

trophic activity, when lands have been high, epicontinental seas small, and marine currents largely confined within deep ocean basins, sedimentation has been dominant. But during periods of diastrophic inactivity, when lands have been low, epicontinental seas extensive, and marine currents active on shallows and straits, sedimentation has failed in consequence of non-deposition or marine scour in appropriate situations.

7. The criteria of correlation are both physical and organic. The physical facts are basal. The organic forms, though endowed with evolutionary energy, are dependent and sequential. Any ultimate classification of the earth's history must be founded upon all the phenomena, interpreted through their relations in the chain of cause and effect from diastrophism to life.

BAILEY WILLIS

A NATIONAL BUREAU OF SEISMOLOGY

At its last annual meeting, the American Philosophical Society showed its interest in the scientific investigation of earthquakes by devoting an entire session to their consideration. At the close of the session the following resolutions were unanimously adopted:

WHEREAS, Earthquakes have been the cause of great loss of life and property within the territory of the United States and its possessions, as well as in other countries, and

WHEREAS, It is only through the scientific investigation of the phenomena that there is hope of discovering the laws which govern them, so as to predict their occurrence and to reduce the danger to life and property, and

WHEREAS, Such investigations can be successfully conducted only with the support of the general government, be it, therefore,

Resolved, That this society urge upon congress the establishment of a national Bureau of Seismology, and suggest that this bureau be organized under the Smithsonian Institution with the active cooperation of the other scientific departments of the government and that this bureau be charged with the following duties:

- a. The collection of seismological data.
 - b. The establishment of observing stations.
 - c. The organization of an expeditionary corps for the investigation of special earthquakes and volcanic eruptions in any part of the world.
 - d. The study and investigation of special earthquake regions within the national domain. And
- Resolved*, That copies of these resolutions be transmitted to the President, to the President of the Senate, to the Speaker of the House of Representatives and to the Secretary of the Smithsonian Institution.

Through the active interest of Dr. W. W. Keen, the president of the society, these resolutions were brought favorably to the attention of congress, and were in the House of Representatives referred to the Committee on Library, of which Honorable Samuel W. McCall, of Massachusetts, is chairman. The other members of the committee are E. L. Hamilton, of Michigan; Charles H. Burke, of South Dakota; William H. Howard, of Georgia, and Charles R. Thomas, of North Carolina.

Mr. McCall has already shown his appreciation of the importance of the subject, and it is hoped that readers of SCIENCE will lose no opportunity to urge upon their senators and representatives in congress the need of establishing such a bureau as is proposed, and to set forth the backward position of our government in this important matter as compared with foreign countries, though otherwise generously disposed towards scientific investigation.

There is already some danger that the matter may be disposed of through a small appropriation to some existing bureau, where the lack of special interest in the subject would soon result in the investigations being crowded out to make way for others which appeal more directly to the administration of the bureau.

WM. H. HOBBS

UNIVERSITY OF MICHIGAN

SCIENTIFIC NOTES AND NEWS

THE national testimonial to Commander Robert Peary at the Metropolitan Opera House on February 8 was most enthusiastic, the house being completely filled. Governor

Hughes presided and a telegram was read from President Taft which expressed the hope that congress would take some substantial notice of Commander Peary's great achievement. Governor Hughes presented Commander Peary with a purse containing \$10,000 which he immediately contributed toward fitting out an Antarctic expedition. A bill has been passed by the senate making Commander Peary a rear-admiral of the navy and placing him on the retired list.

THE Langley medal of the Smithsonian Institution, created in 1908 in commemoration of Professor Langley and his work in aerodynamics, was presented to Messrs. Orville and Wilbur Wright on February 10. Dr. Alexander Graham Bell and Senator Lodge made addresses and Chief Justice Fuller presented the medals.

THE French Academy of Moral and Political Sciences has elected Professor William James, of Harvard University, a foreign member of the society, in the room of the late M. de Martens, of St. Petersburg. Professor James has been a corresponding member of the academy since 1898.

THE University of Cambridge has conferred the honorary degree of Sc.D. upon Dr. Mark Aurel Stein, explorer; and the honorary degree of M.A. upon the Rev. John Roscoe, missionary and anthropologist.

THE Academy of Natural Sciences of Philadelphia has appointed Professor Edwin Grant Conklin a vice-president, and Professor Ludwig von Graff, a corresponding member, as delegates to represent it at the eighth International Zoological Congress.

THE American Institute of Electrical Engineers has appointed Professor A. E. Kennelly president of the United States national committee of the International Electrotechnical Commission.

MR. CHAS. A. SCOTT, professor of forestry, Iowa State College, has been elected state forester for Kansas, under the provisions of a law enacted by the legislature of 1909. Previously he was for several years in the Forest Service of the United States Department of Agriculture.

DR. CHARLES B. DAVENPORT, director of the Station for Experimental Evolution of the Carnegie Institution, has given three lectures on "Heredity in its Application to Animal and Plant Breeding and to Man" at the Johns Hopkins University as follows:

February 7—"The Material Basis of Heredity."

