



79

The Field  
March 18. 1871.

## D, THE COUNTRY GENTLEMAN'S N LIBRARY.

### DARWIN ON THE DESCENT OF MAN.\*

THE RISE AND PROGRESS OF DARWINISM have been without doubt the most remarkable intellectual phenomena of the latter half of the present century. Twelve years ago the name of Charles Darwin was unknown, except to the comparatively few who had read that most pleasant journal of a "Naturalist's Voyage Round the World," written when Mr Darwin accompanied, nearly forty years ago, the exploring expedition of the late Admiral Fitzroy in H.M.S. Beagle; and to the still smaller number of scientific readers who were acquainted with the author's lucid explanations of the formation of coral reefs and volcanic islands.

In the latter part of 1859 the world was startled by the appearance of the "Origin of Species by Means of Natural Selection; or the Preservation of Favoured Races in the Struggle for Life." Never did a mere scientific volume excite more angry discussion. On the one hand, it was regarded as a philosophic explanation of the origin of the different forms peopling the surface of the earth, and as rendering clear many of the obscurest problems in the enigma of organic life; whilst on the other it was denounced as vain and foolish speculation, unfounded in its origin and irreligious in its tendency.

Mr Darwin's theory, reduced to the simplest form, may be thus stated: 1. All organic beings, whether plants or animals, produce a very much larger number of young than ever arrive at maturity. 2. All organic beings produce young which are not precisely identical with one another, but vary in strength, in structure, and in general characters. 3. In the struggle for the means of subsistence, the weakest, those least adapted by their structure for the conditions in which they are placed, perish; the fittest survive and propagate their distinctive variation; and thus, by a process of natural selection, or by "the survival of the fittest," every place in the whole scheme of nature is filled with the forms best adapted for the location.

The theory of Darwin is essentially different from that of Lamarck, with which it is often ignorantly confounded. The latter asserted that if an animal developed a particular organ by exercise, that extra development might become hereditary, and thus "the efforts of some short-necked bird to catch fish without wetting himself have, with time and perseverance, given rise to all our herons and long-necked waders." As the author of the "Biglow Papers" puts it,

Some flossifiers think that a fakiltly's granted  
The minnit it's proved to be thoroughly wanted;  
Thet a change o' demand makes a change o' condition,  
An' thet everythin's nothin' except by position.  
Ez fer instance, thet rubber trees just begun bearing  
Wen p'ltickle conshunes come into wearin'—  
Thet the fears of a monkey, whose holt chanced to fail,  
Drawed the vertibry out to a prehensile tail.

Lamarck's theory was evidently untenable, and, like the modification of it by the author of the now almost forgotten but once celebrated "Vestiges of Creation," has gone to that limbo from whence no theory returns. In its time the "Vestiges" was the best-abused book of the season. The author, during his lifetime, perhaps wisely preferred remaining incognito. The book was attributed by the public to a variety of writers—M.D.'s, F.R.S.'s, book-sellers, and others—none of whom had the candour to deny the soft impeachment. Yet, strange to say, the name of the author was advertised before the book was published; but this announcement appears to have escaped the notice of all the speculators, as the right name was never even once suggested as that of the writer.

Since the decadence of the Lamarckian doctrine, the transitional or evolutionary theory as propounded by Mr Darwin has been promulgated widely, and criticised with the utmost severity. Nevertheless, it has maintained its ground. The "Origin of Species" is now in its tenth thousand, and a large number of books advocating the same views have appeared and continue to appear. At first the majority of scientific men held aloof, but now the greater number are all more or less tinctured with Darwinism, and many who object to the theory acquiesce in the facts and the deductions. Even Professor Owen, who is popularly regarded as the strongest opponent of the Darwinian hypothesis, states: the "results of extensive, patient, and unbiassed inductive research swayed with me in rejecting the principle of direct or miraculous creation, and in recognising a natural law or secondary cause as operative in the production of species in orderly succession and progression."

