

period of five years. These stations will be completely equipped with self-recording instruments, and as they are at widely different altitudes the results should prove to be of considerable value.

The chief work undertaken by the expedition was in connection with the study of the ruins of Machu Picchu discovered by Dr. Bingham in 1911. As has already been stated, Dr. Eaton was in charge of the bone hunting and was fortunate enough to find a large number of caves containing skeletons and ethnological material. The clearing of the jungle and the excavating of the ruins was placed in charge of Mr. Erdis, whose four months at Machu Picchu resulted in about sixty cases of potsherds and pots, and two cases of bronze implements. The making of a large scale map of the ruins was entrusted to Mr. Robert Stephenson, who spent three months at a task which it is hoped will result in the construction of a model of this extremely interesting city. The construction of the model will also be assisted by the more than seven hundred pictures which Professor Bingham has taken of the ruins at different times. In addition to the archeological study of Machu Picchu Professor Bingham also devoted himself to exploring four or five sites of ancient ruins hitherto undescribed, and in a systematic effort to discover the ancient place names and to identify localities in the region occupied by the Incas during the last thirty-five years of their reign.

SCIENTIFIC NOTES AND NEWS

THE British New Year's honors include the conferring of knighthood on Dr. Francis Darwin, the distinguished botanist; Dr. R. W. Philip, known for his work for the prevention of tuberculosis, and Mr. Stewart Stockman, chief veterinary officer to the Board of Agriculture.

PROFESSOR EHRLICH, of Franfort, has received the Bavarian Maximilian order for scientific services.

DR. IMBEAUX, of Nancy, has been elected a corresponding member of the Paris Academy of Sciences in the Section of Agriculture.

A TESTIMONIAL is planned to Sir Patrick Manson on the occasion of his retirement in recognition of his work in tropical medicine. The testimonial will be national and international. The national testimonial will consist of a portrait and, it is hoped, a scholarship for the advancement of tropical medicine. The international tribute is to be in the form of a gold medallion.

THE officers of the Geological Society of America for 1913 are as follows:

President—Eugene A. Smith.

Vice-presidents—James F. Kemp, R. D. Salisbury, C. D. Walcott.

Secretary—Edmund Otis Hovey.

Treasurer—Wm. Bullock Clark.

Editor—J. Stanley Brown.

Librarian—H. P. Cushing.

Councilors—A. H. Purdue, Heinrich Ries, S. W. Beyer, Arthur Keith, Whitman Cross, Willet G. Miller.

Chairman of the Cordilleran Section—J. C. Branner.

Secretary—Geo. D. Louderback.

Councilor—W. S. Tangier Smith.

At the meeting of the Society of American Bacteriologists, held in New York on December 31 and January 1 and 2 the following officers were elected:

President—Professor C.-E. A. Winslow, New York City.

Vice-president—Professor Chas. E. Marshall, Massachusetts Agricultural College, Amherst, Mass.

Secretary-treasurer—Dr. A. Parker Hitchens, Glenolden, Pa.

Council—W. J. MacNeal, L. F. Rettger, D. H. Bergey, H. A. Harding.

Delegate to Council of American Association for the Advancement of Science—Professor S. E. Prescott.

At the recent meeting of the American Anthropological Association held in Cleveland, Ohio, the following officers were elected:

President—Professor Roland B. Dixon, Harvard University.

Secretary—Professor George Grant MacCurdy, Yale University.

Treasurer—Mr. B. T. B. Hyde, New York.

Editor—Mr. F. W. Hodge, Bureau of American Ethnology.

At the Boston meeting of the American Economic Association Professor David I. Kinley, of the University of Illinois, was elected president for the meeting to be held next year at Minneapolis.

PROFESSOR WILLIAM A. DUNNING, of Columbia University, was elected president of the American Historical Association. The next meeting will be held in Charleston and Columbia, the following meeting at Chicago and a special meeting during the summer of 1915 at San Francisco.

THE Academy of Natural Sciences of Philadelphia has named Dr. Edward J. Nolan, Professor Ulric Dahlgren and H. S. H. The Prince of Monaco as delegates to the Ninth International Congress of Zoology.

