Some Reminiscences of Charles Darwin

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THE year 1809, the centenary of which is now closing, saw the birth into the world of a greater number of men destined to become famous than did any other year within the last two centuries. It was the natal year not only of Mendelssohn and Edgar Allan Poe and Oliver Wendell Holmes (not to speak of some less eminent persons), but also of four men likely to be remembered among the English-speaking races as long as English is spoken—two statesmen, Abraham Lincoln and William E. Gladstone; one poet, Alfred Tennyson; and one man of science, Charles Darwin. The last named of these was the one whose influence spread most widely over the whole of civilized mankind during his lifetime, and continues to be felt with undiminished force to-day. Yet, curiously enough, Darwin was the one among these four who was least known personally, for he lived in a profound retirement, wholly devoted to his studies. While men were in every country reading his books and discussing his theories, his personality remained unfamiliar to his countrymen. His life had been uneventful; or, to speak more exactly, there had been in it only one event. That event, five years long, was his voyage in the exploring ship *Beagle,* which was sent by the British Admiralty into the South Atlantic and Pacific oceans to survey the coasts and do other hydrographic work. He accompanied her as naturalist; and as the shores of South America and the Pacific islands were then little known, he had a wide, virgin field for his observations and an admirable opportunity for turning to account his inborn taste and gift for natural history.

Education had done little or nothing to plant or nurture that taste. His father was a physician at Shrewsbury, and he had received his earlier instruction in the ancient grammar-school of the town—a school famous for turning out accomplished classical scholars especially skilful in the composition of Greek iambic verses. Darwin, however, had no turn for Greek iambics. Indeed, he says in his delightful little autobiography, a model of simplicity and candor, that he had no turn for languages, and found the study of them uninteresting and unstimulative. When his father became aware of this, he sent the youth to Edinburgh University, which had then a broader course of studies than Oxford or Cambridge. However, the Edinburgh professors took no hold upon young Darwin, and as he showed no inclination toward any one profession in particular, his family proposed to make a clergyman of him, and he was transferred to Cambridge University that he might graduate there and take orders in the Church of England. Up till this time he had displayed no exceptional talent, and no liking for any pursuit except shooting birds and collecting objects. He would collect anything, but preferred insects, and already had become expert in distinguishing the various species. At Cambridge he continued indifferent not only to the Greek and Latin classics, but also to mathematics, then the other chief subject of study in that university. But at last his true gifts revealed themselves. Professor Henslow, an accomplished botanist and geologist, took Darwin out with him on walks and excursions, and through him the youth became known to some other scientific men in Cambridge. He had not quite dropped the notion of taking orders when Professor Henslow told him that Captain Fitzroy, who was to command the *Beagle* on the voyage already referred to, was looking out for a naturalist to accompany the expedition. Henslow remembered his young friend, then twenty-two years of age. Darwin jumped at the proposal. Captain Fitzroy accepted him, though at first de-

terred by the shape of Darwin's nose, which he thought indicated a want of force of character!

The voyage lasted from 1831 till 1836. It was Darwin's education, and furnished the basis for his famous theory. The book in which he recorded his observations, and which established his reputation as a scientific student, is a delightful book, which any one, however scanty his knowledge of science, may read with pleasure even to-day, when we know so much more about the places and the subjects of which it treats. Never did five years yield a richer harvest to any man than those years to Darwin and to the world. But while they gave knowledge and brought fame, they took away health. He had been a strong man when he embarked. But the almost constant seasickness from which he suffered when the little vessel was tossing on the waves so told upon him that when he landed his nervous system was permanently weakened, and he was never thereafter the same man physically, never capable of such continuous hard mental work. In 1839 he married Miss Wedgwood, and in 1842, being in fairly easy circumstances, he bought the small estate of Down, nearly twenty miles from London, and settled himself there for the rest of his life, giving to his scientific observations and reflections all the time that his physical weakness permitted. He was tended with the most loving care by his wife and helped in his investigations by his sons, some of whom have themselves achieved high distinction in different branches of science.

