No. 73, $250 to Professor J. von Kennell, Dorpat, Russia, for a Monograph of the palæarctic Tarteicidæ. Application No. 742.

No. 74, $300 to Professor Georges Urbain, 1 Rue Victor Cousin, Paris, France, for the chemical investigation of rare earths. Application No. 746.

No. 75, $25 to Professor Wm. Z. Ripley, Massachusetts Institute of Technology, Boston, Mass., for a Bibliography of the Anthropology and Ethnology of Europe. Application No. 747.

No. 76, $300 to Professor A. Bélopolsky, Observatoire centrale, St. Petersburg, Russia, for Experiments on the Principle of Doppler-Fizeau. Application No. 749.

No. 77, $100 to Professor C. H. Eigenmann, Bloomington, Illinois, for the Study of Blind Fishes. Application No. 751.

No. 78, $250 to Professor P. Francotte, Rue Gillon 66, Brussels, Belgium, for the investigation of the fecundation and segmentation of the eggs of Polyclada. Application No. 755.

New applications will be considered in January, 1899, provided they are received by the Secretary before December 1, 1898. Circulars announcing the terms of the trust for the guidance of applicants may be obtained by application to the Secretary.

CHARLES SEDGWICK MINOT,
Secretary.

HARVARD MEDICAL SCHOOL,
BOSTON, MASS., January 22, 1898.

JOHN A. GANO.

MR. JOHN A. GANO, of Cincinnati, Ohio, who died on January 15th, should be remembered by Amerian scientists as the one who most efficiently encouraged the establishment of a system of daily weather predictions for the benefit of business men. This subject was suggested in my inaugural address, as Director of the Observatory, in May, 1868, and Mr. Gano, as one of the trustees, at once took the matter up for favorable action. On the 28th of July, I explained it more fully to him and, at his request, put my ideas in writing for his use as editor of the Cincinnati *Commercial*. In 1869 he became President of the Chamber of Commerce, and a second letter from me was requested by him, which gave him the desired opportunity to urge the matter upon the attention of that body. He appreciated the whole scope and bearing of the proposed work; he appointed the Committee of Conference and in every way forwarded the enterprise with the greatest intelligence and discretion. After the 'Weather Bulletin of the Cincinnati Observatory' began to appear, September 1, 1869, he advocated a still wider extension of the work. I had already visited the Chicago Board of Trade and written to the daily papers of New York City, hoping to extend the scope of our work. In addition to this, Mr. Gano and Mr. William Hooper, as delegates to the National Board of Trade meeting at Richmond in November, 1869, contemplated bringing our work to the attention of that body, but when they found a scheme already formulated by my correspondent, Professor I. A. Lapham, and the Hon. H. E. Paine, of Milwaukee, and about to be presented by the Hon. C. D. Holton as delegate from the Milwaukee Board of Trade, they heartily supported that and on their return to Cincinnati assured me that they regarded a national weather bureau as the inevitable outcome of the work at Cincinnati.

The Cincinnati Weather Bulletin and predictions of 1869 was really my personal effort to utilize science for the benefit of the people, but historically it may also be considered as a revival of the reports and maps started by Espy and Henry, under the joint auspices of the Federal Government and the Smithsonian Institution, in 1848, and maintained at Washington with the coöperation of the various telegraph companies until 1861. Professor Espy was personally well known in Cincinnati, where he died in 1857. The merchants of that enterprising city had long been accustomed to secure special weather telegrams to guide them in their business operations, and every one responded to Mr. Gano's endorsement of the

idea of a local, and, eventually, a national work for the benefit of the whole community. Mr. Gano retained to the last his position as a delegate from Cincinnati to the annual meeting, at Washington, of the National Board of Trade, and it is but a few weeks since he was here to congratulate us on the extended usefulness of the Weather Bureau.

CLEVELAND ABBE.

WASHINGTON, January 17, 1898.

CURRENT NOTES ON PHYSIOGRAPHY.

TRANSVERSE ALPINE VALLEYS.

E. RITTER, of Geneva, assistant on the Geological Survey of France and author of special studies on the region of Mt. Blanc, presents the results of his researches on the origin of the location of water-courses, with special reference to the transverse rivers of the western Alps (Le Globe (Geneva), XXXVI., 1897). He discards the theory of an origin along faults, as advocated by Daubrée on the basis of experiments but without local confirmation, and announces a close relation between the transverse valleys and a number of 'orthogonal synclines' or transverse sags in the axes of the folds into which the strata of the region have been compressed. The depression of the sags amounts to 1,000 meters in some instances, as determined by measures of the altitudes of geological horizons. The Arc, Isère, Arve and Rhone are said by Ritter to be examples of transverse rivers thus located; these rivers would, therefore, be classed as transverse consequents. They gather many longitudinal branches from within the mountains, some of these being on synclines (longitudinal consequents), some on monoclines (longitudinal subsequents), and some on anticlines. For the latter it is suggested that a shallow syncline on the crest of the anticline may have served as of temporary guide, the stream having now cut down so deep that nothing but anticlinal structure is visible. Such an explanation hardly recognizes the generality of the problems involved. A river thus perched on an arch would soon be cut to pieces by the branches of its neighbors in the troughs, unless the core of the arch were weak enough to allow it to cut down its valley very rapidly; and in the latter case a valley would be spontaneously developed along the axis of the arch even if no shallow syncline had ever been formed on its crest. The anticlinal streams are, therefore, probably longitudinal subsequents, and the drainage as a whole is partly consequent upon surface deformation, partly adjusted to the internal structure.

PHYSICAL GEOGRAPHY OF NEW YORK.

THE second article under this heading, by R. S. Tarr, discusses the mountains of the State (Bull. Amer. Geogr. Soc., XXIX., 1897, 16–40), and brings clearly to light the strong contrasts of the several mountain groups there included. Especial attention is given to geological structure as affording explanation for differences of form, as such as prevail between the even-topped Highlands, the massive Adirondacks, the linear Alleghenies and the benched Catskills. It is to be feared that, from brevity of form, misapprehension may follow from the statement that, while the Himalayas and Alps are like the Appalachians in origin and rock structure, they are 'not sufficiently mature' to be like them in form; but 'given time, they will become so.' The reader can hardly avoid inferring from this statement that the simple continuation of destructive processes will, in time, transform the other mountain ranges into an Appalachian topography. Only by re-reading other parts of the article can it be understood that the Alps and Himalayas must pass to old age and then by elevation (and not by time alone) enter a new cycle,