disregarded by them as those of a visionary.

Charles Darwin, with an ability equal to that of his grandfather, appeared to possess more concentration and power of steady work; he was thus enabled to accumulate such an immense body of facts on which to base his arguments, that his reasoning has proved irresistible and has forced the world to accept his conclusions, notwithstanding all the opposition which could be brought against him, and this has been great, in proportion to the greatness of the change which his ideas have wrought. For men, as a rule, dislike new ideas; they dislike to be disturbed in their old ways; and Darwin has not merely revolutionised our modes of thinking about natural science, he has caused many to fear that he was overturning their religion. To understand this revolution we must take a look at the beliefs which were held before.

In geology the notions which formerly prevailed that enormous and sudden changes had occurred several times during the world's history, one set of animals being swept off the face of the earth and replaced by an entirely new set, had begun to be superseded by a newer school, of which Lyell was the leader. This school, instead of regarding the geological phenomena which occurred in past ages as being utterly different from anything occurring now,

considered that in all probability the changes which the earth's crust had undergone had been effected simply by the forces which are now at work upon it; that, in fact, there is no break in the order of the geological phenomena, the present and the past are simply parts of one great whole. To this school Darwin gave great support, but he carried the uniformity of action which geologists had begun to recognise in the phenomena of inorganic nature, into those of life—a sphere from which others had carefully excluded it. Slow upheaval and slow depression of the land, alternate submersion and emersion from the waters, volcanic action and earthquakes, the denuding action of streams and rivers, and the slow attrition of glaciers, were already looked upon as explaining alike the alterations in the earth's crust in former geological ages and in the present time; but the occurrence of new forms of life throughout the different epochs was still regarded as due to special creations, each new set of animals and plants being supposed to be formed by the Creator out of inorganic materials at the same time that their predecessors were swept away. To some of us this idea may already appear so strange as to be almost incredible, and yet it is held even now, perhaps, by a large majority of the inhabitants of this country.

Two hundred years ago Galileo was tortured because he presumed to say that the earth went round the sun, thus dethroning man and his abode from their high estate as the centre of the universe. If many theologians had their way Darwin would have suffered in the same manner as Galileo, for however carefully the author of the 'Origin of Species' might put his ideas, it was quite evident that if they were true man would be dethroned from the position he was supposed to occupy as a being entirely apart from the lower animals, and would be reduced to an acknowledgment of a kinship (however remote) with them. This is not flustering to man's pride, but when once we get over the shock to our vanity which the new idea produces, it becomes to us a key of knowledge which

admits us into regions we had never dreamt of before. To us, as students of medical science, the idea of man's origin by gradual development from the lower animals is peculiarly instructive, for it appears that the life of the individual is really an epitome of the race, and changes which have occurred in the latter during the long ages of geological time are quickly passed over in the former in the brief interval which elapses before the simple ovum develops into the perfect being.

When I was a student I had to learn that in the development of the human embryo the visceral arches occur; but this was a bare fact, destitute of the interest which it at once acquires when we view it as an indication of the fishy form of man's primeval ancestors.

Instead of now regarding an open foramen ovale or a patent ductus arteriosus as abnormalities for which no sort of reason could be given, we would regard them now as forms of extreme atavism, of reversion to the earlier progenitors of mankind; and we may assume as a likely cause an arrest of development at that particular stage, though what the cause of this arrest may be in each particular case, we may be unable to determine. The tendency to revert to various ancestors, and sometimes to very remote ones, is of much interest to us, as tending occasionally also to help us both in our diagnosis and treatment of disease. To take a well-known example, we find, perhaps, that in some patients there are various symptoms for which we cannot very well account, and which do not yield to a treatment directed specially to relieve them. We learn that neither the patient himself, nor his father nor mother have suffered from gout, but that his grandfather has done so; and we, knowing the tendency of this disease to be inherited, treat him for gout with a successful result.

Hitherto medical life history has been but little regarded, and attention is only beginning to be directed to the subject. Lately, however, the Collective Investigation Committee of the British Medical Association has attempted

