

## BOOK REVIEWS.

THE EXPRESSION OF THE EMOTIONS IN MAN AND ANIMALS. By Charles Darwin, M.A., F.R.S. London: John Murray. New York: D. Appleton & Co.

That Mr. Darwin is the author is a sufficient guarantee that the work is an interesting one; and the present is, perhaps, the most generally interesting of all his publications. It is, also, of a more popular character than his celebrated works on the Origin of Species and the Descent of Man, though assuredly it does not come under the head of "light reading." Nevertheless, it is thoroughly readable by any one who will bring a fair amount of attention to the task; and it has the advantage of being the kind of book which no one will like to confess to not having read, or, at any rate, dipped into. It is rendered still more attractive by the nature of the illustrations, which are mostly photographs by the heliotype process. All of these are necessarily true to nature, and some of them are remarkably good; whilst others are by no means as clear as they ought to be.

As we have said, the present work is of a more popular character than Mr. Darwin's other publications; but the reason of this, when we come to look into it, is a somewhat disappointing one. The truth is that it is hardly possible that the book should be other than popular in its character, seeing that it deals with a subject on which we are at bottom profoundly ignorant. It is not that observations are wanting as to the manner in which the emotions are expressed by man and by various of the lower animals. On the contrary, the works of Sir Charles Bell, Lavater, Duchenne, Gratiolet, and others, teem with admirable word-pictures and equally admirable illustrations of the signs by which man gives evidence of his various emotions. Mr. Darwin's own book is a perfect mine of facts of this kind, and any one who chooses to study it will be able to accurately name the very muscles which he employs under the stimulus of fear, agony, contempt, love, or other emotional impulse. It is not even that we have no theory capable of uniting and binding together these innumerable and admitted facts. We have several of such theories, and Mr. Darwin's will serve the above purpose as well as any other. The real fact is that no satisfactory theory of the expression of the emotions is even conceivable, unless as based upon a satisfactory and intelligible theory of the connection between

matter and mind, the body and the spirit, the muscle which expresses and the soul which feels the emotion. It is hardly necessary to say that we have no such theory; we know less than nothing as to the connection between the material and immaterial, which, rightly considered, is the great wonder of our earthly existence. We talk of "nerve force," "principle of association," "reflex action" and the like, but these are in truth merely phrases by which we conveniently conceal our excessive ignorance. Of course, we know quite well what we mean when we talk of a "reflex action;" but then we can merely apply the term to the *method* in which the action is performed, and we know nothing whatever as to its true nature. We know that the will can act upon certain of the muscles and make them contract; we know that the emotions can do the same, without the co-operation of the will, or even against its consent; but we do not know how it is that *any* muscle can be influenced by the mind at all, nor do we know the manner in which this influence is effected. In other words, we are profoundly ignorant of the nature of the connection between the soul and the nervous system on the one hand, and between the nervous system and the muscles on the other hand.

The expression of any emotion depends upon three elements, if we admit, that is, that emotion is a spiritual and not a physical phenomenon. In the first place we have the particular form of mental excitement which constitutes the actual emotion, whatever that may be. Secondly, we have this excitement producing a corresponding perturbation in the nervous centres. Thirdly, the nervous excitement thus generated is conveyed by appropriate channels to some particular muscle or muscles. These then contract, and we get the peculiar, visible change in the face or figure which constitutes the *expression* of the emotion. Most writers upon the subject admit that this is the succession of phenomena concerned in the expression of the emotions; but very various opinions have been entertained as to the nature and relative value of these phenomena. The older view, that man was created with certain muscles specially adapted for the expression of his feelings, may not be tenable; but there are certainly strong grounds for believing, with some of the most illustrious of modern physiologists, that our ignorance of the fundamental elements of the case is too great to allow of our forming any theory as to the manner in which man expresses his emotions.