

river. The most noteworthy feature in the glacial geology of the area of St. Paul (comprising 55 square miles) consists in its deposits of modified drift at high levels, forming a group of plateaus of gravel and sand, rising with steep slopes to nearly flat upper plains 100 to 125 feet above the highest terraces representing the old flood plain of the river valley. These plateaus tell of a water level peculiar to this area; and the general contour of the region, the sigmoid course of the Mississippi, and two moraine belts, one of northeastern drift in the east part of the city, and another of northwestern drift in the west part, imply that this was the site of a glacial or ice-dammed lake, which is named *Lake Hamline*. The surface of the glacial lake during the early part of its existence, as shown by the Hamline and Como plateaus, was about 250 feet above the present river, or 930 to 940 feet above the present sea level. A little later, when the plateau a mile east of Lake Como was formed, the glacial lake level had fallen five or ten feet. Still later plateaus show that this lake finally was reduced to 875 or 870 feet above the sea. Its outlet was toward the southwest and south, across the present watershed between the Minnesota and Mississippi rivers, to Rich Valley and the Mississippi. The modified drift forming the plateaus has an aggregate volume of a tenth of a cubic mile, and it is thought to have been brought by streams from the englacial and finally superglacial drift of the waning ice sheet.

CHARLES P. BERKEY,
Secretary.

THE TEXAS ACADEMY OF SCIENCE.

THE regular monthly meeting of the Texas Academy of Science was held in the chemical lecture room of the University of Texas on Friday evening, March 5, 1897.

Papers were presented by Dr. E. F. Northrup, professor of physics, on 'Ether,' and by Dr. H. W. Harper, professor of chemistry, on 'A New Suggestion Concerning the Transmutation of Matter.'

Since the February meeting of the Academy the transactions for 1896 have been published, together with the proceedings, from its organization, January 9, 1892, to January 1, 1897,

thus completing Volume I. This publication of 404 pages contains the constitution, lists of officers, patrons, fellows and members, thirty-four papers in full and seven abstracts. Of the papers and abstracts thirteen are upon geological or related subjects; six on mathematics; six on biological and allied topics; four on engineering; two on philosophy; two on education and culture; and one each on physics, language, ethnology and physiological chemistry; to these there must also be added four addresses of a somewhat general character.

As now constituted the Academy consists of two patrons, each of whom has paid into the treasury \$500, thirty-four fellows and 107 members.

FREDERIC W. SIMONDS.

NEW BOOKS.

The Will to Believe. W. JAMES. New York, London and Bombay, Longmans, Green & Co. 1897. Pp. xvii+332.

An Introduction to Geology. WILLIAM B. SCOTT. New York and London, The Macmillan Company. 1897. Pp. xxvii+573. \$1.90.

Untersuchungen über den Bau der Cyanophycien und Bakterien. ALFRED FISCHER. Jena, Gustav Fischer. 1897. Mark 7.

Zur Zoogeographie der landbewohnenden Wirbellosen. OTTO STOLL. Berlin, R. Friedländer & Sohn. 1897. Pp. 113. Mark 4.

Das Tierreich. I. Lieferung, Aves. bearbeitet von Ernst Hartert. Berlin, R. Friedländer und Sohn. 1887. Pp. 98. Subscription price, Mark 4.50.

First Principles of Natural Philosophy. A. E. DOLBEAR. Boston and London, Ginn & Co. 1897. Pp. 318.

Laboratory Practice for Beginners in Botany. W. A. SETCHELL. New York and London, The Macmillan Company. 1887. Pp. xiv+199. 90 cts.

La cause première d'après les données expérimentales. ÉMILE FERRIERE. Paris, Felix Alcan. Pp. 462.

The Phase Rule. WILDER D. BANCROFT. Ithaca, N. Y., The Jour. Phys. Chem. 1897. Pp. viii+255.