

water would be sensibly discolored at a distance of 350 meters, while semi-saturation would have been reached only at a distance of 84 meters. When the relatively high viscosity of lava is taken into account, assumed by the author as more than 50 times greater than that of water, the rate is found to be still slower; and consequently a sensible impregnation of the lava would extend in a million years to only about 49 meters from the surface of contact. Further than this, it has been shown that convection would be to some extent unavoidable, and, so far as it acted, it would tend to destroy this action of diffusion. Segregation by the separation of the magma into immiscible portions is regarded as the least objectionable method, "but this seems to involve a superheated, very fluid magma, while the law of fusion and the distribution of phenocrysts in rocks indicate that magmas prior to eruption are not superheated to any considerable extent and are very viscous." The author concludes that "the homogeneity of vast subterranean masses called for by the hypothesis of differentiation is unproved and improbable. The differences between well-defined rock types are more probably due to original and persistent heterogeneity in the composition of the globe. Hypogeal fusion and eruption tend rather to mingling than to segregation, and transitional rock varieties are not improbably mere fortuitous mixtures of the diverse primitive, relatively small masses of which the lithoid shell of the earth was built up."

H. S. Washington describes a series of igneous rocks from Asia Minor. These include some augite-andesites from Smyrna and a biotite-dacite from Pergamon. The microscopic characters are given in full, and also a number of analyses. M. Carey Lea mentions an experiment obtained from a solution of chloride of gold, containing 1 gram to 10 cc., combined with a 10% solution of sodium hypophosphite. The result is a solution of deep green color, which is shown to be due to the presence of a small quantity of gold in its blue form, in a state of very fine diffusion, which, together with an undecomposed solution, gives the effect of green. A. E. Verrill and Katherine J. Bush discuss at length a revision of the genera of *Ledidæ* and *Nu-*

culidæ of the Atlantic Coast of the United States. The authors state that a somewhat extended study of the series of deep-sea bivalves belonging to these families, dredged off our coast by the U. S. Fish Commission, from 1872 to 1887, has compelled them to revise the known genera and subgenera and to propose several new groups. In view of an unexpected delay in the publication of the report upon these families, which had been completed and fully illustrated, it has seemed desirable to them to publish a brief preliminary account of the classification adopted. The present article is the result. Two plates with twenty-two figures show typical forms with details of the hinge structure. The number closes with the usual abstracts, book notices, an obituary notice of Dr. B. A. Gould, etc.; a note is given to the remarkable meteor of December 4th; also a brief account of a gigantic squid formed on the coast of Florida.

SOCIETIES AND ACADEMIES.

BOSTON SOCIETY OF NATURAL HISTORY, BOSTON, MASS.

A GENERAL meeting was held Wednesday, November 18th, 290 persons being present. An account of the work of the Boston party accompanying the sixth Peary expedition to Greenland was given by Messrs. Barton, Burton and Porter.

Prof. G. H. Barton gave a narrative of the line of travel and of the general points of interest noted during the exploration, describing with some detail the character of the inland ice and the structure and work of the glaciers in the Umanak district.

Prof. A. E. Burton described the topographic barrenness of the Umanak district; the abundance of boulders and the stunted growth of the trees was everywhere apparent. With the aid of maps thrown on the screen he showed the stations where magnetic observations were needed, and described at length the results of the magnetic and pendulum work done on the coast of Labrador, on the north shore of Hudson Straits, and in the Umanak district. Prof. Burton gave a detailed account of his study of the Karajak glacier; the motion of this and of other glaciers was carefully measured. An average of 19 feet in seven days was noted and an interesting observation con-

nected with the flow of a glacier up stream was explained by the action of a strong return eddy. The temperature of the air, water and ice in glacial crevices was also carefully recorded. Never to follow streams and never to return except by the way of coming, were given by Prof. Burton as two axioms for travelers in Greenland.

Mr. R. W. Porter gave an account of his sketches of ice structure and of his water colors of the natives.

Stereopticon views illustrated the remarks of all the speakers.

SAMUEL HENSHAW,
Secretary.

ANTHROPOLOGICAL SOCIETY OF WASHINGTON.

THE 255th regular meeting of the Anthropological Society was held Tuesday evening, December 15, 1896. A paper read by Mr. George R. Stetson under the title 'The Eye, the Ear, and the Common Weal of Whites and Blacks,' was a résumé of the literature of eye and ear examinations, including the one made in the Washington schools last winter by Drs. Belt, ophthalmologist, and Eliot, otologist, of 500 white and 500 black children in the 4th and 5th grades of the average ages of 11 and 12.56 years.

The points emphasized in Mr. Stetson's paper were: the prevailing ignorance of the normal power of these organs and their consequent neglect by the 'intelligent' and 'ignorant' classes alike; the gross carelessness of both these classes, even when the defects are known; the importance of systematic and accurate school examinations in discovering defects impossible to remedy in later life, in correcting erroneous and disastrous opinions as to the intellectual capacity of children who have defective eyes or ears, in detecting eye strain or abnormal innervation of the eye muscles, etc., etc., and in the determination of the future occupations of those seriously affected; the great economic value of these tests in the prevention of pauperism and in reducing the number of expensive public institutions.

