unanimously voted to recommend the adoption of the plan and the making of a moderate appropriation for carrying out its purposes to the several American countries. It was also decided by a unanimous vote to assemble in session for final organization on the third Monday in December, 1903, and meantime to invite the several American governments to designate commissioners to attend this session and participate in the organization.

Under the plan adopted the commission is designed to form an administrative corps and include a scientific corps, the former to be made up of commissioners officially designated by the participating governments, to a number not exceeding three from each, and to have a president, two vice-presidents, and a secretary, to be elected for terms of four years; the commissionerships and these administrative offices to be honorary. The scientific corps is designed to include trained scientists and scientific attachés, to be chosen by the commission, with a director-general and a secretary, and a director for each participating country; these positions to be either honorary or salaried, and commissioners being eligible. The specified objects of the commission are (1) to promote the unification of laws relating to antiquities in the Western Hemisphere; (2) to increase and diffuse knowledge concerning these antiquities and the aboriginal peoples by whom they were produced; (3) to awaken interest in the vestiges of a vanishing race; (4) to unify museum methods throughout the American countries; and (5) to work for the establishment of one or more archeologic and ethnologic museums of international character. Provision is made for the acquisition, preservation and transfer of museum and office property, for the exchange of collections and scientific workers among the several countries, for annual and special sessions of the commission and the scientific corps, and for the preparation and publication of reports. The recommendations of the International Conference extended to the custody and preservation of aboriginal structures, and it is planned to take up this duty as the work of the commission proceeds.

SCIENTIFIC NOTES AND NEWS.

At the stated session of the National Academy of Sciences on April 21, 22 and 23, new members were elected as follows: T. C. Chamberlin, professor of geology, University of Chicago; William James, professor of philosophy, Harvard University; E. L. Mark, professor of anatomy, Harvard University; Arthur G. Webster, professor of physics, Clark University; Horace L. Wells, professor of analytical chemistry and metallurgy, Yale University. President Ira Remsen, of the Johns Hopkins University, was elected vice-president, and Professor Simon Newcomb, foreign secretary. Professor George E. Hale, director of the Yerkes Observatory, was awarded the Draper medal and made a member of the council. Foreign associates were elected as follows: W. C. Brogger, professor of mineralogy and geology, University of Christiana; Robert Koch, professor of hygiene, University of Berlin; E. Ray Lankester, director of the British Museum of Natural History; D. J. Mendeleef, professor of chemistry, St. Petersburg; Wilhelm Pfeffer, professor of botany, University of Leipzig; M. Picard, professor of mathematics, University of Paris; J. J. Thomson, Cavendish professor of physics, Cambridge University; H. K. Vogel, director of the astrophysical observatory near Potsdam; and Ferdinand Zirkel, professor of mineralogy, University of Leipzig.

Professor Simon Newcomb, of Washington, has been appointed a delegate from the National Academy of Sciences to the International Association of Academies, which meets in London this coming June. Mr. S. F. Emmons and Mr. Geo. F. Becker, of Washington, and Professor C. R. Van Hise, of Madison, Wis., have been appointed delegates to the International Geological Congress, which meets in Vienna in August of this year.

At the request of the Secretary of State, the president of the National Academy of Sciences has appointed a committee to consider what means, if any, should be taken to preserve the original copy of the Declaration of Independence. The signatures of the signers

are now nearly obliterated, and the parchment shows evidence of decay. The committee appointed consists of Dr. Chandler, of Columbia University; President Remsen, of Johns Hopkins University, and Dr. Billings, Librarian of the New York Public Library.

AT the meeting of the American Academy of Arts and Sciences held April 8, 1903, in the Harvard University Museum, the Rumford premium, consisting of a gold and a silver medal, was presented to Professor George E. Hale, director of Yerkes Observatory, in recognition of his researches in solar and stellar physics and in particular for the invention and perfection of the spectro-heliograph. The grounds of the award of the premium were explained to the academy by the chairman of the Rumford committee, Professor Charles R. Cross; the medals were presented by the president of the academy, Dr. Alexander Agassiz, and Professor Hale in connection with his acknowledgment of the honor conferred upon him described his work and exhibited a number of lantern slides in illustration.

THE University of Edinburgh has conferred the degree of LL.D. on Dr. Arthur Gamgee, F.R.S., emeritus professor of physiology at Owens College, Manchester, and on B. N. Peach, F.R.S., of the Geological Survey Office, Edinburgh.

DR. A. HRDLICKA has been appointed assistant curator of the Division of Physical Anthropology at the U. S. National Museum.

MR. HENRY E. WILLIAMS has been appointed assistant chief of the U. S. Weather Bureau. This position was created by the last agricultural appropriation act.

