as they afford excellent summaries and temperate and judicial comments.

We are glad to note that owing to its increasing circulation the publishers of *Science Abstracts* (Spon & Chamberlain, New York) have been able to make a reduction in the price. The journal, issued monthly under the direction of the Institution of Electrical Engineers and the Physical Society of London, is performing a very important service for the advancement of science. The first volume contained 1,423 abstracts and thus gives a full survey of the progress of physics and electrical engineering. The advantages both pure and applied science gain by cooperation in the pubcation of this journal are evident on almost every page.

SOCIETIES AND ACADEMIES.

In response to a circular sent out to physicists by a committee representing seven institutions, a meeting was held on Saturday, May 20th, at 10:30 a. m., at Columbia University, New York, for the purpose of organizing a Physical Society. Thirty-eight persons were present, representing seventeen institutions, as follows: Wesleyan University, 2; New York, 2; Yale, 3; Cornell, 5; Columbia, 7; Pennsylvania, 2; Bryn Mawr, 2; Vassar, 2; Princeton, 2; Amherst, 1; Mt. Holyoke, 2; Smith, 1; Harvard, 2; Vermont, 1; Swarthmore, 2; Clark, 1; U. S. Weather Bureau, 1. Letters had been received by the committee from many physicists in all parts of the country, expressing approval of the organization and a willingness to join.

Professor Pupin welcomed the physicists present on behalf of Columbia University, and introduced Professor Cooley, of Vassar, the senior member present, as Chairman of the meeting. Professor Webster was elected Secretary, and addressed the meeting in explanation of the purpose of the call. Reports of communications received by members of the committee were made by the Secretary and by Professors Magie, Nichols and Pupin. On motion of Professor Rosa, it was voted that a Physical Society be organized. On motion of Professor Magie, it was voted that a committee be appointed to draft a constitution for the Society. On motion of Professor Magie, it was voted that the meetings be held in New York, except in special cases. An amendment offered by Professor Nichols was adopted, to the effect that the meeting express the willingness of the Society to establish local sub-sections meeting in other cities when a demand shall arise. After a rather lengthy discussion, an amendment proposed by Professor Pupin was adopted, to the effect that the meeting express the sentiment of the Society to cultivate the closest relations with Section B of the American Association for the Advancement of Science, and to contribute by everything in its power to the success of the Association. Upon motion of Professor Magie, it was voted that a bulletin be published by the Society. Professors Webster, Nichols, Magie, Peirce, Hallock and Pupin were elected as the committee to draft a constitution. The meeting adjourned at 12:30 and partook of lunch kindly provided by representatives of Columbia University.

The session was resumed at 2:20 p. m., and the constitution submitted by the committee was adopted. All the above notes were therein embodied. A list of nominations for officers was reported by the same committee, and the following were unanimously elected: President, Professor H. A. Rowland, of Johns Hopkins; Vice-President, Professor A. A. Michelson, of Chicago; Secretary, Professor Ernest Merritt, of Cornell; Treasurer, Professor Wm. Hallock, of Columbia. Nominations were then made from the floor for members of the Council who, with the officers, are to have the general management of the Society, and the following were elected: Professors A. G. Webster, of Clark; J. S. Ames, of Johns Hopkins; H. S. Carhart, of Michigan; B. O. Peirce, of Harvard; W. F. Magie, of Princeton; E. L. Nichols, of Cornell; M. I. Pupin, of Columbia.

It was voted that the election of new members be made by the Council; that the annual fee be five dollars; that there be no initiation fee, and that four meetings be held annually.

The constitution provides that the name of the Society shall be the American Physical Society, and that its object shall be the advancement and diffusion of the knowledge of physics. A circular will soon be issued containing the text of the complete constitution, which will be

sent to physicists generally, and provision will be made that those voting upon it by mail shall be received as original members of the Society. The first regular meeting will be held in October. Already about a hundred members are assured, and it is hoped that the Society may eventually contain all leading American physicists and take a prominent place among our scientific societies.

A. G. WEBSTER,
Secretary pro tem.

THE BIOLOGICAL SOCIETY OF WASHINGTON.

THE 304th regular meeting was held March 11th. The program consisted of an illustrated lecture on the general physiographical and biological features of Puerto Rico by Dr. R. T. Hill, of the U. S. Geological Survey. The mountain and drainage systems were explained and classified, and the relations of the various geological formations and the resulting soils to the flora and agricultural resources of the island were pointed out.

The lecture was supplemented by informal accounts from Dr. B. W. Evermann, of the U. S. Fish Commission, and Mr. A. B. Baker, of the Zoological Park, who had recently returned from Puerto Rico. Dr. Evermann stated that the coasts are almost everywhere abrupt and rocky, and that the water is generally agitated by a powerful surf. The result of these conditions is that only those types could survive which were adapted for life in deep water or which were fitted by habits and structure to secure protection among the rocks. This applies not only to the fishes, but to the molluscs, crustacea, algæ and other groups, all classes of aquatic organisms having received the attention of the expedition. The fresh-water fish fauna is not extensive and has been derived independently from marine groups, having no connection with the fresh-water forms of the continent. Dr. Evermann also explained the methods of the native fisherman and exhibited examples of traps and decoys for fishes and turtles.