It was there, at Down, that I saw him not long before his death. The house stands alone, in a hollow among the soft undulations of the chalk hills in a country that can hardly be called beautiful, yet is pleasing in a quiet way, with its scattered copses and tree clumps and its footpaths winding across the sloping fields and along the hedgerows, a country in which a man might feel at rest and give himself up to meditation. About two miles off there is a beautiful park called Holwood, noteworthy as the place where William Pitt made up his mind (as he himself recorded) to take steps to put an end to the slave trade.

Darwin chose Down for a residence because, as his autobiography tells us, he "was pleased with the diversified appearance of vegetation proper to a chalk district, and so unlike what I had been accustomed to in the Midland Counties, and still more pleased with the extreme quietness and rusticity of the place." The house was what people in England call a "country gentleman's house," though too small to be described as a "country seat," and had a pleasing old-fashioned air about it. There were several greenhouses, in which the investigator carried on his experiments with plants and with those sundews whose insectivorous habits he described in a well-known book.

He was nearly six feet high, but did not look his height, having in later years contracted a slight stoop. Every one has seen engravings or photographs of him. They give a very good idea of his face, for its features were well marked; and in elderly men the expression seems to become a part of the features. The form of the head, high and dome-shaped, was characteristic, and it showed all the more because nearly bare in front. A long and snow-white beard gave him a venerable aspect. The nose, which had nearly caused him to lose the voyage on the *Beagle*, was rather blunt, more like that of Socrates than that of Julius Cæsar. But the feature which struck one most was the projecting brow with its bushy eyebrows, and deep beneath it the large gray-blue eyes with their clear and steady look. It was an alert look, as of one accustomed to observe keenly, yet it was also calm and reflective. There was a pleasant smile which came and passed readily, but the chief impression made by the face was that of tranquil, patient thoughtfulness, as of one whose mind had long been accustomed to fix itself upon serious problems. With this there was also a benignity and serenity which reassured the visitor, and put him, however deep his reverence, at his ease in the great man's presence. One could not feel constrained or timorous, because his manner was perfectly simple and natural, with nothing to indicate any consciousness of exceptional powers.

It was my good fortune to know two other illustrious men of science, and per-

haps the most eminent among his contemporaries, the German Helmholz and the Scotch-Irish William Thomson, afterward known as Lord Kelvin, both of them mathematicians and physicists. Helmholz was a smaller man than Darwin, but had an equally noble head, with a sedate and friendly expression. He had an air of solidity and concentration, as if he were occupied in thinking out some long mathematical calculation with fixed persistency. William Thomson's face was much more mobile. It was full of activity, alertness, versatility, as of one wont to play quickly over a range of subjects, seeking always to discover something fresh. There was in it the look both of the man of the world and of the inventor; and his manner had the same touch of vivacity. Darwin's expression, if it had less animation than Thomson's, and was rather that of the sequestered student, had also the keenness and sensitiveness of a mind which nothing escaped, which pierced below the surface, and was not content until it found the underlying cause. People who have in more recent years talked of the so-called "doctrine of Evolution" as if it was a system of philosophy applicable to history and economics and ethics as well as to plants and animals, have formed the habit of speaking of Darwin as if he had been a speculative philosopher. He did not consider himself to be that. He was a naturalist "first, last, and all the time."