Mr. Stetson asserted that not a single one of our State Boards of Health or Education had ordered systematic observations, which have been thoroughly made in Germany and elsewhere for several years, also that while the

data obtained serve the admirable purpose of pointing out the general neglect of these organs, and of showing the importance and necessity of greater attention to their defects, they failed to be of any great value for general or comparative purposes, because of the absence of uniformity in the methods employed in testing, of periodical examinations and in the ages of those examined, etc. Perhaps most important and convincing evidence of the humanitarian and economic value of such examinations, the writer thought is found in the ignorance and indifference developed by the Washington inquiry, especially in the lower classes. Among the Blacks, of all eyes classed as 'Extremely defective,' 'Very defective' and 'Defective,' 43% were unknown either to parent, teacher or scholar. Of the 'Extremely defectives,' or those with less than one-tenth normal vision, 22.50% were equally unknown. Of the ears of the Blacks, 57% were similarly unknown, and of those having but one third normal hearing, 55%. Among the whites the record is better.

Of all 'defective' eyes, 34.28% were unknown to all, and of all 'defective' ears, 2% were unknown. The examination also disclosed the fact that, with the knowledge of the existing defects, the instances were very rare in either race or social condition in which the persons were under treatment. Otologists and ophthalmologists were shown to be in accord in the opinion that even a partial defect in hearing or in sight will find expression somehow in the mental development, or, put in a different way, that the diminution in mental development will correspond closely to the degree of the visual or aural defect. They are also in accord in the belief that the eye and the ear can be trained and educated to a much higher power than they now possess, or allowed to become atrophied by neglect or lost by abuse. The details of the Washington examination show very slight racial differences. The visual defects were 3.46% greater in the Blacks, the aural defects being equally divided. The difference in the sight and hearing of the right and left eye and ear was very slight in either race, while the maximum percentage of defective eyes of both races was found in the white female. In the Whites the female eye and ear are both the

most defective; in the Blacks the female has the most defective eye and the male the most defective ear. The result of Mr. Stetson's memory test of the same number is reserved for another paper.

A paper by Surgeon-General Geo. M. Sternberg was read, entitled 'Science and Pseudoscience in Medicine,' in which he noted the difference between the truly scientific investigations, with special reference to preventive medicine, in contagious and infectious diseases, and the great service such investigations had been in stamping out epidemics such as cholera, yellow fever, etc., and the so-called science of pretenders and frauds for the sake of gain. He then dwelt at some length on the arrant quackery, charlatanism and fraud practiced by the promoters of numerous well advertised cures which, by plausibly used scientific terms and facts, were calculated by their pretended science to mislead and deceive. This gave rise to an interesting discussion upon the desirability of government supervision and interference in the publication in the press and the sale of such preparations. Messrs. McCormick, Ward, Stetson, Pierce, Farquhar, Blodgett and others took part in the discussion.

J. H. MCCORMICK,
Secretary.

TORREY BOTANICAL CLUB.

At the meeting of Tuesday evening, December 8th., thirty persons were present and one new active, and seven corresponding members were elected. The death of Mr. Wm. H. Rudkin, one of the oldest members of the club, was announced by Dr. Britton and a committee was appointed to take suitable action. It was resolved that a complete list of the corresponding members should be printed in the December number of the *Bulletin*. A contribution by Dr. T. F. Allen, entitled 'Descriptions of New Species of *Nitella* from North America and Japan' was read by title by Dr. Britton, in the absence of the author. Mrs. Elizabeth G. Britton presented a 'Contribution to the Bryology of Bolivia.' It reviewed the more important collections of Bolivian mosses, the treatment which they had received and the present work in progress on this subject, and enumerated the

bryological collections made by Dr. Rusby in Bolivia in the years 1885 and 1886. This collection contained 96 species, in 39 genera, 42 of the species being hitherto undescribed. Dr. H. H. Rusby spoke of 'Botany at the Pan-American Medical Congress held in the City of Mexico, November, 1896.' This paper contained brief references to the character of the flora observed on the journey to Mexico, an account of the scientific progress in the city, especially pertaining to applied botany and referred to the botanical work organized by the Pan-American Medical Congress. It was supplemented by remarks upon the same subject by Mrs. Britton, who also attended the Congress. A number of important publications by the *Instituto Medico Nacional* were exhibited. Dr. N. L. Britton described a new species of *Geranium* hitherto confounded with *G. Carolinianum*. The papers by Dr. Allen and Dr. and Mrs. Britton will be published in the *Bulletin*, that by Dr. Rusby in the *Druggists' Circular*. On motion the Club adjourned to meet on the second Tuesday in January.

H. H. RUSBY,
Recording Secretary.

THE ACADEMY OF SCIENCE OF ST. LOUIS.

At the meeting of the Academy of St. Louis on the evening of December 21, 1896, Mr. H. von Schrenk made some remarks on the parasitism of lichens, illustrated especially by the long hanging forms of *Usnea barbata*, common on *Juniperus*, etc., on Long Island, N. Y. It was shown that these lichens do not penetrate below the outer periderm of the host, and consequently are not to be regarded as true parasites, but that they frequently cause the death of the latter by suffocation. As Schimper has noted for the long moss of the South, *Tillandsia usneoides*, the plant is capable of dissemination by wind and birds, and of growing in new stations without attachment.

Officers for 1897 were nominated.

WM. TRELEASE,
Recording Secretary.

Erratum: Prof. H. A. Hazen calls our attention to the fact in our letter from M. W. de Fonvielle on page 762, Hersuite should be Hermite and 60,000 m. should be 15,000 m.