



**THE DESCENT OF MAN, AND SELECTION IN RELATION TO SEX.** By Charles Darwin, M.A., F.R.S., &c. London: John Murray, 1871. Mr Darwin's works, undoubtedly, constitute an epoch in the history of science. They have given purpose and plan to the inquiries of those who reject their conclusions, and have enlarged the boundaries of human investigation. Possessed of a knowledge of natural history, marvellous in minuteness of detail as well as range, Mr Darwin is also endowed with a genius for speculation seldom united with such delicate accuracy of observation. The common charge against the *Species* as the *descent* of man, of fact does not apply to Mr Darwin. His descriptive method, of fact, after the accurate and scientific fashion, while he starts explanatory hypotheses after hypothesis with an absolute prodigality of power. There is no tendency to mix the lines dividing fact from theory; the reader clearly understands where the definite observation ends, and where Mr Darwin himself takes up the parable, and he receives a constant challenge to give his own explanation should he reject that of the writer. While it is impossible to put aside this volume on the "Descent of Man" as the work of a mere theorist, it is equally impossible to derive it through dilute of its main conclusion. Mr Darwin confesses that he collected notes on the origin of descent of man, without any intention of publishing on the subject, but rather with the determination not to publish, through fear lest he should only add to the prejudices against his general views on the Origin of Species. It is time that popular prejudices should lose this power of restraining the action of scientific men. A real and earnest recognition of Christianity should sustain faith in truth as truth. Our hope and heart must be concentrated by the actual method followed in the development of man, so far as reason allows us to discover it. We would warn every reader, therefore, that, if he is disposed to reject any conclusion merely because Mr Darwin's, he forfeits his right to criticize Mr Darwin's argument, and his reputation will lose its value, because it will be deprived of its intelligence. And there are very many to whom Mr Darwin's conclusions will be distasteful to the last degree.

These remarkable volumes on "The Descent of Man and on Selection in relation to Sex," raise, we believe, far more problems than they solve, and suggest theories which transcend the scope of the evidence adduced, but they constitute a great scientific work, and will influence the investigations of thoughtful naturalists, as well as command the careful study of every man perplexed with the unsolved mystery of life.

The work really consists of two works somewhat arbitrarily arranged. In the natural and logical order of investigation, had in relation to Mr Darwin's other productions, the *Treatise on Sexual Selection* should have followed the discussion on the "Origin of Species" as describing a modifying and important agent in their differentiation.

The consideration of the descent of man is the conclusion of the whole matter. In these volumes, however, the subject of Sexual Selection occupies the concluding part. The book proceeds, also, upon the expression of the various emotions by man and the lower animals, should come between "Sexual Selection" and the consideration of the mental powers of man. The loftiest faculties of man—those by which we are accustomed reverently to speak of him as the child of God, the senses of duty, and the capacity for self-sacrificing love—sincerely furnish Mr Darwin with the most complicated problems and the greatest difficulties, and the explanation of these things would naturally crown his series of investigations. "The origin of species," "the variation of plants and animals under domestication," "the descent of man," and the promised treatise on the expression of emotions, should be cast into one logically ordered book, in order to secure the complete statement of a continuous argument. At the outset it may be well to caution our readers to the wisest. To make a clean breast of the very worst, is often a better policy than to lead gradually up to it. It is wiser to drubbe out a confusion—drop by drop. Let the worst be said; and the first shock over, we may argue the matter more quietly.

The picture of our more immediate ancestors is, we will frankly admit, the reverse of charming.

"The early progenitors of man were no doubt once covered with hair, both sexes having beards; their ears were pointed, and capable of movement, and their bodies were provided with a tail, having the power of motion. Their limbs and bodies were also acted upon by many muscles which are only occasionally retained, but are normally present in the Quadrumania. The great artery and nerve of the humerus ran through a separate bony foramen. At this or some earlier period, the intestine gave forth a much larger diverticulum or cocoon than that now existing. The fact, judging from the condition of the great toe in the human, was that prehensile; and our progenitors, no doubt retained in their habits, displaying some ways, forest-like hand. The males were provided with great canine teeth, which served them as formidable weapons."

The adventurous naturalist ever presses to trace that which is now the body of a man to a still earlier period.

"At a much earlier period the cranium was double. The eye was protected by a third eyelid or a vitelline membrane. At a still earlier period the progenitors of man must have been aquatic in their habits; for morphology plainly tells us that our lungs consist of a modified swim bladder, which our large eared as a float. The claws on the neck in the embryo of man show where the branchial sacs existed. At about this period the true kidneys were replaced by the corpus allatum. The heart existed as a simple pulsating vessel; and the chorda dorsalis took the place of a vertebral column. These early predecessors of man, then seem to be the dim recesses of time, must have been as lowly organized as the lowest or amphibia, or even still more lowly organized."