to institute a permanent system for the registration of disease with the view of obtaining complete life histories of patients. This scheme and all the advantages it is likely to produce we owe also to the influence of Mr. Darwin, exerted on his friend and relative, Mr. Francis Galton, and through him upon others. If each patient who applied for advice were to bring with him a complete life-history of his family tendencies and past diseases, our work, as physicians, would be considerably simplified, and we should get a larger and surer basis of facts on which to found our diagnosis. Not only will this scheme help medical men in treating individual patients, it will also help to give us a more thorough knowledge of the course of disease both in the individual and in the family, and the effect of treatment upon them. Year by year, medical science will thus receive successive additions from this source, but this is only one of the many ways in which our knowledge of medicine is advancing. Year by year fresh additions are made to it, and while all these put it in the power of the man who is thoroughly acquainted with them, to diagnose more accurately and to treat more successfully, they render the acquirement of a complete medical education more and more difficult. On comparing what a medical student has to learn now with what it was even when I studied, I can see a great difference. This difference is chiefly in the greater development of physiology, and the closer study of special branches of medicine. On comparing, too, the numbers of medical students who enter the profession, I see that they are immensely greater now than then. Taking the entries at our own school, I find that ten or twelve years ago they ranged between about eighty and ninety, and now they are well on to double the number. This immense increase in the number of medical students means a harder fight for life. The struggle for existence is not confined to the lower animals, it is felt and felt hardly by man; and with him too it comes to be a case of the "survival of the fittest." In this hard struggle it

is important for every one carefully to consider how he is best to succeed, and I purpose to devote the concluding part of this Address to one or two words on this subject. Formerly a notion prevailed widely that medical students were idle, and this may or may not have been true at one period, but it certainly is not now. In the struggle for existence among those who intend to enter the medical profession, a process of weeding-out goes on for a number of years. Just before I began to study, the Act came into operation which obliged men to pass a preliminary examination in general education before they began the study of medicine; this at once weeded out a number of youths who had been idle boys at school. Unable to pass the "preliminary," their friends judged, or they themselves thought, that they had better follow some other occupation; and the effect of this regulation I could see myself, inasmuch as a number of the "old statute men" as they were called still remained as students. It was amongst them chiefly that the frequenters of the beer houses were to be found. But after a man has entered on his studies, there comes examination after examination, and usually some men are weeded out by each; unable to pass them, they leave medicine and take to something else. But it is after they have taken their degree that the hardest struggle comes, because then it is the struggle for life. Whilst students are engaged in passing examinations it is only a question of getting up to a certain mark, and not of struggle man against man. Some may go in for competition, but even then the stake is not so great. After taking their degree, some by competition enter the army, others the navy, and some by interest or otherwise may join the merchant service, but it seems to me it is when a man finds himself in a small country town, with one or two others, that the struggle becomes keenest. There is, perhaps, barely practice to yield a livelihood to all of them, and certainly not an easy livelihood.

There are, let us say, in the neighbourhood a few wealthy gentlemen with their families, in the town some

business people, and both in the town and country around a considerable number of poor artisans and labourers. There is, of course, a contest among the medical men as to who shall get the better class of patients, for their patronage involves less labour and brings in more money. Now, what are the qualities likely to gain this? First of all there may be external circumstances which have nothing to do with the man himself. One man may have succeeded to a well-established practice, and yet he may be the most imperfectly educated and know the least of his profession. In spite of this he may have the best practice, simply in virtue of having succeeded to it, and the struggle comes to be a question whether the other and better man can oust him. The issue of this contest will be determined not only by the professional qualities, but by the nature and manners of the rivals; if the man in possession, although imperfectly educated, be kind-hearted, courteous, and polished, he is likely to retain his hold upon his patients for a long time in spite of imperfect knowledge. Moreover, if his rivals fail in these qualities, it is probable that they will never gain his position, however much better they may be professionally. Not long ago I was staying in the country with an old friend, a practitioner having a very high class of practice, and he told me how, during a temporary absence, he had very nearly lost one of his best patients through an indiscretion on the part of his *locum tenens*. This was a very able young man, fresh from a hospital, who knew his professional work thoroughly and well, but had never seen any general practice. He was sitting one evening when a summons came for him to attend a patient some way off. As the gig was coming out he took a pipe and was about to light it, intending to smoke on his way. Fortunately my friend's wife saw what he was doing and stopped him, telling him that if he went to see his patient with the smell of tobacco hanging about him, he would never be asked to go there again. "But does not your husband smoke?" "Yes," says she, "he smokes on his way back, but never on his

way to the patient; and if he happens to have been smoking before the summons comes, he always rinses out his mouth with eau-de-Cologne and water and changes his coat before he starts on his journey." I give this as an example of the minutiae to be attended to in practice. It would be impossible to give a list of them, but they may be all included in the one great general principle which Mr. Darwin made the rule of his life:—"In every action consider others rather than yourself." I do not say *instead* of yourself, but *rather* than yourself, because you have a duty to yourself as well as to your neighbour, and sometimes unfortunately others are disposed to take a mean advantage of the generosity and self-sacrifice of medical men. In such cases consideration for yourself becomes ultimately a consideration for others, because if you are able to force those people to do what is right and prevent them from taking a mean advantage of you, you are aiding the cause of general morality. But if you follow closely the rule of considering others rather than yourself, you will be not only kind, considerate, and courteous, but thoroughly acquainted with your profession. For I can fancy no feeling more bitter than that of a medical man, kind and true-hearted, but imperfectly educated, who knows that his patients have trusted him implicitly, believing that he would do everything for them that a man could do, and yet knows that through ignorance of his profession he has caused the death of one of these trusting patients and thereby perhaps broken up a happy home, rendering the children orphans and scattering them hither and thither, penniless and without a protector.

