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[page] 6

THE LATE MR CHARLES DARWIN

On Monday evening a lecture was delivered by Mr T. B. Acton upon "The life and works of the late Mr Charles Darwin," in the Chester-street Schoolroom, before the members of the Young Men's Association which is held in that place. In addition to the members of the Society, there were a large number of visitors present.

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They were met to hear of Mr Charles Darwin, whose book "On the Origin of Species," published some twenty-eight years ago, was emphatically an epoch-making book. It was an epoch-making book in the truest sense, for it had wonderfully influenced the thoughts of men and women. The happy title of the main idea of the book was natural selection, but Mr Herbert Spencer had given it a still happier phrase than that given by Mr Darwin, when he called it "The Survival of the Fittest." There were many difficulties in the way of the theory, for they were told that it would take at least 200 years to collect all the evidence necessary to conclusively prove it, and that was a long time to wait. (Laughter and hear, hear) Natural selection was a great factor in nature, but still there were other factors which must be brought in to explain the present state of things.

However it might be, it was a great theory which Mr Darwin had enunciated, and one which deserved earnest consideration. The new theory had met with bitter opposition, because it had appeared to some that to accept it necessitated giving up most sacred convictions. It was only right that men should defend those great and sacred convictions, and it would be a scandalous indifference if such beliefs were not so defended. At the same time there were many men who were able to adhere to the old faith, and yet accept the new theory. It was the duty of all to fearlessly and unceasingly search after truth, and if a man could hold to the two, let him do so, but in that search it would be necessary to give up old forms and old ideas, yet it must be done. (Applause.) If they did not agree with the theory of Mr Darwin, they must all be compelled to admire his great ability and his patient search for truth, which should be an example for their lives. (Applause.)

[...]

and it was not too much to say that such an epoch was made by Charles Darwin, with whose life and work they had to deal that evening. (Applause.) Whenever a man towered above his fellowmen, it was always desired to know something, not only of his works but also of his personality, and whatever might be thought of the great principles of Mr Darwin they would all unite in admiring his great sincerity.

It was sometimes thought that genius was sporadic, but there was very little doubt that it was to a large extent hereditary, and talent was frequently found to run in families. It was

the case with Mr Darwin. His ancestors were remarkable. The first remarkable man of the family was Erasmus Darwin, who was a poet, a philosopher, a physician, and with all an eminent philanthropist. He was born in 1731, and died in 1782, and produced several scientific and philosophical works, written in verse, in which he showed himself the forerunner of Mr Charles Darwin.

Erasmus Darwin was a most humane man, and was most temperate, rarely touching alcoholic liquors. His son was Dr. Robert Waring Darwin, of Shrewsbury, who was a physician of great ability, and whom it was customary to call in to see patients even in Wrexham and district when serious cases arose. He was a strong advocate of temperance, and although a Fellow of the Royal Society made no mark as a scientist. He married a daughter of the celebrated Josiah Wedgwood.

Dr. Darwin had born to him Charles Darwin, the subject of the lecture, on February 12th, 1809. He went to Shrewsbury School, under Dr. Butler, but he did not speak highly of classical education, although it was then in its best days. From Shrewsbury he went to Edinburgh where his career was not very remarkable, and then it was stated in the recently published life (which Mr Acton quoted from) that he had a great horror of operations, and a pronounced dislike of the sight of blood. He then went to Cambridge, which was the turning point in his career, and it was remarkable that when sent to that University he was destined for the Church. He was appointed naturalist to the Beagle, a small gun-boat of 240 tons, in which he spent five years exploring the South American coasts, thus for the first and last time visiting tropical climates. He was at this time greatly interested in geological studies, and formed his great theory of the formation of coral islands, which, however, was now being attacked, the recent discoveries by the "Challenger" throwing some doubts upon it.

During the voyage Mr Darwin suffered greatly from sea sickness, which probably caused him to be an invalid during the remainder of his life. It was during this period that he collected the materials for his great work. He intended to publish one great work on the subject, but Mr A. R. Wallace, who was exploring in the Malay country, having come to similar conclusions, it was decided that a paper by each should be read upon the subject before the Linnean society. The lecturer pointed out that although both gentlemen had come to similar results, and although the glory of having made such discoveries would, as they must have known, been very great, yet there was no jealousy between them, and they remained fast friends all their lives.

Mr Darwin, after publishing several works, died in 1882, and was buried in Westminster Abbey. Mr Acton then proceeded to deal with Mr Darwin's great theory as enumerated in "The origin of species." He said they were all aware of the great struggle for existence, which was going on in the world, and in all departments of it. If they allowed a plot of ground to lie waste, they would find it soon overgrown with weeds, grousel, and others. The birds and slugs would devour some, but in the second year they would find weeds of a stronger I kind, such as docks. These stronger plants would; gradually crush out the weaker weeds, and probably, as time went on, the birds would come and i seeds of other plants would be deposited in the j ground. A squirrel perhaps would bring a horde of acorns or beech nuts, he

would perhaps be killed by a cat, and the horde of seeds would be forgotten and would germinate. This would show how fierce and; severe was the struggle for existence in plant life, and it also applied to animal life. Mr Darwin dealt with two great facts.

The first was the fact of Heredity, or like producing like. When they sowed a certain seed they expected a certain kind of plant. That was so, but then came in the second of Mr Darwin's points, and that was that although like produced like it did not produce identity. That was what was called the fact of Variation, and so true was this that there were hardly two leaves alike. These facts —Heredity and Variation — were the cardinal points of Mr Darwin's theory.

Next came the question of selection. The great variety shown by the domestic animals familiar to all was caused by men taking advantage of variation, and it was clear that the various kind of cattle in the country originally came from one or perhaps two original species of ox. The variety was produced by men breeding from those animals which showed special variations. It was also the case with horses and dogs, but it was especially marked in the case of pigeons, it having been proved that all the numerous variety of these birds came from the rock dove. The lecturer then pointed out more minutely the points of variation. This was what was called natural selection, or better still the survival of the fittest. They had now the factor of Heredity, the factor of Variation, and now came in the struggle for existence, and this struggle, which was severe when it was what he might term an international struggle, was much more severe when it took place between members of the same family. In a state of nature, plants and animals produced more offspring than could be supported. In the case of the foxglove for example, not one seed in ten thousand came to maturity, otherwise the whole land would be overrun with them. Here came into play the law of selection, by which unsuitable seeds and plants were exterminated.

Among the causes which operated favorably or otherwise were the conditions of heat and light. Light operated for instance on shoots of ivy, causing roots to grow on one side of the plant and leaves on the other. If the shoot was turned round, leaves would grow where roots grew before, and roots would grow where the leaves did. Heat also acted powerfully upon life, as was shewn in the case of sheep, which in a warm climate grew fine silken-like wool, whilst a colder temperature produced a coarser fibre.

Mr Darwin discovered the great principle of cross- fertilization, which was where the pollen of one plant was applied to the stamen of another, the result being greater vigor in the offspring. The question of development was very difficult, and this Mr Acton explained by means of diagrams of an ideal plant and of some of the protozoa, all development the lecturer pointing out tending from simplicity to complexity. Mr Acton, in concluding, said he had refrained from using terms which might be misconstrued, but had dealt with facts. There was much in the life of Mr Darwin, apart from his great scientific work, worthy of the example and emulation of them all. He trusted that the lecture had been, to some extent what all lectures should be, suggestive, and that it would lead to those before him examining and reading Mr Darwin's works for themselves. (Applause.)