

C. Case. It is meant to be the first of a series on vertebrates. Editorials and reviews close the number.

The Journal of Geology, July-August, 1898 : 'The Ulterior Basis of Time Divisions and the Classification of Geologic History : ' T. C. Chamberlin. Apropos of the symposium in the last number the author seeks some world-wide parallel, geologic phenomena which may afford a suitable basis for geological classification. He urges the possible validity of great geologic disturbances, which he argues are in the nature of general shortening of all the radii of the earth, but of comparatively greater shortening of those under the sea bottoms. The effects on the regions of sedimentation and continental encroachment on the sea are indicated. 'The Post-glacial Connecticut at Turner's Falls, Mass. : ' M. S. W. Jefferson. The paper describes the interesting rearrangements of drainage lines along the Connecticut river near the famous 'bird-track' quarries. The agency of ice is invoked to explain the two abandoned channels, with their former waterfalls and pot-holes, which now are ponds. 'The Variations of Glaciers, III. : ' H. F. Reid. Reports during 1897 to the International Committee indicate a marked retreat of glaciers in general, with one or two small advances in Scandinavia. 'Notes on the Kalamazoo and other Old Glacial Outlets in Southern Michigan : ' C. H. Gordon. The paper deals with several abandoned river channels and their relations to the modern streams. The region lies along the general latitude of Port Huron and extends from Lake Huron to Lake Michigan. The paper is accompanied by a map whose excessive reduction taxes the eyesight beyond reason. 'Notes on some Igneous, Metamorphic and Sedimentary Rocks of the Coast Ranges of California : ' H. W. Turner. This valuable contribution takes up first the metabasalts and diabases of the Coast Ranges. More or less altered rocks are traced back to original, eruptive diabases, although in some instances they had been regarded previously by geologists as metamorphosed sediments, *i. e.*, pseudo-diabases. Observations on serpentines are also given. The author next discusses the Francis-

can, or Golden Gate formation. This contains the interesting blue amphibole (glaucophane) schists that are generally familiar to petrographers. The age of the formation is thought to be older than that of the Knoxville, *i. e.*, to be Jurassic. An argument is made against the necessary origin of the blue schists by contact metamorphism. The San Pablo formation is next taken up and its stratigraphical position is discussed on the basis of fossils. Comparisons are drawn with the auriferous gravels. Under the 'Studies for Students,' E. C. Case continues his brief review of the development and geological relations of the vertebrates, and treats of the Amphibia and Reptilia. Editorial remarks, a number of summaries of pre-Cambrian literature and reviews close the number.

NEW BOOKS.

The Tides, and Kindred Phenomena in the Solar System. GEORGE HOWARD DARWIN. Boston and New York, Houghton, Mifflin & Co. 1898. Pp. xviii+378.

A Manual of Chemical Analysis. G. S. NEWTH. New York and London, Longmans, Green & Co. 1898. Pp. xii+462.

Manual of Determinative Mineralogy with an Introduction on Blowpipe Analysis. GEORGE J. BRUSH. Revised by SAMUEL L. PENFIELD. Fifteenth Edition. New York, John Wiley & Sons; London, Chapman & Hall, Ltd. 1898. Pp. x+312.

Elementary Zoology. FRANK E. BEDDARD. New York and London, Longmans, Green & Co. 1898. Pp. vi+208.

Lecture Notes on the Theory of Electrical Measurements. WILLIAM A. ANTHONY. New York, John Wiley & Sons; London, Chapman & Hall, Ltd. 1898. Pp. vi+90. \$1.00.

Human Immortality; Two Supposed Objections to the Doctrine. WILLIAM JAMES. Boston and New York, Houghton, Mifflin & Co. 1898. Pp. 70. \$1.00.

The Copper Dam Process for Piers; Practical Examples from Actual Work. CHARLES EVAN FOWLER, Bridge Engineer. New York, John Wiley & Sons. 1898. 8vo. Pp. xv+159. \$2.50.