can be no certainty whether these leaves belong to the genus *Populus*. Mr. Seward is content to place them in the general group Phyllites. It is greatly to be hoped that the Stonesfield beds may be more thoroughly searched for further material of this class.

Lester F. Ward.

Geology of the City of New York, with a geological map. By L. P. Gratacap, A.M., of the American Museum of Natural History. Second edition. 1904. Privately issued. Royal 8vo. Pp. 119; 35 figs., 3 plates.

Interest in nature-study has become of great and increasing importance in our general system of secondary schools. Both teachers and pupils are being led to observe more clearly the world about them, and are coming to know the plants, animals and rocks. In a great center of population like New York city the teachers and pupils make up a well-nigh countless multitude, and as regards the local geology the call for a book of instruction and reference is very urgent, as is the need for good but elementary lectures. The latter need, the authorities of the American Museum of Natural History with their rich equipment in specimens, lantern slides and charts, have met; and the former need, the author of the work before us has satisfied in a very interesting and attractive way. Congratulations are due him that the book has reached a second edition.

The work opens with a brief geographical outline and takes up next the topographical features of the four constituent boroughs. The original outlines of Manhattan Island have of course suffered great modification and a very interesting and detailed record of these is given. The matter is timely, because the tendency to remove and forget the ancient landmark, is all too great in American cities and an interest in early local history and a fondness for one's home and dwelling place are all too slightly developed.

A discussion of the rock formations follows with some very good pictures illustrating their mode of occurrence and structural features. The author is almost ultra-conscientious in his endeavor to give due credit to the several writers who are cited. The topic of the waterways receives attention, as does that of the bibliography and of the minerals. Following these the other boroughs than Manhattan are passed in review and a discussion of the glacial geology closes the work.

Mr. Gratacap still adheres to the Archæan age of the metamorphic rocks of Manhattan Island (p. 45) as against the Palæozoic determinations more especially of Professor J. D. Dana and Dr. F. J. H. Merrill, and as the latter's views have been fully set forth it would be of interest to hear the other side defended at length.

Mr. Gratacap ought to have included in the preparation of his work a table of contents and an index. It is a great handicap to the usefulness of a book of 119 pages, with many figures and a map, to lack these essentials.

J. F. Kemp.

Materialen der Stereochemie, in Form von Jahresberichten. Edited by C. A. Bischoff. Vols. I. and II., pp. cxxvi + 1978. Braunschweig, F. Vieweg und Sohn.

This comprehensive work consisting of two large volumes aggregating over two thousand pages, is a continuation of the well-known work on the same subject, published in 1894 by the same author in company with Professor P. Walden. This collaborator has also assisted occasionally in the new compilation, but the great bulk of the work has been done by Professor Bischoff. The matter is developed year by year, each yearly section being divided into four subdivisions, namely:

I., General Stereochemistry; II., Optical Isomerism; III., Geometric Isomerism of Optically Inactive Bodies; IV., Relations Between Space-distribution and Chemical Reactions.

Obviously the form of arrangement demands elaborate indexing; hence the editor has prefaced his work by a table of contents of 126 pages, and given it an index of 99 pages as epilogue. Even as it is, the table of contents almost needs an especial index of its own.

The work is characterized by the qualities which are already familiar in the earlier work.

It is unusually complete and thorough in bibliographic detail. No one interested in the development of stereochemistry can afford to be unfamiliar with it, and to all scientific men it must be of interest as an evidence of the extraordinary fruitfulness during the last ten years of an imaginative hypothesis.

T. W. R.

SCIENTIFIC JOURNALS AND ARTICLES.

THE last number of the *Journal of Infectious Diseases* contains the following articles:

WARD J. MACNEAL: 'The Life History of *Trypanosoma Lewisi* and *Trypanosoma Brucei*.' (With Plates XI–XVII.)

FREDERICK A. BALDWIN: 'Pathological Anatomy of Experimental Nagana.'

WILDER TILISTON: 'The Blood in Measles.'

H. T. RICKETTS: 'The Reduction of Methylene Blue by Nervous Tissue.'

WILLIAM DODGE FROST: 'The Antagonism Exhibited by Certain Saprophytic Bacteria against the *Bacillus Typhosus* Gaffky.' (With Plate XVIII., Figs. 1, 2.)

E. O. JORDAN, H. L. RUSSELL, F. R. ZEIT: 'The Longevity of the Typhoid Bacillus in Water.'

ALICE HAMILTON: 'The Question of Virulence among the So-called Pseudodiphtheria Bacilli.'

RUFUS I. COLE: 'Experimental Streptococcus Arthritis in Relation to the Etiology of Acute Articular Rheumatism.'

THE contents of *The American Journal of Anatomy* for December, containing 13 plates and 66 text figures, are as follows: Mall, 'On the Development of the Blood-vessels of the Brain in the Human Embryo'; Dwight, 'The Size of the Articular Surfaces of the Long Bones as Characteristic of Sex; an Anthropological Study'; McMurrich, 'The Phylogeny of the Crural Flexors'; Flint, 'The Framework of the Glandula Parathyroidea'; Streeter, 'The Development of the Cranial and Spinal Nerves in the Occipital Region of the Human Embryo'; Price, 'A Further Study of the Development of the Excretory Organs in *Bdellostoma Stouti*.'

BEGINNING with the number for January 1905, Professor Richard Elwood Dodge of the Teachers College, Columbia University, New York City, assumes full responsibility for the editing and publishing of the *Journal of Geography*. The *Journal* will continue in its present form and character and will deal with geographic education in elementary, secondary and normal schools. All communications should be addressed to the editor at the address given above.

SOCIETIES AND ACADEMIES.

THE CHEMICAL SOCIETY OF WASHINGTON.

THE 153d regular meeting was called to order by the president at 8:10 o'clock, Thursday evening, December 8, 1904. There were forty persons in attendance. The program for the evening consisted of the following three papers:

'Some American Contributions to Technical Chemistry.' Dr. Marcus Benjamin. In this paper Doctor Benjamin presented a summary of the principal advances made in chemistry applied to the arts in this country from the coming of Priestley in 1774 to the present time, beginning with the description of Count Rumford's work and including the oxyhydrogen blow-pipe by Robert Hare, the vulcanization of sulphur by Charles Goodyear, the processes invented by Castner as well as many others.

This paper has adequate footnotes, giving references to biographical sketches of those who had died, and exact reference to papers discussing the invention while the inventor was still living.

The second paper, entitled 'Association of Boron and Nitrogen in Nature,' was presented by Professor F. W. Clarke. Numerous instances were cited to show that wherever boron occurs in volcanic water, compounds of ammonium are also found. The most plausible hypothesis to account for this occurrence is that of Warington, which is based upon the assumption that boron nitrite (BN) exists at great depths in the earth and is acted upon by volcanic waters. In southern California and in Chili the borates occur associated with sodium nitrate, and it was suggested that these deposits, which are lake deposits, may have derived their boron and nitrogen from hot springs which are common in those regions. The borates at Stassfurt are undoubt-