Three great classes of facts are relied upon as giving proofs of man's descent from some preceding form:—(1) The bodily structure of man, all the bones in the skeleton being comparable with corresponding bones in a monkey, bat, or seal. So also is it with muscles, nerves, blood-vessels, and internal viscera. In illustrating the fact that monkeys have the same effect on monkeys as on man, Mr Darwin describes some baboons, who having drunk to excess, on the morning after their debauch turned away with disgust from wine or beer, but relished the juice of lemons;—surely a touch of the humanity—while an American monkey, after getting drunk on brandy, would never touch it again, and thus "was wiser than many men." (2) Embryonic Development.—Two figures are given,—one of the human embryo, the other the embryo of a dog; and the indication of a tail is not confined to the latter. (3) Rudimentary Man, like all the higher animals, has rudimentary organs, and not a few of the muscles regularly present in the lower animals can occasionally be detected in man in a greatly reduced condition.

"The vitelline membrane, or third eyelid, with its accessory muscles and other structures, is especially well developed in birds, and is of much functional importance to them, as it may be rapidly drawn across the whole eyeball. It is found in some reptiles and amphibians, and in certain fishes, as in sharks. It is fully well developed in the two lower divisions of the mammalian series,—in the monotremata and marsupials, and in some few of the high mammals, as in the walrus. But, in man, the quadrumanous, and most other mammals, it exists, as is admitted by all, as a mere rudiment called the *semilunar fold*."

But is descent proved by the comparability of the bones and muscles of man with those of other animals—the correspondence of the embryo of a man, dog, seal, bat, reptile, &c.—and the existence of rudimentary organs? May not all have been formed on the same ideal plan? The comparability of bones, &c., may possibly be explained on this supposition—and the science of embryology is in its infancy—but the existence of rudimentary structures, and the comparative weight of the other classes of facts when viewed with reference to these structures, place great difficulties in the way of any other hypothesis than that of descent, and certainly must prevent its dismissal with a scornful sneer, although they may not justify the "ideal" picture of our forefathers drawn by Mr Darwin.

So far the argument is a physical one, to be decided on purely physical grounds. It may be correct, it may be incorrect; man remains what he is in mind, and heart, and soul. The method by which the body may have been organized does not in the slightest degree, we submit, affect the relationship existing between the life of man and the Infinite Spirit of the Universe. The experience of the Christian life remains untouched, and the grounds of Christian hope secure. Having given the evi-

dence that man takes in his bodily structure traces of descent from some lower form, Mr Darwin endeavours to show that there is no fundamental difference between man and the higher mammals in their mental faculties. The intellectual and moral differences between man and the lower animals are, he contends, of degree and not of kind. At this point of the argument difficulties at once arise, which did not appear so long as the strict ground of physical history alone was occupied. Curious anecdotes are collected of animal intelligence and affection, and the reader is introduced into a world of loves and hates, which most men are too careless of the life around them to understand; but when we reach the moral sense, and the region of religious faith, the chain of development appears to break in our hands, and man stands alone and supreme.

Mr Darwin fully subscribes to the judgment of those writers who maintain that of all the differences between man and the lower animals, the moral sense or conscience is by far the most important; but he is not sorry to trace the origin to the action of the "social instincts," and admits the following proposition as in a high degree probable, viz.—

"That any animal whatever, endowed with well-marked social instincts, would inevitably acquire a moral sense or conscience as soon as its intellectual powers had become as well developed, or nearly as well developed, as in man."

The social instincts, it is argued, lead an animal to take pleasure in the society of its fellows, and perform various services for them; as soon as the mental faculties become developed, images of past actions and motives would pass through the brain, and there would be a feeling of dissatisfaction, such as always results from an unsatisfied instinct, if the less enduring instinctive desires, such as hunger, had yielded to the more enduring instinctive desires, such as those which are social. Hence, a preference would grow for social actions, as opposed to personal gratification. After the acquisition of language, the common opinion how each member ought to act for the public good would be expressed, and become a guide for actions; and the social instincts, being strengthened by habit, would finally accustom the permanent authority assigned to "conscience" among civilized men.

This is a new and ingenious account of the genesis of a conscience, and differs from the theories of Mill, Bain, and Herbert Spencer. The limits of a newspaper do not permit detailed examination of this philosophy, but two questions may be asked—1st, Does this account of the origin of conscience really explain the existence of that great peculiarity, the commanding authority, which produces the change of eye on the one hand, and looks upon the other? 2d, Are the instances of animal "virtue" quoted indicative of a deliberate choice between right and wrong—the choice which weighs the danger and the agony, and deliberately takes and endures, even in a rudimentary form?

The impulse which impels a dog to defend its master, or a monkey his keeper, does not, we submit, constitute even a rudiment of the morality of character, based upon a deliberate decision that it is better to suffer wrong than to do it.

