

THE DARWIN THEORY.

Are Men From Monkeys?

Twelve years ago, Mr. Darwin's book on the "Origin of Species" appeared. Twelve years since, the dread of consequences to the foundations of current religious beliefs made many thousands of good men and women cry out that the theory of the descent of mankind from ape-like progenitors was false. But increase of familiarity has led to diminution of alarm; and people now very fairly ask, 'The Darwinian theory may be true, but what then?' This calmer temper marks a great improvement, and one may hope that the discussion on both sides will be carried on with the candor, sobriety, and moderation from which the eminent originator of the discussion has never in a single phrase departed. The Darwinian theories seem more or less to touch

EVERY POINT IN THE CIRCLE

of the things which most deeply interest intelligent persons. They are assuredly not indifferent to theology, in spite of the change of front among theologians. They go to the roots of psychology. They touch the very foundations of every theory of the genesis of morals and the origin of societies. They are pregnant with that most vital and penetrating kind of influence—*influence upon Method*. Finally, as regards their own special and proper field, even those naturalists who are at least willing to assent to all Mr. Darwin's specific conclusions, agree that they compel a revision and new statement of previous scientific doctrine. In other words, Mr. Darwin's work is one of those rare and capital achievements of intellect, which effect a grave modification throughout all the highest departments of the realm of opinion. They are the first large systematic attempt to penetrate as deeply into the laws of the organic kingdom, as Newton's immortal speculation penetrated into the laws of the heavenly bodies. We all know how vast and far-spreading was the influence of Newtonian discovery over the scientific thought, and hence indirectly over the philosophy and social thought, of the century which followed it; and it is hardly too much—the due allowance being made—to anticipate for Darwinian theorizing a corresponding power in the inquiries of the coming time. The large sale of editions of the "Origin of Species" in German, Dutch, Italian, Spanish Danish, and Russian, attests the hardly rivalled attraction which this theory possesses for the scientific mind. It would occupy too much space to examine the intellectual conditions that are in the air, and that concur in gaining for the Darwinian speculation such eager attention and

SUCH UNIVERSAL CURIOSITY.

One thing is certain, and this is that no theories as to the descent of man would stir controversy on all sides as those of Mr. Darwin have stirred it, unless they both affected a great variety of disputed subjects in many orders of inquiry, and were also tending, or were commonly thought to tend, in what happens to be at this time the central and predominant direction of philosophical investigation. It is because the great doctrine of evolution claims something like universal empire, that such wide and deep attention is given to Mr. Darwin's special exposition of its operation in the field of creation, by men who might otherwise have listened to a mere naturalist's hypothesis with composure or indifference. His attempt to specify and make precise the working of secondary laws in the development of new forms of life has strengthened, as nothing before has done, the tendency to accept these laws, rather than repeated and special acts of intervention, as the method of Divine government, because his attempt is one to explain by secondary laws the most important facts of which science can take cognizance, in Man himself.

MR. DARWIN WARNS US

that some of the views he has advanced are highly speculative, "and some, no doubt, will prove erroneous." The general purport of these views is to find for the question of the origin of Man on the earth, and the origin of those characteristics which distinguish him from other creatures, a scientific answer that shall harmonize with those general principles of evolution, to which so many sets of facts seem to point the way. This answer is that Man is not the product of an act of special and independent creation, but is a descendant from a pre-existent and less highly organized form. Man, if we trace his pedigree sufficiently far back, must have had a progenitor, from whom not only the human line, but one or more other lines of animated being lower than human, have been derived. There is identity of origin and community of descent between him and the humbler stocks which share the surface of the earth with him. At a certain point in the ascending line of the human genealogy you must come to an ancestor from whom in the descending line we reach the apish collaterals of mankind. What are the grounds on which the existence of a progenitor, descended from the common stock of men and apes, but itself only ape-like and not an ape, not man and yet quasi-human, may be reasonably assumed? The grounds which lead us to suspect some such community of origin are these:—First, the correspondence in bodily structure between men and other mammals. The bones of his skeleton

CORRESPOND WITH THOSE OF THE MONKEY

or the seal. So do his muscles, nerves, and viscera. So does his brain. The structures of their tissues and the composition of the blood are similar, because man can receive diseases from some of the lower animals and communicate them in return; while, apart from these diseases of infection, there are other diseases to which both are equally liable. They have common parasites. The whole process of reproduction is the same in all mammals. Second, the embryo of man closely resembles the embryos of other mammals, and undergoes a corresponding order of development—the embryos of forms, finally so different, preserving up to a certain period the structure of the common ancestor. Third, man possesses certain rudimentary organs, muscles, and other parts, which can only be explained by the fact of their having been possessed by some forerunner in a perfect and serviceable state. These three sets of facts concur in furnishing reasons for supposing that Man is no more by his descent than a more highly organized form or modification of a pre-existent mammal.

