

Darwin on "The Expression of the Emotions." .

THE verdict of posterity upon Mr. Darwin's new work, *The Expression of the Emotions in Man and Animals* (D. Appleton & Co.), will, we apprehend, be in the main unfavorable—so far, at any rate, as concerns the author's scientific reputation. Prof. Agassiz has recently characterized the Darwinian hypothesis as "a mire of mere assertion;" and this strong language has been undoubtedly to a great extent justified by both the *Descent of Man* and the present work. The subject of Expression is in itself a most interesting one, and those who have read Mr. Darwin's pre-

vious works will not need to be told that it has lost none of its interest in the manner in which he has presented it to the world. The careless reader, also, who reads without much thought, and who swallows any assertion that may be made with sufficient confidence, will doubtless rise from the perusal of the present work with the full conviction that Mr. Darwin has proved his point. No man ever possessed a more wonderful power of accumulating all the facts which bear upon a given subject, and in marshaling these facts in a given order so that all shall point in one direction; and in none of his previous works is this power more conspicuously manifested. We may here also state, that Mr. Darwin shows no diminution of the candor which has always impelled him to speak out openly, and to point out what he conceives to be the special difficulties of his own theory.

Nevertheless, when we fairly examine Mr. Darwin's work, the net results of his labors are by no means very great. If we accept his premises, then we shall unquestionably accept his conclusions; for there is no flaw in the chain of reasoning, and, so far as mere logic is concerned, his armor may be regarded as proof against attack. In too many instances, however, his premises are not such as would be admitted by the generality of scientific men, and in a still larger number of instances he merely substitutes one form of words for another, without achieving any actual improvement of our knowledge. To talk, for example, of certain expressions being due to an "excess of nerve-force" may doubtless sound very well in the ears of the uninitiated; but it in reality explains nothing, owing to our total ignorance of what "nerve-force" is, how it is generated, or what is its connection with the body or with the mind.

The weakness of Mr. Darwin's theory, in fact, appears to arise from a cause, which would at present more or less affect *all* theories as to the nature of the expression of the emotions in man and animals. No such theory can, in our opinion, have any permanent standing ground, unless it be based upon some comprehensive theory as to the connection between spirit and matter, between the immaterial essence and the corporeal instrument. It need hardly be said that the present record of human knowledge contains hardly even a vestige of such a theory; and in the absence of this it seems almost futile to speculate on the essential nature of the expression of the emotions. We can doubtless observe and note how this or the other emotion is expressed by man or by any animal, what muscles are brought into play in each successive phase of feeling, what attitudes the body assumes, and what is the effect upon the nervous or circulatory systems. Mr. Darwin's book is a rich repertory of such facts, and those who have recourse to it for observations of this kind alone will assuredly not be disappointed. But no store of facts, however extensive, will of themselves form a theory, and at present we have nothing but the facts to go upon. We are absolutely and entirely ignorant of the nature of the connection between

the mind and the brain, and we can therefore hardly hope to discover why certain special muscles are contracted in anger, or why the heart should beat wildly under the influence of terror. Still less can we determine what it is that enables us to form some judgment, and often a very accurate one, as to the character of a perfect stranger, simply by looking at his face when in a state of perfect repose. Indeed, the general, undefined, and yet distinct impression that we receive from any personality with which we are brought into contact, without any direct acquaintance, is a much more wonderful and inexplicable thing than all the expressions of the special emotions put together. For obvious reasons, however, Mr. Darwin does not attempt to grapple with this fact, since, though closely related to the subject of Expression in general, it is not capable of being made to fit in with his theory.

It were hopeless, in the limits at our disposal, to attempt any detailed criticism of Mr. Darwin's work; but he lays down three general "principles of expression," which are, at any rate, worth stating. The first of these is what he calls the "principle of serviceable associated habits," according to which "certain complex actions are of direct or indirect service under certain states of the mind, in order to relieve or gratify certain sensations, desires, etc.; and whenever the same state of mind is induced, however feebly, there is a tendency through the force of habit and association for the same movements to be performed, though they may not then be of the least use." This principle is simply the "utilitarian" doctrine of morals carried into a fresh department; and though it may explain some expressive actions, and especially such as are more or less automatic or habitual, it certainly will not apply to many of the cases brought forward by Mr. Darwin. Upon this principle, many of the actions by which we express our emotions stand upon the same level as the action of a dog when he turns round and round before lying down on the carpet, this being a relic of a time when the dog was wild, and used to trample down the grass to make his bed. It is under this head, therefore, that Mr. Darwin tries to bring his theory of the expression of the emotions to support his theory of the descent of man from a common stock with the monkeys. He tries to prove that many expressions of the emotions are merely modifications of primeval habits possessed by man when he was in "a much lower and animal-like condition," and when these habits were of direct and actual service to him. We can hardly blame Mr. Darwin for taking up this position, since his firm belief in the truth of his own theory fully justifies his doing so. Those, however, who reject Mr. Darwin's theory as to the descent of man, as an unproved and unprovable hypothesis, based in the main upon unsupported assertions, are not likely to view with great favor his "first principle" of Expression. The second canon of Expression is termed "the principle of Antithesis." Thus, certain states of the mind lead, in accordance with the first principle, to "certain habitual movements which