Once such mischief is wrought remorse will surely come, but it comes too late to be of service. The thing for you to do is not to grieve after having wrought so much mischief, but to prevent its recurrence; and now is the time to direct your energies in this direction. Here we may learn much from Mr. Darwin. He was an invalid during the greater part of his life, and yet how did he manage to accomplish so much work? The

answer is he worked steadily every day. A year or two before his death he told me that he was unable to work more than four hours a day; and yet since then he has published several books. We see by this that four hours a day of steady work will accomplish a great deal. Some students think that if they can only get through their examinations it is all right; they forget that the real struggle comes after the examinations are over. Now, it is quite possible, as I know from personal experience, to get up enough in a very short time to pass an examination, but knowledge so gained is lost in a very short time indeed. Before passing one of my examinations for B.Sc. I had to grind up one of the subjects which I had not studied fully before. In about ten days I got up a great deal, which I was able to give out again at the examination table; but I was quite astonished to find that in about a week afterwards I had forgotten a great deal of it, whereas the subjects that I had learned by continuous study during many months might be partially but were never entirely forgotten. What I wish more particularly to impress upon you is the necessity of steady plodding, gaining a little every day. In ascending a mountain it is not by spurts that you succeed, it is by steady tramp, taking care that if possible you shall gain an inch or two at every step. For if instead of gaining two inches at one step you lose two, you have to increase the step to four inches the next time to regain lost ground. The medical curriculum is too short to allow of any trifling, and, indeed, we can see here that the great majority of men soon come to learn this, even if they do not know it from their first entrance into this school.

By steady application they will gain all that their teachers can give them; but there is one thing which is of very great importance, and which their teachers cannot give. Yet of this very thing they may feel the want when they get into practice. For in practice readiness and decision are often taken for knowledge. The friends of patients put questions which sometimes

it is impossible to answer, and a doctor who appears floored by them is often supposed not to know his business, whereas one who appears to take them as a matter of course, and gives a ready answer of some kind is supposed to be a clever fellow. This readiness of answer you do not get by attendance at lectures, but you do get it by debate, and the interchange of opinion and argument, which one gets in such a society as the Abernethian is of very great value in this respect. But, there is this further advantage, which is even more important. In lectures and from books you get a great many statements which represent the current beliefs of the profession on certain subjects. Some students at least are inclined to take these as representing facts, and to be implicitly believed. I myself was one of this number. I had not the pleasure of belonging to the Abernethian, but I joined another society very much resembling it in character; the Royal Medical Society of Edinburgh. During a debate the opinion of one student having been questioned by another, the first got up and said he was sure his opinions were true because Professor So-and-so had said so. The second student got up and said; "But is Professor So-and-so right?" This was to me a revelation. It had never occurred to me before, that the professors might be wrong; but from that moment my eyes were opened and I began to think for myself. Had Mr. Darwin been content to accept unquestioned the views of others we would never have had his book on the 'Origin of Species,' or the great revolution in the thought of the century which it produced. Nor would originality of mind and critical power alone have been sufficient to effect this work. His grandfather Erasmus had originality sufficient, but Darwin, in addition, had such accumulated stores of knowledge that every argument brought against him he was able to take up, and in the most masterly way to confute.

The very qualities which gained Mr. Darwin such fame and success, are those which are fostered by a Society like the Abernethian; for here we learn to see all sides of

a subject; facts are brought before us, and old explanations of them are criticised; new hypotheses are suggested, and these in their turn are attacked; arguments *pro* and *con* are advanced and supported by other facts; thus the minds of all members are trained in the search after truth. But with us, as with Mr. Darwin, let truth ever be the first object in our minds; let us not care so much for our arguments, because they are ours, as because we believe them to be true; let us give in to the explanation of others, if they are nearer the truth than our own. But let us not give in to them because they are authoritative, let us hold them only because they have proved themselves to our minds by the facts which support them. Day by day let us try as far as possible to follow Mr. Darwin's example, looking not only on our own things but also on the things of others, diligently searching after truth and striving to carry out, as far as in us lies, the precept which is inscribed above the entrance of this school, "Whatsoever thy hand findeth to do, do it with all thy might."