

This standpoint is heroic, and involves considerable sacrifice of self; the argument has so obviously two sides to it. Is it a wise one to reiterate before us, juniors and pupils as we are; and shall we not remember how in many cases it was from Prof. Bonney that we received our first literary encouragement? Who amongst us, however, shall pose as his critic in this matter? Rather let us ask it of him as a question.

GRENVILLE A. J. COLE.

PHILOSOPHY AND EVOLUTION.

Evolution and Man's Place in Nature. By Henry Calderwood, LL.D., F.R.S.E. Second edition. Pp. xx + 316. (London: Macmillan and Co., 1896.)

IT is not often that the author of a work on science or philosophy so far accepts the verdict of his critics as to entirely re-model and re-write his book. Much to his credit Prof. Calderwood has done this, for the second edition now just issued is not only nearly twice the bulk of the first, but is also full of new matter, and is greatly improved in its scope and arrangement. The first edition (reviewed in NATURE, vol. xlvii. p. 385) contained eight chapters, while the present work has seventeen, the titles and "contents" of which are so different that the two books seem to have little in common. The chapters on "The Nerve System as an Instrument of Knowledge," "Right and Wrong," "Civil Law," "Modern Thought," "The Ape and Man," and "Cosmic Problems," seem to be wholly new and to embody the results of the most recent researches. In other respects the present work is far superior to the former edition, as it not only gives a much larger body of facts, and contains less repetition, but is a more complete presentation of the whole subject, treated from the point of view of philosophy rather than from that of science.

The author's style, which leads him always to go round about a subject rather than to the heart of the problem itself, to take much for granted which requires systematic proof, and to revel in diffuseness of phraseology and of argument, is still a prominent feature, and is wearisome to the reader who wants to get at the author's conclusions and to have a clear presentation of the facts and arguments on which they are founded. But to those who enjoy diffuse philosophical discussion, and especially to those who want a reply to the supposed materialistic tendencies of the works of Darwin and Herbert Spencer, there is here much food for thought. A few passages will serve to illustrate the author's merits as well as his limitations. In the chapter on "Right and Wrong," he thus explains his view of the essential difference between the human and the animal nature.

"The grand distinction of human life is *self-control in the field of action*. Thought not only reaches a generalised knowledge of existence, and of its laws; it leads to rationalised action, within the many and varied fields of human endeavour. The evidence of this appears, as already described, in the control exercised over all the animal impulses, so that these do not spontaneously and of themselves determine activity. Sensibility operates in human life, just as in the life of the animal; but it does not at once direct our action, as the course of the dog is

ruled by sense of smell. Sensibility can influence us in the same way, and a similar result is often seen in our life; but that which is peculiar to man is a concentration which overcomes allurements of sense. Animal appetite is stirred in us, as in animals, physiological law being coextensive with the animal kingdom; our speciality appears in the regulation of animal impulse, so that it is repressed, in accordance with the laws of attention, which weaken or strengthen animal propensity; or limited by reference to propriety; or regulated in its indulgence in recognition of a law higher than present desire. These facts are so familiar, that I have only to refer to them to claim their weight of evidence for a power which does not appear in animal life. The value of this evidence will be still more appreciated, if it be observed that the control of animal impulse no more belongs to the animal nature of man, than it belongs to the animals around him. In respect of animal impulse, his experience is as much determined by physiological law, as animals are visibly moved by it. Man being an animal, no one can suggest that the movements of animal impulse are otherwise determined or have their source elsewhere than in the body. The difference between man and animals appears in this, that by thought and imagination passion may be intensified; and by use of these powers it can be restrained. Even within the sphere of passion, the elevation of human life is seen in the control the rational power wields over the animal nature."

The purport of this wordy and laboured passage is clear enough, but its cogency as an argument is certainly not proportioned to its length. The same idea is pursued through two other paragraphs of equal length, but these do not bring any further sense of completeness to the presentation of the subject.

One more extract may be given from the final chapter on "Cosmic Problems."

"With clearest testimony, scientific observation has led us to innumerable points, whence we have seen intelligent purpose at work providing for life yet unborn. We have been arrested first, and afterwards roused to quickened consciousness, realising that we have seen the lesson all the days of our life, in hundreds of forms, but had not read its full meaning, though it had been written large; for is not the whole vegetable kingdom confessedly a preparation for a coming life? In vain does Agnosticism lift its voice in presence of witness such as this. Testimony for an Intelligent cause springs even from the *dust*, and, as it comes thence, thought moves freely along all fields of science, gathering evidence as readily from the vegetable kingdom as from the animal; finding, with ever-increasing surprise, a growing testimony as science conducts us lower in the knowledge of nature. Not to the heights but to the depths we go, in order to witness the most startling condemnation of Agnosticism. It is not merely the myriad dwellers in the insect world which bear witness; but the inanimate creation itself tells us of treasure stored in its keeping, to satisfy animal wants. Plants can manufacture fresh protoplasm out of mineral compounds, whereas animals are obliged to procure it ready made, and hence in the long run depend upon plants. Thus, even from the *soil*, under our feet, comes the evidence calling us to own an Intelligent First Cause."

A number of illustrations, of the lower forms of life, of the sense organs of various classes of animals, and of the brains of many of the mammalia and of man, will render the work more attractive to those who have not acquired a general knowledge of the subject from other sources.

A. R. W.