LIEUTENANT WILHELM FILCHNER, the German Antarctic explorer, returned with his expedition to Buenos Ayres on January 7 after an absence of fifteen months in the southern seas. He cables from Buenos Ayres that the expedition has been most successful. Lieutenant Filchner purposes continuing his explorations.

DR. WILLIAM CURTIS FARABEE has resigned from Harvard and has accepted a position at the University of Pennsylvania. He will take charge of an expedition to South America, the primary object of which is ethnological study, although scientific men in other departments will accompany the expedition. A steam yacht has been provided and equipped for the comfort and safety of the members of the expedition and for the prosecution of the scientific inquiries for which it is organized. Investigations will be conducted along the Amazon and its tributaries and in the northern part of South America. Provision has been made to keep the expedition in the field for three years.

PROFESSOR ROLLIN D. SALISBURY, head of the department of geography and dean of the Ogden School of Science of the Chicago University, has returned from South America, where he had been investigating the glacial formations of Argentina and Patagonia.

MR. CLINTON DEWITT SMITH is about to return to this country from Brazil. He organized and became president, five years ago, of the first agricultural college in Brazil, intended as a model for other colleges. Professor Smith was for fifteen years director of the Experiment Station of the Michigan Agricultural College.

PROFESSOR M. M. METCALF, head of the department of zoology at Oberlin College, has been granted leave of absence for travel and study during the second semester.

At the annual meeting of the Washington Academy of Sciences, on January 15, Dr. Frederick V. Coville gave the address of the retiring president on the formation of leaf mould.

THE sixth Harvey Society lecture will be given on January 18 at the New York Academy of Medicine by Major Russell, of the United States Army, on "The Prevention of Typhoid."

THE Minnesota local section of the American Chemical Society had recently a special lecture on "The Electron Theory," by Professor W. A. Noyes, director of the chemical laboratories of the University of Illinois.

DR. L. O. HOWARD, chief entomologist of the U. S. Bureau of Entomology, lectured before the undergraduates of Oberlin College on January 7, speaking on certain types of noxious and beneficial insect life. Professor Winterton C. Curtis, of the University of Missouri, lectured there on January 8 on "The Social Value of Abstract Research."

It has been proposed to the municipal authorities of Paris that the memory of Henri Poincaré should be honored where he taught, and it is suggested that the portion of the Rue Vaugirard between the Boulevard St. Michel and the Odéon should be named after him.

A CELEBRATION of the centenary of the birth of James Dwight Dana (1813-1895) was held at Yale University on December 29, in connection with the annual meeting of the Geological Society of America. President Hadley presided and referred in his introductory remarks to Dana's pioneer work in zoology and

geology. Professor William North Rice, of Wesleyan University, read a paper on "Dana the Man"; Dr. E. Otis Hovey, secretary of the Geological Society and curator of geology at the American Museum of Natural History in New York City, spoke on "Dana the Teacher"; Dr. George P. Merrill, head curator of geology of the United States National Museum at Washington, spoke on "Dana the Geologist," and President Fairchild, of the Yale Alumni Association, read the paper on "Dana as a Zoologist," written for the centenary by John Mason Clarke, director of the Science Division of the Department of Education of New York State. Books, pamphlets, monographs, greetings from learned societies and personal memorabilia were exhibited in Chittenden Library during the week.

MR. THOMAS HOWELL, the well-known Oregon botanist, died on December 3, 1912. He was born in Missouri on October 9, 1842, and was a pioneer of Oregon, moving there in 1850. Although he had very scanty schooling, Mr. Howell was far from being an uneducated man. He devoted many years of his life to the study of the flora of Oregon, tramping over nearly every portion of the state. His knowledge of the northwestern flora is embodied in the work entitled "The Flora of Northwestern America." Perhaps the most noteworthy discovery of Mr. Howell was the finding of *Picea Breweriana*, a very local tree and the last of the Pacific Coast conifers to be discovered.

DR. PETER REDFERN, formerly regius professor of anatomy and physiology in Queen's College, Belfast, died on December 22, at the age of ninety-one years.

DR. A. PFARR, professor of hydraulics in the Technical School at Darmstadt, has died at the age of sixty-one years.

