

more region found expression in 1892 in the construction of a large scale relief map of Baltimore and vicinity in co-operation with the Real Estate Exchange. This model of Baltimore on the scale of 4 inches to the mile without vertical exaggeration is now deposited in the geological laboratory of the University. Another model, with the vertical scale four times the horizontal, is in the rooms of the Real Estate Exchange.

The preparation of a book upon Maryland which should properly set forth its resources, industries and institutions was intrusted in 1892 by the Board of World's Fair Commissioners to members of the faculty of the Johns Hopkins University; those portions relating to the physical features and mineral resources were prepared by Professor Williams and Professor Clark. This summary of the physiography, geology and mineral wealth of the state is the most complete statement which has been prepared up to the present time. The full volume appeared in 1893, although special portions had been published from time to time by the authors in scientific journals.

Several contributions were made by Mr. Keyes¹ during 1893 upon the Maryland granites, and likewise an article entitled "Note on a Quartz-bearing Gabbro in Maryland" was published by U. S. Grant,² a student of the University.

A valuable contribution also made by Dr. Williams during 1893 was an article entitled "Maps of the Territory included within the State of Maryland, especially the Vicinity of Baltimore."³

The last important work of Professor Williams upon the geology of Maryland embraced the fuller investigation of the ancient volcanic rocks of the Blue Ridge district,⁴ the details of which have been still further elaborated by Miss Florence Bascom, a former student of the University. A contribution was made in 1894 to the "Granite of Cecil County in Northeastern Maryland"⁵ by Mr. G. P. Grimsley, a member of the geological department.

¹ Bull. Geol. Soc. Amer., vol. iv, 1893, pp. 299-304; Proc. Iowa Acad. Sci., vol. i, part iii, 1893, pp. 22-26.

² Johns Hopkins Univ. Circ. No. 105, vol. xii, 1893, pp. 47-49.

³ Johns Hopkins Univ. Circ. No. 103, vol. xii, 1893, pp. 37-44.

⁴ Jour. Geol., vol. ii, 1894, pp. 1-31.

⁵ Jour. Cincinnati Soc. Nat. Hist., vol. xvii, 1894, pp. 56-67, 87-114.