The most forcibly urged objection to this is that there exists a fundamental difference between the mental faculties of man and those of even the highest mammals; that the difference between the intelligence of a human being and that of the most intelligent of beings not human is one of kind and not of degree; that by no process of mere modification could the

GODLIKE REASON AND SUBLIME EMOTIONS

of man have been evolved from what are sheer instincts or animal impulses in all lower forms. Mr. Darwin denies that this objection has any veritable basis of fact on which to rest. Its force depends ultimately on propositions which no one now could seriously assert, namely, that man is the only organic being possessed of mental power, and that his power is of a wholly different nature from that of other creatures. So far as the emotional parts of mental constitution go, the emotions of animals are plainly our own; terror, suspicion, courage, good humor, bad humor, revenge, affection—all these moods and turns may be as truly predicated, and in the same sense, of the lower creatures as of the highest. If we turn to the faculties of intelligence, we find in the lower, as in the highest, Memory, Imitation, Curiosity, and the rudiments of Imagination (as shown in their dreams), and even the complex and derivative quality of Reason. For what definition of Reason can we accept that shall banish to the lower region of instinct a multitude of cases in which a snake, a bird, an ape, plainly goes through the processes of experience, observation, pausing, deliberation on experience, forming new resolutions as a consequence? The instances of the performance of such processes from which Mr. Darwin has made a selection are on this point decisive. Take

who had been accustomed to have lumps of sugar given them wrapped up in paper; sometimes a live wasp was put in, so that incautiously unfolding it they were stung; for the future they always held the packet to their ears to detect any movement within.

That no other animal has language, is a favorite argument with the upholders of the independent creation of man. Mr. Darwin replies that while this is true only in a sense, and while the parrot shows that it is not the mere power of articulation which confers this cardinal distinction on man, even the degree in which the statement is true only means that man has a peculiar power of connecting definite sounds with definite ideas, because he has those definite ideas which the rest have not; and this fact in turn depends on the higher development in him of the faculties of intelligence. Apes do not speak, because their intelligence is not sufficiently advanced. Then language has reacted on the intelligence, as great instruments of intelligence always do, and stimulated that development of which it was at first the product. "The mental powers in some early progenitor of man must have been more highly developed than in any existing ape, before even the most imperfect form of speech could have come into use; but we may confidently believe that the continued use and advancement of this power would have reacted on the mind by enabling and encouraging it to carry on long trains of thought."

Another important distinction of man is what is called

THE MORAL SENSE.

Mr. Darwin finds in this sense, and in the various facts of conscience and duty, nothing fatal to the theory of common descent. For he believes morality or the moral judgment to be derived, with the aid of an active intelligence and of transmitted habits, from prime social instincts; and these social instincts, on which the imposing superstructure of human morality has been greatly raised, are not peculiar to man, but are shared by many of the brutes.

The next question naturally concerns the manner in which this double development has taken place—the development of physical structure and that of mental faculty. First, with reference to the physical structure of man, and its evolution from a lower form. Here Mr. Darwin introduces

which has been the main battlefield of European speculation for the last dozen years. The process he takes to have been this. The ape-like progenitors, as well as subsequent links in the series between them and man, all presented variations in organization and in mental quality. The second consideration is that there was a constant tendency in these creatures to increase their numbers beyond their means of subsistence, and, consequently, a struggle for existence. As a result of this struggle, those whose variations were of most service to them in it would survive in greater numbers, and produce more offspring and stronger, than those of inferior capability. This is selection by nature, or survival of the fittest. Every modification, on this theory, must have conferred some advantage. The erect attitude, for instance, is one of the most important of distinctions between man and the mixture of quadruped and biped which marks his nearest kin. This erect attitude confers an advantage of the most intelligible kind by relieving the two foremembers or hands of the weight of the body in locomotion, which must previously have blunted the sense of touch—which must, in other words, have prevented the hands from attaining that perfection in manufacturing tools, hurling weapons or stones with precision, and so forth, which has made the hands one of the chief elements in

THE SUPERIORITY OF MAN

over the brutes. In the same way, flatness of feet and the peculiar modification of the great toe which deprives it of the power of prehension, confer the advantage of a firm basis—an essential

condition of freedom of the arms and the upper portion of the trunk. If we perceive these advantages most evidently in our own cases, there is every reason to suppose the variation of becoming more bipedal to have given an advantage in the struggle for existence to the progenitors of man.

From this change others would follow in the pelvis, which would become broader; in the spine, which would take a peculiar curve; and in the position of the head. These correlated modifications might be produced by various means—by natural selection, by the inheritance of the effects of the increased use of certain parts, or by the action of one part on another. As the progenitors of man learned to fight with stones, darts, and clubs, they would naturally use their jaws and great canine teeth less, and hence the latter would lessen in size. For reasons of a similar description, as the various mental faculties were developed the brain would increase in size, and this in turn would influence the size and form of the skull.

To the very common objection that

MAN IS PHYSICALLY WEAKER

and more defenseless than the brutes, and therefore that his divergence from them cannot be a case of survival of the fittest, Mr. Darwin replies that the slight strength of man is more than compensated for by his intellectual faculty, as well as by his superior social qualities, which confront the assault of a brute by the united strength of a number of men. And, as a matter of fact, in no country are there more dangerous beasts than in South Africa, and it is precisely in this country that one of the puniest races of men, the Bushmen, contrive to hold their own.

Second, what was the manner of the development of the intellectual faculties? This, again, is to be explained by the action of natural selection. "We can see this in the rudest state of society, the individuals who were the most sagacious, who invented and used the best weapons or traps, and who were best able to defend themselves, would rear the greatest number of offspring. The tribes which included the largest number of men thus endowed would increase in number and supplant other tribes." For the same reason which makes savage nations die out before civilized nations, every new step in the perfection of the intellectual faculties would confer an advantage on those who had been able to make such a step. In the same way with the social qualities. The progenitors of man have acquired them by natural selection, as the lower animals have done; that is to say, "when two tribes of primeval man living in the same country came into competition, if the one tribe included (other circumstances being equal) a greater number of courageous, sympathetic, and faithful members who were always ready to warn each other of danger, to aid and defend each other, this tribe would without doubt succeed best and conquer the other."

The main conclusion is this, then, that man is descended through variation and natural selection from some lower organization.