THE papers on the program for the Cleveland convocation week meeting were distributed among the sciences as follows:

Mathematics	49
Astronomy	35
Physics	52
Engineering	40
Geology	27
Zoology	84

Entomology	73
Botany	60
Phytopathology	49
Horticulture	53
Anthropology	27
Psychology	56
Biological chemistry and pharmacology	63
Anatomy	63
Physiology	67
Education	11
Economics and Sociology	13

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THE department of superintendence of the National Educational Association will meet at Philadelphia from February 24 to March 1. With it meets the National Council of Education, the Department of Normal Schools, the National Society for the Study of Education and a number of other educational societies.

PRESIDENT TAFT in a special message to congress, on January 8, recommended the repeal of the act of congress which prohibited for five years the killing of fur seals on the Pribilof Islands, passed a year ago. Investigation, the president said, showed a remarkable increase in the size of the herd in one season and proved conclusively that only the female seals and the bull male seals need protection, and that thousands of "bachelor" seals can be killed each year without reducing the herd. The act which should be repealed was adopted to give effect to the first seal treaty of 1911 between Great Britain, Japan, Russia and the United States. Although a clause in that treaty, the president points out, seems to give the United States authority to suspend land killing to protect and preserve the herd, if no actual necessity were found for such suspension it was not justified under the convention and the act should be amended.

THE board of managers of the Marine Biological Association's laboratory at Plymouth, England, has recently decided upon a policy of emphasizing the purely scientific and international character of the institution, thus rendering it more readily accessible to American students than it has been in the past. In its equipment it is second only to Naples, being well supplied with apparatus and chemicals required for advanced research, and provided with a steamer of 69 tons burden. An effi-

cient staff of attendants is maintained and every effort is made to meet the special requirements of those who occupy tables, especially when the work is of a physiological or chemical character. Many important papers have emanated from the laboratory during the past three years, and the new policy inaugurated by the board of managers may be expected to render the laboratory the "Naples of the North," and advanced students who contemplate the prosecution of researches upon the marine fauna of northern Europe may advantageously write to the director of the Plymouth Laboratory, Citadel Hill, Plymouth, England, for specific information.

MR. NELS C. NELSON, assistant curator in anthropology at the American Museum of Natural History, has returned from an archeological expedition to the southwest. A systematic search for archeological sites was begun at Ysleta del Sur, a few miles below El Paso, and completed northward to the latitude of Santa Fé. Within this section of the drainage 115 sites of more or less interest were located and about half of these were inspected. Actual excavations were conducted in two localities. First a group of seven large Tanos pueblo ruins, located on the border of the Galisteo Basin twenty-five miles south of Santa Fé, were worked to the extent of determining their age and culture relations; and later one entire Keresan pueblo ruin, located on the Jemez National Forest seven miles northwest of Cochiti, was cleared. Besides digging trial trenches and examining refuse heaps, four kivas and 573 ground-floor rooms were cleared. The débris removed from these rooms ranged in depth from two to twelve feet and represented, with few exceptions, two and three story houses. The resulting collections comprise sixty more or less complete human skeletons and about two thousand artifacts.

DURING the week of January 6 a "Mental Hygiene Exhibit and Conference" was held at Yale University under the joint auspices of the National Committee for Mental Hygiene and the Connecticut Society for Mental Hygiene, assisted by representatives

of Yale University. The public exhibition of the work of the National Committee for Mental Hygiene will later be given in Chicago, Princeton, Baltimore, Boston, and Philadelphia, and is designed to give tangible evidences of the need of public information as to the causes, treatment and prevention of mental disorders. It has already been shown in Washington and New York. Speakers announced to make addresses during the week were: Dr. Henry Smith Williams, of New York City; Dr. Stewart Paton, of Princeton; Dr. George Blumer, dean of the Yale Medical School; Dr. August Hoch, director of the Psychiatric Institute of the New York State Hospitals on Ward's Island, New York City; Dr. George H. Kirby, clinical director, Manhattan State Hospital, New York City; Dr. C. Macfie Campbell, of the Bloomingdale Hospital, New York; Professor William H. Burnham, of Clark University; Dr. Thomas W. Sallmon, New York, and Dr. S. E. Jelliffe, of Fordham College.