Mr. Baker noticed some additional points regarding the geography and physiography of the island and the almost complete destruction of the forests, which has had a disastrous effect upon the fauna, having more less completely exterminated some species and caused profound changes in the habits of others.

At the 305th regular meeting, March 25th, Dr. T. S. Palmer traced the history of the introduction of the English sparrow into the United States and its subsequent gradual distribution throughout temperate North America.

The case of the mongoose in Jamaica, Puerto Rico and Hawaii was also considered, together with accounts of other accidental or intentional importations of mammals or birds, and the general conclusion was drawn that once removed from the natural conditions and checks of its original habitat it is impossible to know in advance of the experiment what the utility or injury of any given species will be, and hence such experiments should be undertaken with the greatest caution. The speaker considered the introduction of game birds attended with less danger on account of the fact that they would more easily be kept under control by human agency.

Mr. M. B. Waite exhibited specimens illustrating 'The Effects of the Recent Severe Cold on Vegetation,' and described the processes attending the freezing of plant cells, explaining that sudden thawing caused death in many instances because the protoplasm of the cells was unable to reabsorb the water lost in freezing.

The extent of recent injuries to fruit trees and ornamental and native plants was then touched upon and subsequently discussed by several members.

Mr. F. A. Lucas then read a paper on the 'Mental Traits of the Fur Seal,' saying that it had a practical bearing on the question as to whether or not the fur seal was likely to change its habits owing to the presence of man on the islands where it bred. The behavior of the seals on the drives and killing grounds was described as showing the low grade of the animal's intellect and its inability to think for itself. The female seals were said to take little interest in their offspring and to show no affection, while the sight and smell of blood seemed to produce no effect on the animals. The conclusion reached was that the fur seal is a creature of instinct and not guided to any extent by reason; that its habits, having been formed by

the slow process of natural selection, were not likely to be changed. The general impression that the seal is a very intelligent animal was thought to be partly explainable by the fact that its non migratory relatives, such as the sea lion and the hair seal, are in reality much more adaptable, not being possessed of the powerful and unvarying instincts of the fur seal.

O. F. Cook,
Secretary.

GEOLOGICAL CONFERENCE AND STUDENTS' CLUB OF HARVARD UNIVERSITY.

Students' Geological Club, February 14, 1899. Mr. A. W. G. Wilson gave a 'Demonstration of Mineral Determination by Volatile Iodide Coatings.' After presenting a brief *résumé* of Dr. Haanel's paper 'On the Application of Hydriodic Acid as a Blowpipe Reagent,' he demonstrated the use of plaster of paris tablets as supports, and of hydriodic acid as a reagent for the determination of a number of the common and some of the rarer elements.

Geological Conference, February 21, 1899. Mr. J. E. Woodman spoke on 'Notes on the Glacial Geology of Nova Scotia.' The Province is divided into two parts by fairly sharp boundaries. In the south is the lake region, characterized by till, without distinct form, or in the form of moraines and occasional drumlins, and a little stratified drift. In the north, lakes are largely absent, and there is a considerable amount of stratified drift, with few morainal deposits. In the center, near the northern edge of the lake region, drumlins of a very elongate form are abundant.

Throughout the country the direction of ice-movement was controlled by pre-Pleistocene topography to an extent seldom seen in New England. Thus, in Cornwallis and Annapolis valleys the ice followed the same lines as present drainage; in the center of the Province it ran southward, and along the north shore east of Pictou it ran eastward. The short distance of carriage of much of the drift is noticeable. Changes in the character of the drift follow quite closely those of the larger features of bed-rock geology.

The center and eastern part of the Province shows little stratified drift. The northwestern portion shows a considerable amount, chiefly in the form of eskers and kame-terraces. Many fine eskers can be followed on the road from Yarmouth to Windsor, but east of there few occur. The absence of coarse material in the central part of the peninsula is very noticeable. Few surface boulders are seen along the railroad line after leaving the lake and morainic country at Windsor Junction, until well on toward the Strait of Canso, where a few morainic accumulations were noted. All along the north coast the drumlins are indistinct in outline, being, with very few exceptions, mere drumlinoid hills. In the Strait, ice-motion changed from east to south along the now sunken valley.

In Cape Breton the obedience of ice-motion to topography is still more marked. The mass appears to have moved, in the interior, from the low region of the Bras d'Or lakes northward along the valleys of rivers which now flow south. This motion did not continue far, and the higher parts of the islands are all unglaciated. On the west and northwest coast the ice affected only the bordering Carboniferous lowland, penetrated a very short distance up the wider valleys, and left the central peneplain, on granite and schist, untouched.

J. M. Boutwell,
Recording Secretary.

THE ACADEMY OF SCIENCE OF ST. LOUIS.

At the meeting of the Academy of Science of St. Louis, on the evening of May 15, 1899, thirty persons present, the Secretary presented, by title, a paper by Professor F. E. Nipher, on 'Temperatures of Gaseous Nebulæ.'

Professor E. M. Shepard exhibited an interesting series of lantern slides and ethnological specimens procured by him during a recent extended trip through the islands of the South Pacific, especially New Zealand, Fiji and Samoa, illustrating the natural history and ethnology of those islands.

Two persons were proposed for active membership in the Academy.

William Trelease,
Recording Secretary.