

Murray Parl
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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 extreme interest, has hitherto been but little studied. Even those who have taken it up have not made it the subject of very close investigation, apparently considering that it was too obscure to admit of much possibility of explanation. Physiognomy, indeed, has been rather a favourite pursuit; every man dabbles in it to a certain extent, and thinks himself capable of judging of another man by what he sees written in his face. More especially are women endowed with the gift of thus reading character, and rarely do they fail to read it aright; but the signs by which they judge are those permanent impressions which the workings of our inner self have by repetition so stamped upon our flexible outer covering that they have become indelible and legible to all who look upon the countenance with a discerning eye. With these permanent impressions Mr. Darwin's book has nothing to do. He treats of those transient emotions of which we all know the signs, but of the motive power which produces those signs—that is, how 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 cannot fail to 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 how plainly he can, without visibly moving his tail or ears, or making any active demonstration, display his feeling of complacency or ill temper? Mr. Darwin does not allude to contempt as a canine sensation, nevertheless it is certain that dogs feel it, 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 ordered about by a servant, and observe the look of surprise and indignation which he will cast upon the offender. We have seen it scores of times, and in dogs of various breeds. They have said as plainly as words could do, "Who are you that you presume to dictate to me? You are not my master." We have seen this, and wondered by what means the creature threw so much expression into its face; but, as Mr. Darwin says (speaking not of dogs, but generally), "the study of expression is difficult, owing to the movements being often extremely slight and of a fleeting nature. A difference may be clearly perceived, and yet it may be impossible, at least I have found it so, to state in what the difference consists." The cow also, which is not considered to be an emotional animal, will yet show in its face not only pleasure when caressed but sulkiness and obstinacy when crossed in some way, just as clearly as it can show suffering and desire for sympathy. The same may be said of the donkey, with the addition that much greater shrewdness and sagacity are expressed by his countenance, as any owner of a pet donkey will be ready to testify. Mr. Darwin has therefore been wise to study the movements of animals as testifying emotion, even without taking into consideration his peculiar views on the subject of evolution; and, as he says himself, "in observing animals we are not so likely to be biased 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 remark is correct when he also informs us in another part of the volume that the barking of the dog has been acquired since the animal was domesticated, and then inherited in different degrees by different breeds, and goes on to say—"How it was first learnt we do not know, but may we not suspect that imitation has had something to do with its acquisition, owing to dogs having long lived in strict association with so loquacious an animal as man?" The dog, then, has not acted in an "unconventional" way if he has endeavoured to imitate man, and his attempts hitherto have not been exactly satisfactory. Still, if he has proceeded so far as to use sounds expressive of joy and anger, 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 intelligible 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 their primary object, "such movements having been at first either of some direct use, or the indirect effect of the excited state of the sensorium."

"An infant," he says, "may scream 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 so plainly indicates misery; yet some of the most characteristic expressions exhibited by man are derived from the act of screaming." Three principles are cited by the author as accounting for most of the expressions and gestures involuntarily used by man and the lower animals, under the influence of various emotions and sensations:—First, the principle of serviceable 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 sensation, desire, dislike, &c., 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, &c., although very weak, is experienced, notwithstanding that the movement in this case may not be of the least use . . . also that when movements associated 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 recognising 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 carrion; the tame sheldrake patting the ground with its feet, as the wild one does over a worm-cast upon the sands; and the kingfishers in the Zoological Gardens beating the raw meat which is given to them, just as other kingfishers, when at liberty, beat a fish 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 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 Gratiolet'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 nod his head and open his eyes widely, acting in the second case as if he saw the thing 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 were primarily, or may still be, of service; and we shall find that when a directly opposite state of mind is induced, there is a strong and involuntary tendency to the performance of movements of a directly opposite nature, though these have never been of any service. . . . also that as the performance of ordinary movements of an opposite kind, under opposite impulses of the will, has become habitual in us and in the lower animals, so when actions of one kind have become firmly associated with any sensation or emotion, it appears natural that actions of a directly opposite kind, though of no use, should be unconsciously 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 recognised 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 hair from grief or terror, 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:—

"So many expressive movements can be explained through the three principles which have now been discussed that we may hope hereafter to see all thus 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, and very many points in the theory of expressions remain 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 be 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 rationale of that "most peculiar and most human of expressions—blushing," to the exposition 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; she smiles approval, and thus encourages her child on the right path, or frowns disapproval. 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 vividness and energy to our spoken words. They reveal the thoughts and intentions of others more truly than do words, which may be falsified. Whatever amount of truth the so-called science of physiognomy may contain appears to depend, as Haller long ago remarked, on different persons bringing into frequent use different facial muscles according to their dispositions; the development of these muscles 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 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. Duchenne's wonderful photographs. When, however, we are asked to believe that the study of the theory of expression confirms, even to a limited extent, the conclusion that man is derived from some lower animal form, we must beg to demur, 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 "sneer" from "snarl," which Wedgwood says was originally "snar" without the "l." Our own usually placid physiognomy wears "a derisive and sardonic smile," when we read that "our male semi-human progenitors possessed great canine teeth," and that "men are 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 deference 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.

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Also that when and sensation, &c., 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 blotting, because his habit is to roll himself upon his back; or the same shrike gaiting the ground with his feet, when he is on a direct opposite to the east upon the earth; and the king of 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 round it, just as he would have scraped up the 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 Gratiolet'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 and his hand and open his eyes widely, clearly, in the second case as if he saw the thing directly, 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:—

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