THE NEW YORK ACADEMY OF SCIENCES

At the meeting of the Section of Geology and Mineralogy, January 7, the following paper was presented:

Volcanoes of Colima, Toluca and Popocatepetl: EDMUND OTIS HOVEY.

Toluca is the oldest of the three volcanoes. A feature of greatest interest in the crater is the dome of vitreous andesite which welled up in the crater as the latest phase of the activity of the volcano and shows a certain resemblance to the cone of Mt. Pelé, with regard to origin. The volcano of Popocatepetl shows its composite character as a strato-volcano in the walls of the crater, and streams of lava have been among the features of the most recent eruptions. The volcano of Colima is still sending up a vigorous column of steam from its central summit crater. From this summit crater there poured out, in the latest eruption (1903), streams of very frothy lava which present a strange appearance on account of the porous character of the surface blocks. The same feature characterizes the streams of the earlier eruptions and has led some observers to the erroneous conclusion that flows of lava have not occurred at the volcano of Colima.

The major portion of the evening was then devoted to an examination of the exhibits of geology, paleontology and mineralogy in the New York Academy of Sciences Exhibition, under the guidance of the committeemen in charge of those exhibits.

At the meeting, April 1, Mr. Robert T. Hill gave a discussion of the tectonic structure of the northern part of the Mexican Plateau, which was published in *SCIENCE* for May 3.

Dr. Alexis A. Julien then spoke on the 'Evidence of the Stability of the Rock Foundations of New York City.' The general facts were reviewed which might justify the confidence of builders in the operations of extensive construction now in progress. Two former periods of enormous seismic activity in this region were considered, as recorded by the violent faulting produced at each time. The one, connected with the foldings, slips and shattering during the great Appalachian up-

lift, and now revealed by the numerous pegmatite intrusions cutting irregularly across the stratum of crystalline schists, probably effected during Cambrian time. The other, after the close of the Mesozoic, during the thrust of lava sheets between the sandstones and shales of the Newark series of New Jersey, now indicated by many faults across Manhattan Island and the adjacent Palisade Ridge. The long period of cessation of uplift, of ensuing subsidence and extensive surface erosion, offers the conditions in this region which promise long stability, notwithstanding the slight tremors noted at intervals of thirty or forty years. In the absence of disturbance of the glacial striæ, everywhere abundant, which serve as natural benchmarks to record changes of level or faulting, we obtain therefore direct testimony to the established absence of tremor during the long and approximately definite period which has elapsed since the passage and withdrawal of the continental glacier. In other parts of the Hudson River valley, however, some evidences of post-glacial faulting have been observed.

ALEXIS A. JULIEN,
Secretary of Section

THE ELISHA MITCHELL SCIENTIFIC SOCIETY OF
THE UNIVERSITY OF NORTH CAROLINA

THE 172d meeting was held in the main lecture room of Chemistry Hall, Tuesday, April 16, 7:30 P.M., with the following program:

PROFESSOR ARCHIBALD HENDERSON: 'The Foundations of Geometry.'

PROFESSOR CHAS. H. HEITY: 'The Optical Rotation of Turpentine.'

ALVIN S. WHEELER,
Recording Secretary

DISCUSSION AND CORRESPONDENCE

THE CLOCKS OF THE GREENWICH AND U. S.
NAVAL OBSERVATORIES

TO THE EDITOR OF *SCIENCE*: In Professor Eichelberger's paper, published in your issue of March 22, 1907, he gives a comparison of the performance of six clocks, at various periods from the time of Bradley in 1750.

This table is primarily intended to show the