taught as a science to those who have no knowledge of geology. However much entertainment a boy or girl may get from dabbling in these subjects, for the common run of students they are university studies or studies for minds capable of doing university work.

JOHN C. BRANNER.

STANFORD UNIVERSITY, CALIFORNIA,
December 1, 1898.

The Story of Photography. By ALFRED T. STORY. The Library of Useful Stories. New York, D. Appleton & Co. 1898.

In this little book of one hundred and sixty-five pages, which can be carried in the pocket, the author has gathered together an epitome of the gradual development of photography from the early attempts of Schultze in 1727 to the present day. The experiments of Wedgwood and Davy, Niépce, Daguerre, Fox, Talbot and St. Victor are given at length. An account of the usual printing processes, of photo-block printing and reproduction processes for illustrating, are included; also the recent application of the X-ray and the kinetoscope. There is just enough of physics and optics to enable the lay reader to form a good idea of the principles on which photography is based. 'The Story of Photography' reads easily and pleasantly, and it is doubtful if elsewhere in so small a compass can be found as comprehensive a description of an art that has so wide and varied applications. It will undoubtedly form a desirable addition to many private libraries.

E. L.

SCIENTIFIC JOURNALS.

American Chemical Journal, December. 'Camphoric acid:' By W. A. Noyes. In this paper, which is a continuation of former reports, the methods of preparation and the derivatives of xylic acid and xylidene are described. 'On some relations among the hydrates of the metallic nitrates:' By J. H. Kastle. Attention is called to the amount of water of crystallization of the different nitrates and the explanation that can be given for the complex and basic compounds. 'Liquid ammonia as a solvent:' By E. C. Franklin and C. A. Kraus. The solubility of about 400 substances has been determined. 'Determination of the molecular rise in the boiling point of liquid ammonia:' By E. C. Franklin and C. A. Kraus. 'On the non-existence of four methenylphenylparatolyl amidines:' By H. L. Wheeler and T. B. Johnson. 'An active principle in millet hay:' By E. F. Ladd. 'Comparison of methods for estimating caffein:' By E. F. Ladd. 'Creatin and its separation:' By E. F. Ladd and P. B. Bottenfield. 'A double citrate of zirconium and ammonium:' By S. H. Harris.

J. ELLIOTT GILPIN.

THE *Revue des Sciences Médicales*, an excellent quarterly journal, established twenty-six years ago and edited by M. Hayem, has been compelled to suspend publication. *L'Éducation Mathématique* is a new journal edited from Paris by Professors J. Griess and H. Vuibert.

SOCIETIES AND ACADEMIES.

THE PHILOSOPHICAL SOCIETY OF WASHINGTON.

THE 491st meeting of the Society was held at the Cosmos Club, December 10th, at 8 p. m. Mr. W. H. Dall spoke on the proposed University of the United States, to establish which efforts are being made in pursuance of the ideas of Washington expressed in his will; and its possible relations to the scientific bureaus of the government.

He thought that the projectors of the enterprise should avoid any official connection with the government and that the institution should not attempt to duplicate the undergraduate work of existing colleges with which the city is already abundantly supplied. He then outlined a scheme for post-graduate work in connection with the scientific bureaus which he believed practicable and which would occupy a promising field at present unutilized, and which would also involve a minimum of expense, little legislation and no costly buildings. The paper as a whole will appear in the *American Naturalist*.

The second paper, on 'Two Remarkable Semidiurnal Periods,' was by Professor F. H. Bigelow, of the United States Weather Bureau. An account was given of the three components of the diurnal barometric wave, their distribution and variations in different latitudes, and of

the theories which have been advanced to account for them, with the difficulties which are encountered by them. The variations in the barometric pressure as given by the observations were redistributed relatively to the magnetic poles, the components taken, and compared with the deflecting magnetic forces which cause the daily variation of the needle. It was shown that both systems have a belt of transition near latitude 60°, and a displacement of phase by six hours in the polar regions. Other similar features were indicated, suggesting some mutual dependence between these systems.

A second comparison of these deflecting forces with the diurnal components of wind velocities in middle latitudes exhibited a remarkable agreement in their directions and their turning points. Some statement was made regarding the causes of this phenomenon.

E. D. Preston,
Secretary.

BOSTON SOCIETY OF NATURAL HISTORY.

The Society met November 16th, with eighty-five persons present.

Professor W. Z. Ripley spoke of the racial characteristics of the Jews. The Jews and the Gypsies, alone of European races, preserve their individuality without territory. The numbers, distribution and origin of the European Jews were given in detail; in Europe they are widely and unevenly scattered; probably one half are to be found in Poland and southwestern Russia. For America, though official data are wanting, there are probably one million. The small size of the Jews is marked and is due to hostile legislation, starvation, oppression and environment. The Jews are essentially a town people, and town life tends to depress stature. The inheritance of their short stature is still questioned. Their chest development is small, but in spite of physical degeneracy statistics show that the Jews live twice as long as Christians. The head variation of European races was noted; in the Jews the head form is not persistent and does not indicate purity. The facial characteristics, form of nose, color of hair and eyes of the Jews were described, and the geographical distribution of the race in Europe, their average stature in European countries and the types of head form were illustrated by lantern views.

Samuel Henshaw,
Secretary.

NEW YORK ACADEMY OF SCIENCES—SECTION OF ASTRONOMY AND PHYSICS.

At the regular monthly meeting of the Section of Astronomy and Physics, held December 5, 1898, Mr. Wallace Goold Levison presented a paper on 'A Classification of the Phosphorescent and Fluorescent Substances,' in which he grouped under the former head all those that give out shorter radiations than they receive, while under the latter he placed those that give out longer radiations than they receive. Each heading was then amplified by sub-headings referring to the manner or circumstances in which a substance phosphoresces or fluoresces.

For instance:

- Phosphorescent
  - Thermo- Heated or cooled.
  - Electro- Statically electrified. / Exposed to X-rays.
  - Lumino-
  - Tribo- Rubbed. / Compressed. / Hammered.
  - etc.

In the same way the fluorescent substances were subdivided.

Mr. Levison showed his system by means of lantern slides of tables or charts on which the substances were arranged as above. He exhibited a large number of slides, and received the congratulations of the members present for the painstaking labor that he had spent upon the subject, as well as for the logical arrangement of the same.

R. Gordon,
Secretary of Section.

NEW BOOKS.

Studien über Säugethiere. Max Weber. Jena, Gustav Fischer. 1898. 2d Part. Pp. v+152. 12 Marks.

Physical Geography. William Morris Davis, assisted by William Henry Snyder. Boston and London, Ginn & Co. 1898. Pp. xvii+428.

Degeneracy: Its Causes, Signs and Results. Eugene S. Talbot. New York, Charles Scribner's Sons; London, Walter Scott, Ltd. 1898. Pp. xvi+372. $1.50.