

If in the ancient Pacific from long ago, that is from the opening of the Paleozoic on, the denser Sima lay exposed . . . and if that was the site of the permanent abyss, then has the dense material under the Atlantic and Indian oceans been exposed through displacement of the lighter salic continents, as if by the drawing back of a curtain, and the existing coincidence of the limits of density with the outlines of the continents and oceans is explained. The former invasions of the sea, which are shown to have spread over what are now land areas, are passing transgressions; the Pacific and the continents are permanent, aside from the displacements; the Atlantic and Indian oceans are younger deeps, floored with sima which appears at the surface in consequence of the displacements [of the continents]. Thus the problem of permanence is robbed of its contradictions and in essentials is explained.

The speculative section of the work, occupying 200 pages, thus presents some of the greater problems of geology as the introduction to paleogeography. Another and in the opinion of the reviewer a sounder method is to proceed from the facts of paleogeography toward the solution of those problems.

As a contribution to the science the latter half of Dacqué's work will seem to many the more valuable. In it are assembled the data of sedimentary formations considered as facts appropriate to paleogeographic investigation, estimates of absolute and relative durations of geologic time divisions, and examples of the construction of paleogeographic maps. The facts of stratigraphy and paleontology are admirably summarized, and the assemblage of illustrations constitutes a rich and suggestive reference for students of the subject.

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Plant Life. By CHARLES A. HALL, F.R.M.S. The Macmillan Company, 66 Fifth Avenue, New York, N. Y. Cloth. Pp. 380. Eighty text-figures and seventy-four full-page illustrations. Price six dollars (\$6.00).

Professor Hall has already written several books presenting various phases of nature-study in a popular way, so that experience in the field, in the laboratory and in the study

have combined to make the present volume on "Plant Life" a useful addition to the series. It is addressed, principally, to the amateur botanist and lover of nature, but contains much which should be of interest to teachers of elementary classes.

The treatment follows the general evolutionary order from the lowest plants up to the highest. The excellent descriptions of field characters is an important feature of the work and should enable the beginner to find even the microscopic forms. Interesting bits of information and clever observations afford welcome material to those who wish to brighten their lectures and laboratory work.

The headings of the twelve chapters indicate not only the scope of the book, but also what might be expected in the mode of treatment. The headings are: Asexual Plants; The Development of Sex in Plants and a Study in Evolution; Seaweeds; Fungi and Lichens; Bryophytes—Liverworts and Mosses; Pteridophytes—Ferns, Horsetails and Club Mosses; Phanerogamia, Flowering Plants; Fossil Plants; The Food of Plants and How they Secure It; The Perpetuation of the Race; The Defences of Plants; Ecology; The New Field Botany. There is a general glossarial index.

The illustrations are excellent and most of them are new. In addition to eighty text-figures, there are seventy-four full-page illustrations, twenty-four being from photographs by the author and fifty in color from drawings by C. F. Newall. The binding and typography are in keeping with the high grade of the illustrations.

CHARLES J. CHAMBERLAIN

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES

THE eighth number of volume 2 of the *Proceedings of the National Academy of Sciences* contains the following articles:

1. *The Absorption Coefficients of Soft X-rays:* C. D. MILLER, Ryerson Physical Laboratory, University of Chicago.

The numerical constants in the relation between the absorption coefficients, the density,