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THE DARWINIAN THEORY.

By his researches into the causes of expression in man and animals Mr. Darwin has thrown considerable light upon a subject which, although of some interest, has hitherto been but little studied. Even those who have taken it up have made it the subject of very close investigation, scarcely realising that it was too obvious to be in need of much possibility of explanation. Physiology, indeed, has been rather a favourite pursuit; every man dabbles in it to a certain extent, and thinks himself capable of judging of another as by what he sees written in his face. More especially are women endowed with the gift of this special character, and rarely do they fail to read aright; but the signs by which they judge are less permanent impressions which the workings of our inner self have by repetition so stamped on our flexible outer covering that they have become indelible and legible to all who look upon us in coincidence with a discerning eye. With these transient impressions Mr. Darwin's book has much to do. He treats of those transient expressions of which we all know the signs, but of the nerve power which produces those signs—that is, we and why the motions express themselves—we know nothing. In his arguments Mr. Darwin lays great stress upon facts derived from the observation of animals, because, as he justly says, they are less liable to deceive us. All who are familiar with animals of any kind, and who have remarked and wondered at their power of expression. Take the dog, for instance, the creature with whom we are the most familiar, and which is chosen by the author to furnish a number of illustrative examples. Who does not know his playful he can, without visibly moving his ears, or making any active demonstration, when he is feeling sympathetic or ill temper? Mr. Darwin does not allude to certain circumstances, nevertheless it is certain that dogs feel and express it. Let a dog accustomed to his master's society, admitted to the drawing-room, and, in short, one of the domestic circle, be treated about by a servant, and observe the look of surprise and indignation which he will cast upon the offender. We have seen it a dozen times, it is dogs of various breeds. They have said plainly as words could do, "Who are you that presume to dictate to me? You are not my son." We have seen this, and wondered by it means the creature threw so much expression into its face; but, as Mr. Darwin says (speaking of dogs, but generally), "the study of expression is difficult, owing to the movements being so extremely slight and of a fleeting nature. Difference may be clearly perceived, and yet may be impossible, at least I have found it so, and in what the difference consists." The cow, which is not considered to be an emotional being, will yet show in its face not only pleasure as expressed but sickness and obstinacy when fed in some way, just as clearly as it can show being angry and sullen. The same may be said of the donkey, with the addition that muscular shrewdness and sagacity are expressed by countenance, as any owner of a pet donkey is ready to testify. Mr. Darwin has there been wise to study the movements of animals expressing emotion, even without taking into consideration his peculiar views on the subject of the mind, and, as he says himself, "in observing animals we are not so likely to be misled by our imagination, and we may feel safe that their expressions are not conventional." How can we, however, be quite sure that the latter part of this book is correct when he also informs us in the latter part of the volume that the barking of the dog has been acquired since the animal was domesticated, and then inherited in different degrees different breeds, and goes on to say—"How it first learnt we do not know, but may we not say that imitation has had something to do with its acquisition, owing to dogs having lived in strict association with so gregarious animal as man?" The dog, then, has not acted "conventional" way if he has endeavoured to imitate man, and his attempts hitherto have been chiefly satisfactory. Still, if he has been so far as to use some expressive of the dog's nature, may we not hope for a further development, and look forward to the dog of the future as being able to carry on direct and intelligent intercourse with his friend and master? Mr. Darwin's investigations have led him to the conclusion that movements which serve as a means of expression had rarely or never expression for primary object, "such movements having had first either of some direct use, or the indirect effect of the excited state of the sensorium."