In his first work on "The Origin of Species" Mr Darwin did not attempt to trace the pedigree of any one species, and man in particular was designedly left untouched; but the logical inference was evident—if all animals are derived from the gradual evolution or development of a "a primordial germ into which the Creator first breathed the breath of life," man's place is merely at the other extremity of the series; and in the present volumes Mr Darwin proceeds to trace the Descent of Man from some lower form, to show the manner of his development, and to endeavour to indicate his affinities and genealogy. The conclusion at which the author arrives will be certainly startling to many readers.

By considering the embryological structure of man—the homologies which he presents with the lower animals—the rudiments which he retains, and the reversions to which he is liable, we can partly recall in imagination the former condition of our early progenitors; and can approximately place them in their proper position in the zoological series. We thus learn that man is descended from a hairy quadruped, furnished with a tail and pointed ears, probably arboreal in its habits, and an inhabitant of the Old World. This creature, if its whole structure had been examined by a naturalist, would have been classed amongst the Quadrumana, as surely as would the common and still more ancient progenitor of the Old and New World monkeys. The Quadrumana and all the higher mammals are probably derived from an ancient marsupial animal, and this, through a long line of diversified forms, either from some fish-like animal. In the dim obscurity of the past we can see that the early progenitor of all the Vertebrata must have been an aquatic animal, provided with branchiae, with the two sexes united in the same individual, and with the most important organs of the body (such as the brain and heart) imperfectly developed. This animal seems to have been more like the larva of our existing marine Ascidians than any other known form.

But, it may be asked, is this more startling than the assertion of Professor Owen that he recognises man as the result of the progression "from the first embodiment of the Vertebrate idea under its old Ichthyic vestment until it became arranged in the glorious garb of the Human form"?

Among the higher topics touched upon by the author, are the results of our efforts by which the weakest specimens of mankind are preserved to propagate their own want of physical or mental power. Thus writes Mr Darwin:

With savages, the weak in body or mind are soon eliminated; and those that survive commonly exhibit a vigorous state of health. We civilised men, on the other hand, do our utmost to check the process of elimination; we build asylums for the imbecile, the maimed, and the sick; we institute poor laws; and our medical men exert their utmost skill to save the life of everyone to the last moment. There is reason to believe that vaccination has preserved thousands, who from a weak constitution would formerly have succumbed to small-pox. Thus the weak members of civilised societies propagate their kind. No one who has attended to the breeding of domestic animals will doubt that this must be highly injurious to the race of man. It is surprising how soon a want of care, or care wrongly directed, leads to the degeneration of a domestic race; but, excepting in the case of man himself, hardly anyone is so ignorant as to allow his worst animals to breed.

And again he truly states:

Man scans with scrupulous care the character and pedigree of his horses, cattle, and dogs before he matches them; but when he comes to his own marriage he rarely, or never, takes any such care. He is impelled by nearly the same motives as are the lower animals when left to their own free choice, though he is in so far superior to them that he highly values mental charms and virtues. On the other hand, he is strongly attracted by mere wealth or rank. Yet he might by selection do something not only for the bodily constitution and frame of his offspring, but for their intellectual and moral qualities. Both sexes ought to refrain from marriage if in any marked degree inferior in body or mind; but such hopes are Utopian, and I never have even partially realised until the laws of inheritance are thoroughly known. All do good service who aid towards this end. When the principles of breeding and of inheritance are better understood, we can for ascertaining by an easy method whether or not consanguineous marriages are injurious to man.

In noticing these remarkable volumes, we have no desire to enter into the contest that their publication is certain to excite. We might have quoted from them at much greater length had we been serious of so doing; but all that we have aimed at has been to call attention of our readers to the scope of the book, and to furnish them with a brief outline of its general argument. Those who desire more we must refer to the volumes themselves; and we cannot more fitly finish our brief and inadequate notice than by noting the concluding remarks of the author.