THE United States will be the meeting place of the Fourth International Congress on School Hygiene. The preceding congresses have all been held abroad, the first at Nuremberg in 1904, the second at London, 1907, and the third at Paris, 1910. The 1913 congress will be held at Buffalo, N. Y., August 25-30. It is the object of the congress to bring together men and women interested in the health of school children and to assemble a scientific exhibit representative of the most notable achievements in school hygiene. It is believed that the present wide-spread public interest in health education will make the exhibit a particularly attractive feature of the congress. Twenty-five nations have membership on the permanent international committee of the congress and it is expected that all will have delegates at Buffalo. The Secretary of State has officially invited foreign governments to participate. Invitations have also been issued to the various state and municipal authorities, and to educational, scientific, medical and hygienic institutions and organizations. The president of the congress will be Charles W. Eliot, president emeritus of Har-

vard University; the vice-presidents, Dr. William H. Welch, of Johns Hopkins, and Dr. Henry P. Walcott, of the Massachusetts Board of Health. The long list of honorary vice-presidents includes: Dr. Abraham Jacobi, of New York City; Dr. William H. Burnham, of Clark University; Cardinal Gibbons; Dr. P. P. Claxton, United States Commissioner of Education; Surgeon-General Blue, of the Public Health Service; Dr. H. M. Bracken, of the Minnesota State Board of Health; President David Starr Jordan, of Leland Stanford Junior University; Dr. Woods Hutchinson, representing the National Education Association, and many other distinguished physicians, educators and civic experts.

UNIVERSITY AND EDUCATIONAL NEWS

MR. JOHN R. STRONG has given to the New York State College of Forestry at Syracuse University for use as a forest experiment station 100 acres of forest land at Tannersville in the Catskills, including a summer residence. The tract will be used as a forest experiment station and for a students' camp in the summer.

WILLIAMS COLLEGE has received \$20,000 from the estate of John Savary, '55, of Washington, D. C. The income from this amount is to be used for the purchase of books for the library.

WESTERN RESERVE UNIVERSITY has received from Mr. Henry F. Lyman, of Cleveland, a large collection of shells, corals and agates. The collection is one begun by Mr. Lyman during a visit to the Hawaiian Islands in 1875.

SCIENCE HALL of Ohio University, Athens, Ohio, has been completed and is now occupied by the three departments of physics, chemistry and biology. The building is a four story structure of red pressed brick, 79 feet by 124 feet, costing about \$120,000. The department of physics and electrical engineering occupies the first two floors. These will provide recitation rooms and offices for the instructors in the department; a large laboratory for general physics, with two dark rooms and appa-

ratus rooms attached; laboratories for the various advanced courses in physics, with the necessary weighing rooms and apparatus rooms; a laboratory for electrical measurements, with apparatus rooms and weighing rooms attached; a dynamo motor and transformer laboratory; a photometric laboratory; a storage battery room; high temperature laboratory; unpacking room; storage rooms; several small research laboratories; constant temperature laboratory; drafting room; shop; private laboratory; library and reading room. The other departments are correspondingly arranged.

A COURSE in general science leading to the degree of bachelor of science is offered for 1913-14 in the College of Arts and Sciences of the University of Vermont. This course is similar to the A.B. and Ph.B. courses in its adherence to the group system, but differs from them in requiring mathematics and physics and a larger amount of work in the scientific group of studies. The course is intended for those who intend to teach the sciences in secondary schools and for those who desire a broad scientific training before entering a technical or professional school. The entrance requirements of the new course lay stress on the sciences rather than on the languages.

THE Massachusetts Institute of Technology will hold a reunion of alumni in New York City on January 17 and 18. There will be special trains from Boston and probably from Washington and Philadelphia. The plans include class luncheons on Friday and a mass meeting in the afternoon; society and fraternity breakfasts on Saturday, departmental luncheons and a banquet in the evening. At the mass meeting on Friday afternoon the following have accepted the invitation to speak: President R. C. Maclaurin, Mr. John R. Freeman, Professor D. R. Dewey, Professor A. A. Noyes and Professor W. T. Sedgwick. Speakers at the department luncheons will include the following:

Course I.—Professor C. M. Spofford, Professor G. F. Swain.