The weakness of his health reduced his writing time to little more than three hours each day, sometimes, indeed, compelling an intermission of all work. Accordingly his interviews with visitors had to be short. Among the topics on which conversation turned was that of malaria in tropical countries. He had asked me some questions about the United States, which I had recently visited, and the alleged existence of malaria along the Hudson River and in Long Island Sound. It was, I think, more frequent in those districts in 1881 than it is now. He said that it was by no means necessary there should be marshy ground to produce malarial fevers. When in the Cape Verde Islands he had observed that when a heavy shower fell, such fevers might appear within two or three days afterward. These islands, he remarked, are of dry volcanic rock, and in spots where there were no swamps, but only rock or sandy and gravelly soil, heavy rains falling would be followed by an outbreak of intermittent fever. We are now able to explain such a fact. But in those days the part played by mosquitoes in carrying these fevers had not become known. People supposed the poison was in the air, or might be some sort of fungoid. Mr. Darwin observed that if any one could discover a method of inoculation which would render man immune against malarial fever, he would render an unspeakable service to the world, entailing immense commercial and political consequences. Many parts of the earth, as for instance nearly all of tropical Africa, would become available for permanent settlement by white races. The prevalence of disease, rather than the mere heat of climate, was what retarded the growth of a country.

He referred with great pleasure to a visit which Mr. Gladstone had paid him not long before. The Prime Minister —it was the time of Mr. Gladstone's second administration—had been staying a few miles off, I think at the house of Sir John Lubbock, and had walked over to call upon him. I doubt if they had ever met before, for though they were born in the same year, Darwin had studied at Cambridge and Gladstone at Oxford; their walks of life had lain wide apart, and Gladstone had given to natural science and natural history even less attention than Darwin had given to politics. However, they had enjoyed each other's company, and Darwin dwelt upon the interest of the talk, adding, "He was so perfectly natural and simple, just like any one else: he seemed to be quite unaware that he was a great man, and talked to us as if he had been an ordinary person like ourselves." The friend who was with me and I could not but look at each other, and exchange covert smiles. We were feeling toward Darwin just as he had felt toward Gladstone. To us he was quite as great a man, and no less delightfully unconscious of his greatness.

His simplicity and modesty were indeed among the chief charms of his character. He did not think of himself

as different from other people, and considered his own abilities to lie not in any exceptional gifts, but, as he says in his autobiography, "in the power of noticing things which easily escape attention and in observing them carefully." "My success as a man of science, whatever this may have amounted to, has been chiefly determined by the love of science, unbounded patience in long reflecting over any subject, industry in observing and collecting facts, and a fair share of invention as well as of common sense. With such moderate abilities as I possess, it is truly surprising that I should have influenced to a considerable extent the belief of scientific men on some important points."

Darwin once laughingly quoted to a friend of his and mine (from whom I have the anecdote) Sydney Smith's dictum, "Modesty has no more to do with merit than the fact that they both begin with an M." That there is truth in this appears not only from the fact that there have been many instances of powerful and brilliant men who were vain and arrogant, but also from a consideration of what modesty really is. It does not consist in a low estimate of one's own abilities nor in a disparagement of one's own achievements, but rather in a perception of how little each man knows or how little he can do compared to the mass of things he does not know and cannot do. In particular it implies, and this is what makes it an attractive quality, a freedom from jealousy and an appreciation of what others are and what they have accomplished. It is the absence of assumption or hauteur, the disposition to meet others on the common human level, which is winning and beautiful when one finds it in a great man, and which then becomes a crown of his greatness. Such forgetfulness is rightly taken to mean that he is working for the discovery of truth, if he be a man of learning or of science, or working for some public worthy cause, if he be a statesman or otherwise engaged in practical effort. This kind of modesty Darwin had in the amplest measure. It is one of the best foundations for friendship. For friendship he had a genius. There is nothing more charming in the record of his life than his devotion to his friends and his ardent appreciation of their gifts. One of them to whom he most often referred was Dr. Asa Gray, one of the brightest luminaries in the sky of American science. Another, even dearer to him, was that illustrious patriarch of British science, who happily still survives to receive the reverence of two generations of his juniors, Sir Joseph Hooker. As I have mentioned Mr. Gladstone, I may add that he, in many respects most unlike Darwin, had a like modesty and loftiness of mind. He could not help knowing that he possessed exceptional gifts. But he never showed either in public or in private any disposition to assume airs of superiority, and was, like Darwin, as natural, simple, easy, and self-forgetful at the height of his fame as he had been when a freshman at college.