The main conclusion arrived at in this work, namely, that man is descended from some lowly-organised form, will, I regret to think, be highly distasteful to many persons. But there can hardly be a doubt that we are descended from barbarians. The astonishment which I felt on first going a party of Fuegians on a wild and broken shore will never be forgotten by me, for the reflection at once rushed into my mind—such were our ancestors. These men were absolutely naked and bedaubed with paint, their long hair was tangled, their mouths frothed with excitement, and their expression was wild, startled, and distrustful. They possessed hardly any arts, and, like wild animals, lived on what they could catch; they had no government, and were merciless to everyone not of their own tribe. He who has seen a savage in his native land will not feel much shame if forced to acknowledge that the blood of some more humble nature flows in his veins. For my own part I would as soon be descended from that heroic little monkey, who braved his dreaded enemy in order to save the life of his keeper; or from that old baboon, who, descending from the mountains, carried away in triumph his young comrade from a crowd of astonished dogs—as from a savage who delights to torture his enemies, offers up bloody sacrifices, practises infanticide without remorse, treats his slaves like slaves, knows no decency, and is haunted by the grossest superstitions.

Man may be excused for feeling some pride at having risen, though not through his own exertions, to the very summit of the organic scale; and a fact of his having thus risen, instead of having been aboriginally placed there, may give him hopes for a still higher destiny in the distant future. But we are not here concerned with hopes or fears, only with the truth as our reason allows us to discover it. I have given the evidence to the best of my ability; and we must acknowledge, as it seems to me, that man, with all his noble qualities, with sympathy which feels for the most wretched and with benevolence which extends not only to other men but to the meanest living creature, with his god-like intellect which has penetrated into the movements and constitution of the solar system—with all thesealted powers—Man still bears in his bodily frame the indelible stamp of lowly origin.

Those who desire to follow the arguments of the author will, of necessity, turn to the work itself. Although written to prove a particular hypothesis relative to man, it abounds with facts of the most interesting character with regard to mammals, birds, fishes, insects, &c. The chapters upon sexual selection, which constitute the greater part of the work, are of the highest possible interest. With that wonderful thoroughness and honest truthfulness which characterise all Mr Darwin's work, he traces the phenomena which he classes under this title through the entire animal kingdom (quoting, with admirable impartiality, facts apparently adverse as well as favourable to his hypothesis), and the accounts that he has collected respecting the courtship and combats of animals are as wonderful as a fairy tale.

Speaking of the correspondence between the bodily structure of man and the inferior animals, Mr Darwin remarks:

Man is liable to receive from the lower animals, and to communicate to them, certain diseases, as hydrophobia, variola, the glanders, &c.; and this fact proves the close similarity of their tissues and blood, both in minute structure and composition, far more plainly than does their comparison under the best microscope, or by the aid of the best chemical analysis. Monkeys are liable to many of the same non-contagious diseases as we are; thus Rengger, who carefully observed for a long time the *Cebus Azarae* in its native land, found it liable to catarrh, with the usual symptoms, and which when often recurrent led to consumption. These monkeys suffered also from apoplexy, inflammation of the bowels, and cataract in the eye. The younger ones, when shedding their milk-teeth, often died from fever. Medicines produced the same effect on them as on us. Many kinds of monkeys have a strong taste for tea, coffee, and spirituous liquors; they will also, as I have myself seen, smoke tobacco with pleasure. Brehm asserts that the natives of north-eastern Africa catch the wild baboons by exposing vessels with strong beer, by which they are made drunk. He has seen some of these animals, which he kept in confinement, in this state; and he gives a laughable account of their behaviour and strange grimaces. On the following morning they were very cross and dismal; they held their aching heads with both hands, and wore a most pitiable expression: when beer or wine was offered them, they turned away with disgust, but relished the juice of lemons. An American monkey, an *Ateles*, after getting drunk on brandy, would never touch it again, and thus was wiser than many men. These trifling facts prove how similar the nerves of taste must be in monkeys and man, and how similarly their whole nervous system is affected.

\* The Descent of Man, and Selection in Relation to Sex. By Charles Darwin, M.A., F.R.S. London: John Murray. 1871.