"Sexual Selection" is discussed with elaborate care; and although many naturalists will question the extent of the influence attributed to this agency, none will underestimate the extraordinary interest of the facts collected, and the genius displayed in their treatment. Throughout the range of animal creation, wherever sexual characters are developed, Mr Darwin contends that the male struggles for the female.

Even with the pluriferous gastropods or land shells, the pairing is preceded by courtship, and these animals are susceptible of some degree of permanent attachment.

An accurate observer (Mr Linnæus) informs us that he placed a pair of land-shells (*Helix puzosii*), one of which was weakly, into a small and ill-provided garden. After a short time the strong and healthy individual disappeared, and was traced by its track of slime over a wall into an adjoining well-stocked garden. Mr Linnæus concluded that it had desired its stilly mate; but, after an absence of 24 hours, it returned, and apparently commiserated the result of its unsuccessful exploring, for both then started along the same track and disappeared over the wall.

Fascinating love among man is indeed the romance of natural history. Where there is rivalry between males there will be choice among females. The males will develop those characters which either give them mastery over each other or most exhaust the female; and the most vigorous males, with the greatest amount of charity, will secure the transmission of their advantageous peculiarities. By sexual selection, therefore, two classes of development are secured:—(1) the necessity of fighting for love will develop special organs of attack; (2) the necessity of charming the female will develop the peculiar graces of insect, fish, bird, and mammal.

The strongest and most elegant (according to any animal's peculiar standard) will prevail in love, and secure the propagation alike of their own and their charmer's. This is the romantic tale told by Mr Darwin through many curious chapters. The males of a number of insects charm the female by sounds they utter incessantly. Thus, therefore, who have special musical instruments become their triumph; and in their triumph they become founders of a race of better musicians—the slightest improvement being transmitted to their offspring.

Other creatures, birds notably, charm with song and colour; and song and colour become grounds of selection and of specific development.

The formidable weapons among mammals—which (according to Mr Darwin's theory) may be metaphorically spoken of as having been forged by love—show that the victories of affection have been as largely warlike as peaceful.

While the female Argos presents an appropriate example of the bill-and-sucker ornaments, and the elegant patterns on the wing feathers of the male—and heretofore the most beautiful—the spotted-horned ducks are surpassing the common birds in the Adirondacks, through the happy progression of a single male more slender than the other, and scarcely half so long, but projecting forward from the breast and terminating in a very sharp point, by which they can neatly pierce their rivals.

The chapters on Sexual Selection among savage races string questions upon marriage law. We are particularly charmed with the testimony borne by an intelligent Kandyan chief to the fact that the sensual of our civilization is the property of his supposed barbarism, and our civilized property his sensual.

"An intelligent Kandyan chief, of course a polygamist, was perfectly satisfied at the other barbarism of living with only one wife, and never parting until separated by death. It was, he said, just like the Wanderoo monkeys."

What a blow for the British patriarchy! the virtues which in his pride and his joy only provoke from the intelligent chief the scornful comment, "It is just like the Wanderoo monkeys!"

Mr Darwin himself admits that laws as yet unknown are acting, and that there is an unexplained minimum of change, even when his theories are granted to their fullest extent.

His work is daring, but without daring thought discovery can never be achieved; and it becomes those who believe most firmly in their own creed that the warmest supporters of unscriptured research, that their faith may not exist through lack of knowledge.

Many of his theories are as pure examples of abstract theories as could be possibly constructed from the grouping of facts, and are admittedly tentative; but Kepler solved some of the abstract problems in astronomy, as he framed and discussed speculations far wilder, and hypotheses far more extravagant, than any which in natural history the most inveterate opponent can associate with the name of Darwin.

**MIRRAED PASSAGES OF SCRIPTURE.** Second Series. By J. Baldwin Brown, B.A. London: Hodder & Stoughton, 1871.

A few days ago, we had occasion to notice in these columns the collection of essays in which Mr Baldwin Brown has published his views upon the leading ecclesiastical questions of the day. In the second series of his "Mirraed Passages of Scripture," which has been still more recently issued, Mr Brown has returned to the Department of theology. The title of the volume does not explain it with sufficient clearness, and, indeed, is somewhat likely to mislead at first sight; for the facts upon which Mr Brown's twelve sermons are based are not such as have been misunderstood from inaccurate translation, or misinterpreted with egotistic words or clauses. The author is evidently of opinion that when criticism and verbal exegesis have done their best, something more will still be needed to free the sacred writers from the misconceptions which have grown up around them; and the main help to this he finds in the interpretation of the parts in the spirit and by the light of the whole, the main hindrance to a right understanding of the Bible he finds in the tendency to rest with a rigid dogmatism on an isolated fact, as though the whole mind of the Spirit on that point were