

REVIEWS.

DARWIN'S LATEST BOOK.*

THERE are not a few, even among Mr. Darwin's most enthusiastic admirers, who consider that the present work is the least attractive of the many volumes which the author of the "Origin of Species" has given to the public. And we agree with them to a certain extent, but only so far as the book possesses little to interest a general reader. Those who look on a vast piece of architectural workmanship, if they are of the general crowd, come away with but the vaguest idea of the building they have been looking at. What care they for the tremendous labour and the important skill which must have been displayed in the putting together of the various stones which make up its entirety. So likewise we fancy that of the many—and they are by no means exclusively men of science—who are lavish in their admiration of Mr. Darwin's writings, there are not a few who consider that this work on the domestication of animals and plants, while it may have cost a vast amount of time and labour in its execution, is nevertheless devoid of the interest belonging to other works by the same author. With the naturalist, however, the position is different. He can see at a glance how vast is the amount of evidence which the author has here collected in support of his doctrine of the evolution of races. The whole time of mankind on the earth is but a unit compared with the vastness of the period during which life has been upon the globe. Yet of the period of man alone, how far have we any evidence that is of value? Say about 3,000 years. That is to say, that we have personal observation—as in the records of ancient Egypt—which extends back about 3,000 years, and which shows us that certain animals—the dog, for example—had been bred as he is now. We must admit, then, how extremely difficult is the task of the natural historian who endeavours to find out within this period evidence which will be conclusive as to the tendency of animals and plants to vary, and by means of *natural selection* to have eventually certain species preserved as being the best adapted to the circumstances, while others as certainly "go to the wall" in the struggle for life, and are thus lost to posterity.

Still, small as the time relatively is, it is wonderful how much material Mr. Darwin has collected in these two volumes. Of course, having reviewed this

* "The Variation of Animals and Plants under Domestication." By Charles Darwin, M.A., F.R.S. Second Edition, 2 vols. London: John Murray.

work on its first appearance, we shall not do more than cursorily glance at the more important additions and alterations which the present edition contains; but we may express our wonder at the amount of matter which is collected on the subjects of the horse, ass, pig, cattle, dog, cat, rabbit, pigeons—especially pigeons—fowls, canaries, hive-bees, and silk-worms. And all this, which covers over 300 pages, and which is exclusively relative to animal life, is valuable original material, collected from various observations, beside those of the author, and dealing most minutely with the anatomical differences—in some instances most important—that are displayed by animals that have originally come from the same pair of ancestors. On the subject of plants Mr. Darwin's book is no less copiously instructive. And on such questions as inheritance, selection, variation, and pangenesis, which Mr. Sorby has recently supported,* and on which the author gives much additional argument to what appeared in the former edition of his work, the book is full as full can be. Perhaps one of the most interesting points in the present edition is the reference to Dr. Brown-Séguard's very remarkable results obtained from experiments on rabbits. These show us most conclusively—for the experiments have been tried on many thousands of specimens—that animals born of parents that have been rendered epileptic by section of the sciatic nerve, are themselves distinctly epileptic. And not only this; but that changes in the shape of the ear, ophthalmia, absence of toes, &c., occur in the descendants of animals in which these conditions have been the result of operation. Assuredly in such a fact as the absence of toes in the descendants of animals whose toes had been destroyed, we have—if the evidence is sufficiently powerful—an important argument in support of pangenesis.

We could quote more largely from the author's interesting researches, but we have done enough to show the great importance of his labours, and to prove the interesting character of the volumes under notice. In one or two instances in which Mr. Darwin has had to refer to papers in this journal, it is to be regretted that he omitted the word "Popular" from the title, as there may be some confusion as to the source referred to. It is to be observed, also, that the volumes are not so large in shape as the former ones; this has been effected by no change in the type, but by cutting down the pages a little. The result has been to make the work far more convenient for reading.

POPULAR CHEMISTRY. †

THERE is a considerable difficulty in reviewing such a book as that before us, from the circumstance that it is intended to play a double part. That is to say, that one is disposed to be neither severe nor unduly favourable in his notice of the work. But if one would honestly and bluntly express

* In his address to the Royal Microscopical Society, published in the "Monthly Microscopical Journal," March 1876.

† "A Class-book of Chemistry on the Basis of the New System." By Edward L. Youmans, M.D. London: Henry S. King & Co. 1876.