SIR ARCHIBALD GEIKIE, F.R.S., has been elected an honorary member of the British Institution of Civil Engineers.

DR. SIMON FLEXNER, professor of pathology at the University of Pennsylvania, director-elect of the Rockefeller Institute for Medical Research, was given a dinner at the University Club, Philadelphia, on April 16, Dr. S. Weir Mitchell presiding.

THE Association for maintaining the American Woman's Table at the Zoological Station at Naples and for promoting Scientific Research by Women has awarded its prize of $1,000, offered two years ago, for the best scientific research done by a woman, to Dr. Florence R. Sabin, assistant in anatomy at the Johns Hopkins University Medical School. She presented a research on the 'Origin of the Lymphatic System.' Honorable mention was given to a paper entitled 'Contributions to the Life History of Pinus,' by Miss Margaret Clay Ferguson, instructor in botany at Wellesley College. The prize will again be awarded in 1905. Miss Grace E. Cooley, associate professor of botany at Wellesley College, has been awarded the table at the Naples Station.

The British Medical Journal states that the executive committee of the Carnegie Institution, Washington, has made a grant of $5,000 and traveling expenses to Professor Arthur Gamgee, emeritus professor of physiology, Owens College, Manchester, to enable him to prepare a report on the physiology of nutrition. The object in view is to secure information which may lead to the organization in the laboratories of various countries of cooperative research in the problems of human nutrition.

DR. ALBERT P. MATTHEWS, assistant professor of physiological chemistry at the University of Chicago, lectured before the Yale Alumni Association on April 22, his subject being 'The Action of Inorganic Salts on Protoplasmic Activities.'

DR. DUNCAN S. JOHNSON and Mr. Forrest Shreve, of Johns Hopkins University, have gone to Jamaica for special work in botany. They will join Professor L. M. Underwood, of Columbia University.

THE party from the Lick Observatory of the University of California, which is to establish a temporary observatory in Chili, has arrived at Santiago.

MR. THOMAS H. MEANS, of the Bureau of Soils, Department of Agriculture, has returned from an investigation on the methods of reclaiming alkali lands in Egypt, the re-

sults of which will be shortly published in a bulletin.

DR. JEAN CHARCOT, of Paris, has decided to go to the Antarctic instead of the Arctic regions. He will go first to Terra del Fuego and thence to Alexander Island, whence he will endeavor to penetrate as far as possible into the South Polar continent.

ARTICLES of incorporation of the John Fritz Metal Fund Corporation have been filed at Albany. It will be remembered that the medal is to be conferred under the auspices of our four great engineering societies. The directors of the corporation are J. J. R. Croes, Alfred Noble, C. W. Hunt, E. E. Olcott, E. G. Spilsbury, James Douglass, C. Kirchoff, New York City; Robert Moore, of St. Louis; Gaetano Lanza, of Boston; John E. Sweet, of Syracuse; Robert W. Hunt, of Chicago; S. T. Wellman, of Cleveland; Arthur E. Kennelly, of Cambridge, Mass.; Carl Hering, of Philadelphia; Charles P. Steinmetz, of Schenectady, and Charles F. Scott, of Pittsburgh.

DR. JOSIAH WILLARD GIBBS, since 1871 professor of mathematical physics at Yale University, died on April 28.

DR. MORITZ LAZARUS, honorary professor of psychology at the University of Berlin, died on April 13, at the age of seventy-nine years.

MR. ANDREW CARNEGIE, before leaving for Scotland on April 24, offered to give $1,500,000 for the erection of a court house and library for the permanent court of arbitration established at The Hague by the treaty of July 29, 1899. Mr. Carnegie also gave last week five per cent. U. S. Steel Company first mortgage bonds, the par value of which is $600,000 and the market value about $500,000, to the endowment fund of the Tuskegee Normal and Industrial Institute.

A REUTER telegram from Wiesbaden reports that the International Conference on Deep-sea Investigation was opened there on April 17, under the presidency of the Prince of Monaco, those present including professors of geography and other geographical experts from England, Germany, France, Norway and Sweden. The committee appointed by the Geographical Congress which met in 1899 presented a report on questions connected with oceanic research at great depths. The conference was engaged in the preparation of charts of the ocean beds to be sent to the next International Geographical Congress, which is to meet at Washington in 1904.

