

to the performance of movements of a directly opposite nature, though these are of no use ; and such movements are in some cases highly expressive." Thus, when a dog approaches a stranger, "his head is slightly raised, or not much lowered ; the tail is held erect and quite rigid ; the hairs bristle, especially along the neck and back : the pricked ears are directed forwards, and the eyes have a fixed stare." On the contrary, when the same dog approaches his master, "instead of walking upright, the body sinks downwards, or even crouches, and is hrown into flexuous movements ; the tail, instead of being held stiff and upright, is lowered and wagged from side to side ; his hair instantly becomes smooth ; his ears are depressed and drawn backwards, but not closely to the head ; and his lips hang loosely." These opposite states of mind, with the opposite actions which respectively express them, are illustrated by four capital drawings, and Mr. Darwin explains them upon the "principle of antithesis." The actions of the first series are believed to be serviceable actions, produced under the first principle ; and the actions of the second series are supposed to be useless, and to be merely produced by the involuntary tendency which the dog feels to perform in his loving and joyful condition the very opposite of what he did in his hostile and suspicious frame of mind. The idea is an ingenious one ; but we must confess that Mr. Darwin has failed to convince us by any of the examples which he has adduced, that it affords any real explanation of the case.

The third principle—that of "the direct action of the nervous system"—is founded upon the belief that there are certain actions which are due to the constitution of the nervous system itself, independently from the first of the will, and independently to a certain extent of habit. "When the sensorium 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." A good example of the actions which Mr. Darwin includes under this head is the trembling of the muscles which is produced by fear, violent anger, or excessive joy. Mr. Darwin admits that this subject is "very obscure," and, for our own part, we do not think that enough is known of the physiology of the nervous system, and of its connection with the mind, to render any discussion of this subject of any scientific value. It is all very well to talk of an "overflow of nerve-force" being generated, of its "manifestly" taking the most habitual routes, and of its then overflowing into the less habitual routes ; and to say

that when nerve-force is "liberated in excess" it *must* "generate an equivalent manifestation of force somewhere." These are but phrases which cover a vast deal of ignorance. We know nothing of what "nerve-force" is, how it is generated, or how it is transmitted along the nerves. We come back, therefore, to our original proposition that any satisfactory theory of the expression of the emotions must be preceded by, and based upon, some genuine knowledge of the relationship which subsists between man's spiritual essence and its corporeal instrument.

Mr. Darwin's book is likely to be widely read, and it deserves to be so. It exhibits all his wonted ingenuity, his power of marshalling a vast array of facts in ordered sequence, and we may add, his usual candour and fairness in stating what he believes to be the weak points of his own theory. We question if it is likely to add much, if anything, to his scientific reputation ; but it can hardly fail to be highly appreciated by the reading public at large.

THE HIGHER MINISTRY OF NATURE, VIEWED
IN THE LIGHT OF MODERN SCIENCE AND
AS AN AID TO ADVANCED CHRISTIAN PHI-
LOSOPHY. By John R. Leifchild, A.M. Lon-
don : Hodder & Stoughton.

Mr. Leifchild's work is one of the latest, and perhaps not the least successful, of the numerous attempts which have been made to bridge over the gulf which has opened of late years between the Natural and Physical Sciences on the one hand, and Theology on the other. That the revelations of modern science can ever affect those primitive religious truths which lie at the very foundation of man's existence as a spiritual being is not to be seriously supposed for one moment. These fundamental truths may be obscured in the minds of some few who have devoted themselves so entirely to the knowledge which is to be derived through the senses that they have come to disbelieve in the existence of any other kind of knowledge : but that is the worst which is to be apprehended. All scientific theories which strike at these primitive spiritual truths must fall sooner or later ; for they are opposed to the deepest instincts of man's nature, and increasing wisdom is sure to show that they are false to fact. On the other hand, the antagonism between modern Science and Theology—the latter being at bottom nothing more than our human interpretation of these fundamental truths—is one which will probably be ended by mutual concession. That modern Theology will in the long run more than hold her own against modern Science is the conviction of some of the wisest minds of the present century ; but this