were primarily, or may still be, of service ;" but when "a directly opposite state of the mind is induced, there is a strong and involuntary tendency to the performance of movements of an exactly opposite nature, though these have never been of any service." The best possible example of the supposed working of this principle is to be found in the actions exhibited by a dog in approaching a friend or foe respectively. In the latter case, the animal walks upright and in a stiff and cautious manner ; his head is slightly raised ; the tail is held erect and is quite rigid ; the hairs bristle, especially along the neck and back ; the ears are pricked and directed forwards ; and the eyes have a fixed stare. On the other hand, if the dog be approaching a friend, his bearing is the reverse of all this. Instead of walking upright, the body sinks, or even crouches ; the tail is not held stiff and upright, but is depressed and wagged from side to side ; the hair becomes smooth ; the ears are depressed and drawn backwards ; and the eyes lose their fixed and staring expression. That the facts are as stated by Mr. Darwin is indubitable ; and it is brought home to our minds in an exceedingly appropriate and forcible manner by four very excellent drawings of dogs in the two states of mind in question. We fail, however, altogether to perceive that he has proved that his theory is any explanation of the facts. Indeed, it is only too clear that he has only had recourse to this principle as a last resort, from the impossibility of explaining the facts upon any known law. We do not say that the "principle of antithesis" is absolutely without foundation ; but we do say that Mr. Darwin has failed to bring forward any valid evidence in its support, and that its application under any circumstances must be of the most limited character.

The third principle is termed the "principle of the direct action of the nervous system." On this principle, certain expressive actions depend entirely upon the constitution and structure of the nervous system itself, and have been from the first independent of the will, and to a large extent of habit. Thus, when the brain "is strongly excited, nerve-force is generated in excess, and is transmitted in certain definite directions, depending on the connection of the nerve-cells, and partly on habit ; or the supply of nerve-force may, as it appears, be interrupted. Effects are thus produced which we recognize as expressive." As examples of the alleged working of this law, Mr. Darwin brings forward, amongst others, the blanching of the hair under terror or grief, the trembling of the muscles from fear, joy, or excessive anger, the blush of shame, the convulsive movements of agony, and the like. This third principle is an admirable example of how to give an explanation which is no explanation, of explaining the *obscurum per obscurius*. It is quite true that we do not know why our muscles should tremble when we are under the influence of fear or joy ; but it is a very poor explanation to tell us that it is caused by the generation of "an excess of nerve-force or by the interrupted supply of nerve-force to the muscles." We

do not feel bound to admit, with Mr. Herbert Spencer, that it is an "unquestionable truth that, at any moment, the existing quantity of liberated nerve-force, which in an inscrutable way produces in us the state we call feeling, *must* expend itself in some direction —*must* generate an equivalent manifestation of force somewhere." We do not feel bound to admit, with the same authority, that an "overflow of nerve-force, undirected by any motive, will manifestly take the most habitual routes, and, if these do not suffice, will next overflow into the less habitual ones." We confess that we do not think our present acquaintance with "nerve-force" to be of such an intimate nature as to warrant our speaking so positively as to the manner in which it "must" expend itself, as to its "overflow" being "undirected by any motive," or even as to what are its "habitual routes." We are inclined to think that these definite and dogmatic modes of stating opinions upon very obscure subjects are too often only a cloak by which man endeavors to conceal from himself the knowledge of his own ignorance. When we know what is the nature of the bond between the soul and the brain, and how each is enabled to react upon the other, then we may be in a position to adequately discuss what expressions are due to "the principle of the direct action of the nervous system."

Fisher's History of "The Reformation." *

WITH "perspicuous brevity," in a style pure, earnest and easy, this author gives us the results of what must have been long and laborious study of an era full of the noise and smoke of battle, issuing in vast results to Europe and the world. In the initial chapter we have a short discussion of the underlying conditions out of which the Reformation grew, and while full allowance is made for the influence of those forces begotten of the Revival of Learning, to which Mr. Lecky attributes so great a power, the Reformation is shown to be connected with the Bible, to be in the domain of the church, in the subject-matter of religion, to be in and through men of a religious feeling, and with a religious end in view. Having thus sketched the general character of the Reformation, the author discusses the rise and fall of the papal hierarchy through the centralization of nations, the special causes and omens of a revolution in the church, and then tells the story of the Reformation in Germany, Switzerland, Scandinavia, Hungary, Geneva, France, the Netherlands, England, Scotland, Italy and Spain. Then follows the narrative of the counter-reformation in the Roman Catholic Church and the struggle of Protestantism in the 17th century. The work is concluded by three masterly chapters on the Protestant Theology, and on the relation of Protestantism to the civil authority, to culture and to civilization.

* *The Reformation*. By George P. Fisher, D.D., Prof. of Ecclesiastical History in Yale College. Scribner, Armstrong & Co. 1873.