Nature states that the biennial Hunterian Oration was delivered on the afternoon of February 14, by Sir Henry Howse, president of the Royal College of Science, in the theater of the college. He devoted the greater part of his oration to interesting biographical incidents concerning John Hunter, who was elected a fellow of the Royal Society in 1767, and appointed surgeon-extraordinary to the King in 1776. The collection of the objects in his museum was Hunter's chief interest through many years of his life, and at his death there were 14,000 specimens in the museum, on which Hunter spent 70,000*l*. A banquet took place in the evening in the library of the college, at which the honorary fellowship of the college was conferred on Lord Roberts, who, in his reply, referred to the outbreaks of enteric fever at Bloemfontein and Kroonstad during the late war, and expressed his admiration for the way in which the medical officers managed to meet all emergencies with a minimum of appliances.

IT is announced from Washington that Secretary Hitchcock, of the Interior Department, has granted authority for the acquisition of necessary property, rights of way, etc., prior to the construction of irrigation works in five localities. These projects are: Wyoming, Sweetwater dam; Montana, Milk River; Colorado, Gunnison tunnel; Nevada, Truckee; Arizona, Salt River reservoir. These projects are estimated to cost $7,000,000, and will provide for the irrigation of about 600,000 acres of arid land. In addition thereto the Gray Bull reservoir project is to be taken up immediately. The construction remains subject to the feasibility of obtaining the necessary rights and the adjustment of private claims. The authority granted relates to the projects upon which the examinations have been made in sufficient detail to justify estimates of cost

and results. Several others, in other states, are well advanced as regards investigation, and it is expected that further recommendations can be made after the close of the coming field season. The secretary also has authorized the expenditure, during the present calendar year, of $450,000 on surveys, borings for foundations, and other examinations, which will be carried on in all the states and territories included within the provisions of the law.

ACCORDING to a Reuter message from Vienna, Professor Behring, the discoverer of the diphtheria serum, lectured before the Vienna Medical Society upon the results of his experiments with tuberculosis serum, which have so far been confined to animals and have proved entirely successful. The professor at present, however, considers it inadvisable to experiment on human beings. His serum is produced by cultivation of the bacillus of human tuberculosis, which is dried in a vacuum in order to prevent loss of virulence. An ordinary dose consists of four centigrams of bacilli mixed with water. It is injected subcutaneously into the veins. In very few cases, said the lecturer, did the experiments prove unsatisfactory on account of fever, difficulty in breathing, and accelerated pulse, but even in these cases the animals proved immune against animal tuberculosis. Professor Behring found that with younger animals the reaction was less than in the case of older animals, which suffered from severe reaction, besides losing their immunity more quickly. He thought, therefore, that in the event of the serum's proving a success persons should be inoculated in their earliest childhood. Professor Behring admitted that he was unable to tell how soon people might expect to be able to protect themselves against tuberculosis by the injection of serum. Incidentally the lecturer declared that the question of heredity was far less important than many people believed. He attached greater importance to contagion.

THE London *Times* reports that M. Moissan communicated to the French Academy of Sciences at its meeting on March 16 a paper giving the results of an inquiry conducted by himself in collaboration with Professor Dewar into the solidification of fluorine, and its behavior in contact with liquid hydrogen at the temperature of 20 degrees absolute or, say, *minus* 252 degrees centigrade. While one of the collaborators has produced liquid hydrogen in large quantities, the other has isolated fluorine gas in a state of absolute purity, and has demonstrated that this most active of known elements does not attack glass when perfectly free from moisture. Thus it has become possible by sealing pure fluorine in a glass tube and immersing it in liquid hydrogen to show its liquefaction and solidification, and to prove that its point of fusion is at —233 degrees centigrade. It remained only to bring the two elements together at that temperature in order to discover whether chemical activity is entirely suspended as in the case of nearly all other substances. The dangerous experiment was made by breaking the fluorine tube in 100 c.c. of liquid hydrogen, and the result was a violent explosion, accompanied by a volume of flame and the shattering of the apparatus employed. It is thus demonstrated that, whatever may be the case at the absolute zero, certain reactions continue to occur at a temperature only 20 degrees above it when an element so energetic as fluorine is in question.

A REUTER telegram from Vienna, dated March 15, says: "Professor Hans Molisch, of Prague, has reported to the Vienna Academy of Sciences the discovery of a lamp lighted by means of bacteria, which, he claims, will give a powerful light and be free from danger, thus being valuable for work in mines and powder magazines. The lamp consists of a glass jar, in which a lining of saltpetre and gelatine inoculated with bacteria is placed. Two days after inoculation the jar becomes illuminated with a wonderful bluish green light, caused by the innumerable bacteria which have developed in the time. The light will burn brilliantly for from two to three weeks afterwards, diminishing in brightness. It renders faces recognizable at a distance of two yards, and large type is easily legible by it. Professor Molisch asserts that the lamp yields a cold light which is entirely safe."