February 8—"The Method of Inheritance of Characteristics."

February 9—"Heredity in Man."

THE students of Professor Spalding have set up a bronze tablet at the University of Michigan, bearing the following inscription:

VOLNEY MORGAN SPALDING

In commemoration of twenty-eight years of faithful service as teacher of botany in this university (1876 to 1904) and as a token of love and gratitude this tablet is erected by 100 of his former students.

Per naturæ opera mentem ad humanitatem fingeat atque virtutem.

Done in MCMIX.

The committee having the memorial in charge consisted of Professor L. R. Jones, Professor F. C. Newcombe and Dr. Erwin F. Smith.

DR. WILLIAM BRADLEY RISING, professor of chemistry in the University of California, died at his home in Berkeley on February 9 at the age of seventy years.

THE German Society of Scientific Men and Physicians will hold its eighty-second annual congress this year at Königsberg from September 18 to 24.

A CONVENTION of American Ceramic Societies was held in Pittsburgh on February 7, 8 and 9.

THROUGH DR. S. WEIR MITCHELL the College of Physicians and Surgeons of Philadelphia has received a gift of \$75,000 from an unknown donor. The gift relieves the college from debt.

THE Tennessee Geological Survey will be established as a bureau of the state government, independent of any educational institution, with offices at the state capitol and with a director who will give his entire time to the work of the survey. Chancellor Jas. H. Kirkland, of Vanderbilt University, and President Brown Ayres, of the University of Tennessee,

are a committee of the board to select the state geologist and arrange other matters requisite for the inauguration of the survey. The annual appropriation is \$15,000.

At a meeting of the board of managers of the National Geographic Society the following resolutions were adopted:

The National Geographic Society believes that it is of importance to science that tidal, magnetic and meteorological observations shall be obtained at or in the vicinity of Coats Land during the same period that the British expedition under Captain Robert F. Scott, R. N., is making similar observations on the other side of the Antarctic area, 1,800 miles distant, and at the same time that this recently discovered land shall be explored.

That the society is ready to accept Mr. Peary's proposition that it shall undertake jointly with the Peary Arctic Club an expedition to the Antarctic regions as outlined above, provided that the board of managers, after consultation with the members of the society, finds that the project will receive sufficient financial assistance to warrant the undertaking.

ACCORDING to the daily papers, a delegation which included Dr. Ira Remsen, president of Johns Hopkins University; Brigadier General George H. Torney, surgeon general of the army; Dr. William H. Welch, president of the American Medical Association, and several others, have called on President Taft and urged the necessity for the cities of the country to adopt more scientific methods of sewage disposal. They asked the president to appoint a temporary commission to inquire into the matter. Mr. Taft said he was interested in the subject, but that he was without authority to appoint a commission.

DURING the summer of 1910 the University of Michigan Museum will be connected with three expeditions. As the depository of the state collections it will receive the specimens of the botanical investigations of a portion of the "peach belt" of Michigan, carried on by H. C. Kauffman and L. H. Pennington for the State Geological and Natural History Survey. Under a gift from Mr. Bryant Walker and an appropriation from the university the curator, Dr. Alexander G. Ruthven and Mr. H. B. Baker will make collec-

tions in southern Vera Cruz, Mexico, with the principal aim of enlarging the synoptic collection of molluscs and vertebrates. A third expedition financed by W. B. Mershon, Saginaw, Michigan, and to be known as the Mershon expedition will be sent to the Charity Islands, Saginaw Bay, Michigan, to continue the biological survey of the state that has been going forward for a number of years on appropriations from the state, university and private individuals.

UNIVERSITY AND EDUCATIONAL NEWS

MR. ANDREW CARNEGIE has promised to give to Cornell University the \$50,000 required to enlarge Morse Hall, housing the department of chemistry.

THE new biology building of the University of Wisconsin is to be placed on the upper campus, at the south end of the court of honor, between University and South Halls, facing the Lincoln statue. Originally plans were drawn to suit the site formerly chosen in the ravine between University and Observatory Hills. New plans appropriate to the new site will be prepared at once by the architects.

THE New York *Evening Post* states that Mr. S. G. Iverson, state auditor, who recently made a thorough inspection of the school lands granted to Minnesota by congress in 1851, many years before the state government was organized, has compiled figures which show that the fund now amounts to more than \$21,500,000, and that the state still holds approximately 3,000,000 acres of unsold land. These remaining lands have great wealth, fertile soil, abundance of growing timber, and the value of the iron ore deposits is almost beyond comprehension. "We have already 1,000 forty-acre tracts of land under mineral contracts in the iron-bearing districts," Mr. Iverson reports, "from which I believe we shall receive an average of 1,000,000 tons per forty, or a grand total of 1,000,000,000 tons, which, at a royalty of twenty-five cents a ton, the contract price, will produce the sum of \$250,000,000. This endowment will be realized within fifty years, or before the state is a hundred years old. Of this sum I estimate that the school