After some twenty or twenty-five minutes of conversation, one of his sons came in and carried him to lie down and rest. Talking fatigued him, and it had become necessary to save every moment of strength that he possessed for his scientific studies. Each hour was apportioned, whether to exercise or to rest. Exercise was taken by pacing alone, in the long cloak familiar to us from his pictures, along a circular walk which ran round the grounds adjoining the house. Rest and distraction from scientific thinking were found in listening to the reading aloud of novels. This gave him constant pleasure, provided that the story ended happily. A tragic ending gave him positive pain.

When Darwin referred, in the words I have quoted, to his "unbounded patience in long reflecting upon any subject," he touched the chief cause of his success in investigation. He had the faculty of concentration, of keeping his mind constantly and steadily fixed upon a problem until he had thought out all the conditions, squeezed their instruction out of all the facts, tried and weighed and rejected all the hypotheses which explained some of the phenomena but failed to explain others. In an age of showy performances and quick returns people are apt to forget what may be achieved by this intense and unceasing application of the whole energy of the intellect to one subject. Quickness in inventing hypotheses

and, still more, facility in expression, though they win attention and applause, may be positive drawbacks to the comprehension of the whole of a large or difficult subject, and to the discovery of fundamental principles and laws. Darwin, while regretting his comparative slowness of apprehension, thought that in some ways it had benefited him. He has recorded a singular result of the exclusive devotion he had given to his studies in natural history, which at the same time shows how much besides a naturalist nature made him.

"Up to the age of thirty or beyond it poetry of many kinds gave me great pleasure, and even as a schoolboy I took intense delight in Shakespeare, especially in the historical plays. Formerly pictures gave me considerable and music very great delight. But now for many years I cannot endure to read a line of poetry: I have tried lately to read Shakespeare, and found it so intolerably dull that it nauseated me. I have also almost lost my taste for pictures or music. I retain some taste for fine scenery, but it does not cause me the exquisite delight which it formerly did. . . . My mind seems to have become a kind of machine for grinding general laws out of large collections of facts, but why this should have caused the atrophy of that part of the brain alone on which the higher tastes depend I cannot conceive. A man with a mind more highly organized or better constituted than mine would not, I suppose, have thus suffered. . . . The loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature."

Their loss, if they were so lost, had not injured Darwin's character or enfeebled his emotions, for his character was one of the most upright as well as unselfish and amiable that were ever revealed by letters, or shone out in the conduct of life through manhood into age. He was a kind and helpful neighbor to the humble folk who lived round him at Down, loyal and affectionate to the friends of his youth, always enjoying a friend's successes at least as much as he did his own. The one thing which roused him to a sort of passion was his hatred of cruelty or oppression. He had conceived, on his visit to Brazil during the voyage of the *Beagle*, a loathing for slavery and for the ill treatment of a less advanced race by a higher or more vigorous one. No one recognized more fully the enormous difference between the various families of mankind: *vide* his account of the Fuegians. But he had always a kind word for the negroes, and felt so strongly for them that when, in 1866, efforts were being made by J. S. Mill, John Bright, and others to bring Governor Eyre to trial for his conduct at the time of the Jamaica troubles that had occurred shortly before, Darwin felt bound, to the surprise of most of his friends, to join the committee formed to prosecute Eyre. He scarcely ever took part in public affairs, and to join in this prosecution was a very unpopular thing to do; but popularity was the last thing he would think of.

