

which ought to be offensive to those who still accept that inspiration; rather is there abundant material for a careful resurvey of their position in the face of the new facts. The archæologist and philologist will find many new points in the book, which is noteworthy for its additions to science as well as for its distinctive literary merits.

THE PHYSICAL HISTORY OF THE TRIASSIC FORMATION OF NEW JERSEY AND THE CONNECTICUT VALLEY. By ISRAEL C. RUSSELL. 1878.

THE Triassic of New Jersey and of the Connecticut Valley are supposed by the author to be parts of one formation, which was continuous over the intervening area. The deposit, he thinks, could not have been less than 25,000 feet thick, all or nearly all of which has been removed by denudation, excepting the beds which remain in the Connecticut Valley and New Jersey. Professor Dana, commenting on this subject in the April number of the "American Journal of Science and Arts," says, "That a thickness of 25,000 feet of water made sandstone over an area of metamorphic rock a hundred miles wide, as in the present instance, implies a subsidence of the region of 25,000 feet during its formation." There must also have been an elevation of not only 25,000 feet, but enough more to give a pitch of the slopes of about 15° as now shown. This would put the western side of the Connecticut Valley 20,000 feet above the eastern side, and the site of New York City some 15,000 to 20,000 feet above its present level, with 25,000 feet of sandstone over it.

ERASMUS DARWIN. By ERNST KRAUSE. Translated from the German by W. S. Dallas, with a Preliminary Notice by Charles Darwin. Portrait and Woodcuts. Pp. 216. Price, \$1.25.

THIS interesting little volume will be welcomed by many readers, as it gives a fresh and compendious account of a man of genius whose name was celebrated in the last century, and is now brought into new prominence by the world-wide eminence of his grandson. Dr. Erasmus Darwin, who was born in 1731, and died in 1802, made a considerable impression upon his age as a poet and naturalist. He took a view of organic

nature very similar to that developed in our own time by Mr. Charles Darwin, although his speculations were crude from the imperfection of knowledge, and were, of course, regarded as in the last degree wild and baseless. His poetry, although in some respects meritorious, was not of the highest order, and was but little read after he had passed away; and, as his biological doctrines were regarded as futile and worthless, there was little to keep his memory alive in the present century. But attention to what he did in science has been recently revived, and the more critical study of his works now shows that his claims and character have been greatly depreciated. The present volume has first done justice to his fame.

Mr. Charles Darwin, in his "Origin of Species," made a short note concerning his grandfather's biological opinions, and this struck the attention of Dr. Krause, a German *savant*, who entered upon a careful study of the writings of the elder Darwin, and published a biographical and critical essay upon the subject in the "Kosmos." In this essay Dr. Krause says: "This man, equally eminent as philanthropist, physician, naturalist, philosopher, and poet, is far less known and valued by posterity than he deserves, in comparison with other persons who occupy a similar rank. It is true that what is perhaps the most important of his many-sided endowments, namely, his broad views of the philosophy of nature, was not intelligible to his contemporaries; it is only now, after the lapse of a hundred years, that by the labors of one of his descendants we are in a position to estimate at its true value the wonderful perceptivity, amounting almost to divination, that he displayed in the domain of biology. For in him we find the same indefatigable spirit of research, and almost the same biological tendency, as in his grandson; and we might, not without justice, assert that the latter has succeeded to an intellectual inheritance, and carried out a programme, sketched forth and left behind by his grandfather."

Mr. Charles Darwin procured a translation of Dr. Krause's article, and, being in possession of much information that he had gathered in relation to his eminent ancestor, he has written a preliminary sketch which occupies 127 pages of the volume before us.

It gives an excellent account of its subject, supplementing Dr. Krause's paper, so that the readers of the book will be able to form not only a proper estimate of the man, but the condition of science in his time. A life of Erasmus Darwin, published in 1804, was written by a Miss Seward, but it seems to have contained certain gross misrepresentations of his character, which it is one of the objects of the present sketch to dispel. The authoress of the biography was long an inmate of Dr. Darwin's family, and when his first wife died would have been glad to take her place. But the Doctor chose another lady, and Miss Seward paid them both off in her biographical book. She subsequently retracted her objectionable statements, but the erroneous impressions, created by her book, were widely disseminated.

Mr. Darwin writes unreservedly but judicially of his grandfather's traits, and remarks that perhaps there is no safer test of a man's real character than that of his long-continued friendship with good and able men. Darwin's intimate and almost life-long friends were such men as Josiah Wedgwood, Keir the chemist, Day, the author of "Sandford and Merton," Bolton and Watt the engineers, and Mr. Edgeworth. A fine likeness of Dr. Darwin accompanies the volume, together with engravings of his birth-place, Elston Hall, and the Breadsall Priory, near Derby, where he lived for many years, and in which he died.