"All these," he says, "may express either intentionally or instinctively to show that it wants food, but it has no wish, or intention to draw its features into the peculiar form which its display indicates misery; yet some of the most characteristic expressions exhibited by man are derived from the act of screaming." These principles are cited by the author as accounting for most of the expressions and gestures involuntarily used by man and lower animals, under the influence of various emotions not associated with any principle of servicable associated habits; secondly, the principle of antithesis; and thirdly, the principle of actions due to the constitution of the nervous system, independently from the first of the Will, and independently to a certain extent of Habit. With regard to the first, the idea is that "when any sensitive creature, did not do, has led during a long series of generations to some voluntary movement, then a tendency to the performance of a similar movement will almost certainly be excited whenever the same, or any analogous or associated sensation, do, although very weak, is experienced, notwithstanding that the movement in question may not be of the least use." Through also that the whole of the nervous system, through habit with certain states of the mind are partially expressed by the will, the strictly involuntary muscles, as well as those which are least under the separate control of the will, are liable still to act; and their action is often highly expressive." Mr. Darwin gives a great many instances of associated habitual movements in animals—movements which we have probably all observed, but without recognizing the causes from which they spring; such as the dog scratching the air or the ground when his back is rubbed with a stick, because his habit is to scratch himself by rapidly moving one of his hind feet; or rolling upon a piece of biscuit, because his habit is to roll himself upon with his feet, and thus obtain a more uniform cast upon the snuff; and the kingfisher, at the Zoological Gardens beating the rear most which is given to them, just as other kingfishers, when at liberty, beat a tail until they have killed it. We have ourselves repeatedly seen a poodle trying to bury a saucer of milk by scraping at the carpet all round it, just as he would have scraped up the earth in the garden to bury a bone; and all these associated movements are not confined to animals. Mr. Darwin says that he has caught himself, when in the dark and thinking of a horrid spectacle, closing his eyes firmly; and repeats Gratulator's observation, that a man who vehemently rejects a proposition will almost certainly shut his eyes or turn away his face, but if he accepts the proposition he will shut his hand and open his eyes widely, closing in the second case as if he saw something clearly, and in the first as if he did not or would not see it. As to the second principle—that of antithesis—Mr. Darwin thus explains it:—"Certain states of the mind lead to certain habitual movements, which, when present, or may still be, of service; and we find that when a direct opposite state of mind is induced, there is a strong and involuntary tendency to the performance of movements of a directly opposite nature, though there have never been any servicable movements of an opposite kind, under opposite impulses of the will, has become habitual in us and in the lower animals, when actions of one kind are become firmly associated with any sensation or emotion. It appears natural that actions of a directly opposite kind, though of no use, should be spontaneously performed through habit and association, under the influence of a directly opposite sensation or emotion."

Here again numerous interesting examples are given which will be studied by the reader with great pleasure.—Mr. Darwin's third principle is, that many actions recognized to be expressive of certain states of the mind are the direct result of the constitution of the nervous system, and are independent of the will and also of habit. As examples of this he instances loss of colour in the face from grief or sorrow, the trembling of the muscles, the increased action of the heart, the involuntary erection of the hair, &c. Most of these systems he considers to be probably the direct result of the disturbed state of the sensorium, but partly also springing from associated habit. The author says, in reference to his theory:—"No many expressive movements can be explained through the three principles which have now been discussed that we may hope beneficial to our science, or explained, or by closely analogous principles. It is, however, often impossible to decide how much weight ought to be attributed in each particular case to one of our principles, and how much to another. The only principle in the theory of expressions remains inexplicable. There is no doubt that Mr. Darwin has brought together a remarkable mass of interesting facts in

support of his theories; and these facts and the reasoning based upon them are well worthy of study; it is at all events curious, even, if not precisely useful, to know what complicated machinery has to set in motion before some simple expression, say that of grief or distress, can appear upon the countenance; it is also interesting to understand the relations of that "most peculiar and most human of expressions—blushing," to the expression of which the author dedicates 37 pages, and it cannot be disputed, as he further says, that—

"The movements of expression in the face and body, whatever their origin may have been, are in themselves of much importance for our welfare. They serve as the first means of communication between the mother and her infant; the smiles approved, and the frowns disapproved, he child on the right path, or frowns disapproved. We readily perceive sympathy in others by their expression; our sufferings are thus mitigated and our pleasures increased; and mutual good feeling is thus strengthened. The movements of expression give vivacity and energy to our speech. They reveal the thoughts and intentions of others more truly than do words, which may be feigned. Whatever amount of truth the so-called science of physiognomy may contain appears to depend, as Haller long ago remarked, on different persons belonging to different races, and different ages, and different dispositions; the development of these movements being perhaps thus increased, and the lines or furrows on the face due to their habitual contraction, being thus rendered deeper and more conspicuous."

For these reasons the public will be grateful to Mr. Darwin for having taken up the subject and done much towards its elucidation, not only by gathering together the results of his personal observations and of those of others whose attention he has directed to specific questions which he desired to have answered and by means of which data concerning the expression of feeling by the savage races have been furnished from many parts of the world, but also by his reproductions of Dr. DuRoi's wonderful photographs. When, however, we are asked to believe that the study of the theory of expression confers, even to a limited extent, the conviction that man is derived from some lower animal form, we must beg to dissent, even though the author does bring forward in evidence our uncovering the canine tooth on one side, when expressing scorn and defiance, backed by an ingenious derivation of the word "snarl" from "snarl," which Wedgwood says was originally "snarl" without the "l." We own usually placid physiognomy wears "a derisive and sardonic smile," when we read that "our male semi-human progenies possessed great canine teeth," and that "man is now occasionally born having them of unusually large size, with interspaces in the opposite jaw for their reception." "If our ears," says Mr. Darwin, "had remained movable, their movements would have been highly expressive." No doubt they would, but a less demonstrative mode of displaying our feelings will amply suffice; and, with all reference to Mr. Darwin, we must decline to receive the "early progenitor" who fought with his teeth, moved his ears, and did not blush, into our family tree.

"The Expression of the Emotions in Man and Animals. By Charles Darwin. 1 vol. London: John Murray.