CHARLES ROBERT DARWIN, M.A., F.R.S., F.L.S. &c.

From two remarkable men, both of them equally distinguished in their respective paths of speculative science and applied science and art, the subject of the present notice is descended. Dr. Erasmus Darwin, F.R.S., the author of 'The Botanic Garden' and 'Zoonomia,' was the paternal grandfather, and Josiah Wedgwood, F.R.S., the man who, above all others, advanced the art of the potter in this country, the grandfather on the mother's side, of Charles Robert Darwin, who has given his name to a theory which will long agitate the philosophic world.

The naturalist whose portrait accompanies this notice, was born at Shrewsbury on the 12th February, 1809, his father being Dr. Robert Waring Darwin, also a Fellow of the Royal Society. He was educated at the Shrewsbury school under Dr. Butler, afterwards Bishop of Lichfield, and in the winter of 1825 went, for two years, to the University of Edinburgh. After this Mr. Darwin proceeded to Christ's College, Cambridge, where he took his B.A. degree in 1831.

Mr. Darwin inherited from the author of 'Zoonomia' that love of natural history and the allied sciences which has been the labour and the pleasure of his life. In the autumn of 1831 Captain FitzRoy, R.N., having offered to give up part of his own cabin to any naturalist who would accompany H.M.S. Beagle in her surveying voyage and circumnavigation, Mr. Darwin volunteered his services without salary. His scientific acquirements were already so well known that the offer was at once accepted, and Mr. Darwin gave the country his services, stipulating only that he should have the absolute disposal of all his collections.

The 'Beagle' sailed from England December 27th, 1831, and returned on the 27th October, 1836. During this absence of nearly five years, a survey of South America was made, Bahia, Rio Janeiro, Monte Video, St. Julian and Santa Cruz, with the Falkland Islands and Tierra del Fuego were visited on the one hand, Valparaiso, Lima, the Pacific Islands, New Zealand, Australia, and the Mauritius on the other. In 1834 this eminent naturalist was elected a Fellow of the Royal Society.

In 1839 Mr. Darwin published a volume as part of Captain FitzRoy's general work, descriptive of this voyage. The interest excited by this, one of the most graphic, and at the same time most philosophic book of travels that was ever published, led to its reproduction in a modified form, in 1845, under the title of 'Journal of Researches into the Natural History and Geology of the Countries visited during the Voyage of H.M.S. Beagle round the World.' Such has been the popularity of this work, that we find Mr. Murray advertising, in 1860, "the tenth thousand." This 'Journal' shows Mr. Darwin to have been a singularly close observer of every phenomenon in natural history, and of every variety of condition, physical and mental, of the people whom they visited during this remarkable voyage, exhibiting the possession of perceptive powers of the highest order; he displays at the same time the severe control which was maintained over them by a reflective capacity of the most exalted kind. No single phenomenon is described by Mr. Darwin until after it has been most cautiously examined, and the reader of the 'Journal' is soon impressed with the persuasion that the facts narrated are placed beyond a doubt, and that his reasonings on those facts are ever guided by a system of most severe inductive philosophy. This is most especially exemplified in Mr. Darwin's reasonings on the origin of the coral reefs of the Pacific.

In the beginning of 1839 Mr. Darwin married his cousin, Emma Wedgwood, and shortly after this he left London, taking up his residence at Down, near Farnborough, in Kent. For twenty-six years, in the retirement of his home, Mr. Darwin has devoted himself to the care of a large family, and the quiet and close investigation of the works of nature. His first labours, after this date, were editing the 'Zoology of the Voyage of the Beagle,' giving an account of the habits and ranges of the various animals therein described. In aid of the publication of this and other

works bearing on the same subject, the Lords of the Treasury granted £1000. In 1842 Mr. Darwin published his work on 'The Structure and Distribution of Coral Reefs,' to which we have already incidentally referred as an example of that inductive logic which Mr. Mill so perfectly distinguishes in his remarks on the 'Law of Causation:' "Let the fact be what it may, if it has begun to exist, it was preceded by some fact or facts with which it is invariably connected. For every event there exists some combination of objects or events, some given concurrence of circumstances, positive and negative, the occurrence of which is always followed by that phenomenon."

Equally good examples of this rule will be found in the 'Geological Observations on Volcanic Islands,' published in 1845, and in the 'Geological Observations on South America,' which were given to the world in 1846.

Continuing, without rest, his researches, we find the results of his unwearying industry in two volumes published by the Ray Society in 1851 and 1854, 'On Pedunculated and Sessile Cirripedes,' and in two other volumes published by the Palæontographical Society, on the fossil species of the same class.

Towards the close of 1859 Mr. Darwin published his 'Origin of Species by means of Natural Selection.' Of this work four English editions have appeared, and nine foreign editions, in French, German, Dutch, Italian, and Russian. The popularity of this work will be evidenced by the fact that more than one hundred reviews, pamphlets, and separate books have been published upon it, while the earnestness with which the question brought under notice by Mr. Darwin is still discussed, appears to show that these will be probably doubled in a short space of time. In a few words, our author has himself expressed the theory he teaches; these few we extract from the last edition of the 'Origin of Species':—"As man can produce, and certainly has produced a great result by his methodical and unconscious means of selection, what may not *natural selection* effect? Man can act only on external and visible characters. Nature (if I may be allowed thus to personify the natural preservation of varying and favoured individuals during the struggle for existence) cares nothing for appearances, except in so far as they are useful to any being. She can act on every internal organ, on every shade of constitutional difference, on the whole machinery of life. Man

selects only for his own good, Nature only for that of the being which she tends. Every selected character is fully exercised by her, and the being is placed under well-suited conditions of life."

On one hand we find the author and his theory denounced with unreasoning violence, while on the other Mr. Darwin is exalted into the founder of a new faith, and his views are regarded almost as revelations. As in the theory of "Natural Selection" we are taught that the process is extended over long periods of time, and that Nature proceeds with her work by almost imperceptible degrees; so the truth will slowly but surely be eliminated by an analogous process; and every member having been submitted to the test of time, will suffer some change, until "eventually the body of Osiris will arise in all its incomparable perfection," as Bacon has taught us in one of his beautiful apophthegms.

In 1853 the Royal Society awarded to Mr. Darwin the Royal Medal, and in 1859 the Wollaston Medal was given to him by the Geological Society. In 1862 he published a book full of curious research, 'On the Various Contrivances by which Orchids are Fertilized.' Of separate papers published by this naturalist, we find the following amongst the more important:—'On the Connection of certain Volcanic Phenomena in South America;' 'On the Distribution of Erratic Boulders in South America;' 'On the Formation of Mould by the Earthworm;' and 'On the Geology of the Falkland Islands'—all published in the Transactions of the Geological Society. In the Journal of the Linnean Society three papers have appeared from the pen of Mr. Darwin, 'On the Dimorphous and Trimorphous States of Primula,' and one paper 'On the Movements and Habits of Climbing Plants.' This last one has since been published as a separate work. In 1864 the Royal Society awarded to Mr. Darwin the Copley medal, and he has been elected a member of various foreign scientific bodies.

From the earliest work published by Mr. Darwin to his latest, there will be observed by every careful student a constant desire to search out the secret springs of nature. This is not shown, as is too often the case, by any imperfectly considered hypothesis; but everywhere we discover the same painstaking experimental investigation, the same close and long-continued observation; and also everywhere we discover that high power of drawing with clearness and simplicity his deductions from his well-established facts, which distinguishes the true *Philosopher*.