It is pleasant to remember the noble and benign aspect of the old man as he appeared at seventy-three. His face worthily expressed the candor and gentleness and serenity of his character. Long-continued physical suffering which, though seldom acute, was never absent for any long period, had given no touch of gloom or moroseness to his manners. He must sometimes have felt weary of life; and it may indeed be gathered from his biography that he did so feel. But strength of character made him patient; and his intensely affectionate nature resting upon the love of his family and his friends, had enabled him to retain his geniality and even a sort of cheerful contentment. In his letters there is hardly a word of bitterness, though he was often attacked by those who knew his books only, or perhaps not even his books, but what other people said about them. The world has changed much in the fifty years that have elapsed since the publication of the *Origin of Species*, and few now recall, as those who read it in those days can do, the immense sensation which it produced. Its effect in the field of humanistic learning, in history, and in the historical sciences generally, has, I venture to think, been exaggerated. The idea of what are commonly called evolutionary processes was in those sciences no new

idea; and though they, like every branch of study, were being affected by the progress of the sciences of nature, they had already for a long time before 1859 been pursued in a critical spirit and by critical and exact methods of investigation. But in all the branches of natural history and biology the effect was tremendous. Everybody who read anything serious read the *Origin;* everybody talked about natural selection. I was at the time an undergraduate at Oxford, and well remember how at breakfast-parties and wine-parties and on country walks we discussed the theory with the greatest ardor, and indeed with a positiveness that was often in inverse ratio to our knowledge. It was the same all over England. There was a good deal of alarm created by the book, especially in religious circles. The minds of thinking people had of course been long occupied by what used to be called "the conflict between Geology and Religion," so that the bearings of the new doctrine on the account of the Creation given in the Book of Genesis did not find them unprepared. Nevertheless the shock on the ecclesiastical world at large was severe, and much of the debate that followed at scientific gatherings as well as in the press was hot, too hot for courtesy or for fairness. The most striking and dramatic combat between an ecclesiastic and a naturalist occurred at the Oxford meeting of the British Association for the Advancement of Science in 1860. Dr. Samuel Wilberforce, then Bishop of Oxford, having been well primed with facts and arguments against the doctrine of Natural Selection and Darwin's theory generally, came down to the battle. He was a man of remarkable oratorical powers, with a swift and flexible mind, witty as well as acute and persuasive. He attacked Darwin's views with even more than his usual rhetorical skill, ridiculing them and their author, and specially ridiculing Professor Huxley, whose ardent championship of the Darwinian views was then raising him into fame. Turning to Huxley at the end of his speech, the Bishop asked whether it was on his grandfather's or his grandmother's side that the professor was descended from an ape. A burst of laughter and applause from his friends followed. Then Huxley rose to reply. After setting forth with all his energy and of course with ample knowledge the serious part of his argument, he observed that the Bishop had quizzed him on his supposed descent from an ape. For his own part, if he were obliged to choose between having for his ancestor an ape, or having for ancestor a man who, enjoying a high position and a great reputation, possessing brilliant rhetorical gifts and a fund of sarcastic wit, were to use that position and those powers for the purpose of obstructing the investigation of truth, and pouring ridicule upon those who were patiently trying to discover it, "then, indeed," he proceeded, "if I were obliged to make that choice, I would—" At this he paused, and added, "But perhaps I had better go no further."

The turmoil broke out afresh in 1871, when Darwin's book entitled *The Descent of Man* was published. But by this time people had recovered from their first alarm: and Darwin's wisdom in taking no part in the controversy had helped to carry it into the region of general argument and quite away from him personally. Only once, I think, did he answer an opponent in print. Though he was eagerly interested in the doctrine of Selection, and anxious it should prevail, because he was convinced that it was sound, and though he was ardently grateful to those who espoused and defended it, there was no pugnacity in his temper, little personal sensitiveness, and still less vanity. What he cared for was truth. Ample recognition was at last accorded to him by a host of scientific societies and learned bodies all over the world. In 1870 the University of Oxford, the traditional stronghold of orthodoxy and conservatism, offered him, along with Helmholz, the honorary degree of D.C.L., which the weak state of his health prevented him from coming to receive. During the last twenty years of his life he was the acknowledged leader of British science, honored and venerated as perhaps no English man of science since Newton had ever been. That honor and that veneration are now accorded to his illustrious memory; and they are accorded by none with a warmer feeling than by those who were privileged to see and know him as he lived.