Vienna Academy of Sciences.—Hann, Weiss, von Lang, Exner, committee; Boltzmann, delegate.

St. Petersburg Academy of Sciences.—Backlund, and others not yet named, committee; Backlund, delegate.

Sub-committee of International Meteorological Committee.—Rotch, delegate.

Stockholm Academy of Sciences.—Arrhenius,* delegate.

Astronomical and Astrophysical Society of America.—Frost, Abbot, Bauer, Jewell, Perrine, committee; Frost, Abbott, Bauer, Jewell, Perrine, delegates.

American Physical Society. — Ames, Crew, Lewis, Mendenhall, E. F. Nichols, committee; Crew, Mendenhall, delegates.

National Academy of Sciences.—Hale, Campbell, Langley, Michelson, Young, committee; Hale, Campbell, delegates.

George E. Hale,
President.
C. D. Perrine,
Recording Secretary.

THE FRANKLIN FUND.

The Boston *Transcript* gives further details in regard to Mr. Andrew Carnegie's gift to the Franklin Fund. It appears that he has offered to duplicate the amount of the fund as it stood last September—$408,396.48. His gift is to be used as an endowment for the Franklin Union or Franklin Institute, whichever name it may finally bear, on the following conditions:

1. That the Franklin Fund be devoted to the establishment of a school for the industrial training of men and women along the lines of the Mechanics' and Tradesmen's School of New York and the Cooper Union.

2. That the city of Boston shall furnish a site.

The information was imparted to the managers of the fund by a letter recently written to Mayor Collins, chairman of the fund, by President Henry S. Pritchett of the Institute of Technology. In the letter Dr. Pritchett said:

"In September last I had some talk with Mr. Andrew Carnegie concerning the history of Franklin's bequest to the city of Boston. Mr. Carnegie took great interest in the outcome of Franklin's effort, both from his admiration of the character of Franklin, and from the desire to see the gift a helpful one. The outcome of this talk was his suggestion that he would furnish an endowment equal in amount to the sum available from Franklin's bequest. Upon my return to Boston, I sent to Mr. Carnegie a copy of Franklin's will, together with a statement of the treasurer of Boston showing that the amount available at that time was $408,396.48. Recently Mr. Carnegie has written me, saying that after looking over these papers, he saw no reason to modify his original suggestion, and formally renewing his offer to duplicate the amount mentioned as an endowment for the Franklin Union or the Franklin Institute, whichever name it may finally bear."

Dr. Pritchett then quotes the conditions Mr. Carnegie imposes, as stated above. In conclusion the letter says, Mr. Carnegie's thought is, perhaps, best shown by the following extract from his letter:

"I am a trustee of both the schools mentioned and do not hesitate to say that to the best of my knowledge no money has produced more valuable results. I think it is from the class who not only spend laborious days, but who also spend laborious nights fitting themselves for hard work, that the most valuable citizens are to come. We are here helping only those who show an intense desire and strong determination to help themselves—the only class worth helping, the only class that it is possible to help to any great extent."

SCIENTIFIC NOTES AND NEWS.

The new series of Science completes with the present issue its tenth year and twentieth volume.

At the time we go to press all indications point to a most successful meeting of the American Association for the Advancement of Science and the affiliated societies at Philadelphia during convocation week. Full reports of the meetings will be published in the next and subsequent issues of this journal.

The Paris Academy of Sciences has bestowed upon Sir James Dewar its Lavoisier gold medal.

* Acting informally.

DR. DONALD MACALISTER, the representative of Cambridge on the General Medical Council for the last fifteen years, has been elected president of the council in succession to Sir William Turner, K.C.B., principal of Edinburgh University.

WE learn from the *British Medical Journal* that the University of Marburg, on the occasion of the four-hundredth anniversary of the birth of Landgrave Philip the Magnanimous of Hesse, conferred the honorary degree of doctor of medicine on Professor Adolf Harnack, of Berlin, the famous historian of theological dogma. The reason of this distinction is that Dr. Harnack contributed an essay on medical matters in the earliest period of church history to the *Festschrift* produced in honor of his father-in-law, Professor Thiersch, the distinguished surgeon of Leipzig.

THE Rev. Francis Bashforth, second wrangler 1843, formerly fellow of the college, and distinguished for his researches in ballistics, has been elected to an honorary fellowship of St. John's College, Cambridge.

DR. K. A. HASSELBACH, docent of physiology in the University of Copenhagen, has been appointed head of the laboratory of the Finsen Institute in that city.

PROFESSOR JOHN A. MILLER, of Indiana University, will be among the American astronomers who will go to Spain next year to observe the total eclipse of the sun on August 13, 1905.

DR. O. HECKER, of the Potsdam Magnetic Observatory, Germany, is now engaged at Tokio, Japan, in gravity and magnetic measurements and in making comparisons with those of Professor A. Tanakadaté, of the Imperial University at Tokio.

MR. L. Y. AYSON, commissioner and chief inspector of fisheries for New Zealand, has arrived in California for the purpose of taking home with him eggs of the white fish and salmon.

DR. FRIEDRICH HOFFMANN, an eminent student of scientific pharmacy, died at his home in Charlottenburg on November 30. Dr. Hoffmann lived in New York City from 1862 to 1895 and was well known for his scientific work and as editor of the Pharmaceutische Rundschau. He was a fellow of the American Association for the Advancement of Science.

PROFESSOR J. L. BUDD, for twenty-two years at the head of the horticultural department at the Iowa State Agricultural College, has died at San Antonio, Texas.

DR. GAETANO COCCHI, who was sent by the Italian government to study malaria in South America, has died of yellow fever at Merida in Mexico.

THE heirs of Professor Virchow have given about $12,000 to be applied towards the prevention of infant mortality in Berlin.

IT is stated in *Nature* that a valuable collection of specimens illustrative of the fauna of the deep sea has recently been received at the British (Natural History) Museum as a gift from the king of Portugal. The collection is reported to include a number of deep-sea fishes, among which are sharks of considerable size.

THE Russian admiralty is perfecting arrangements to send, as soon as the war is over, an expedition headed by Admiral Vilchitsky, chief of the Hydrographic Bureau, to explore thoroughly the Arctic route to the Far East.

THE National Educational Association will meet at Asbury Park and Ocean Grove, N. J., from July 3–7, 1905, under the presidency of Dr. Wm. P. Maxwell, superintendent of schools of New York City.

THE Franklin Institute of Philadelphia announces the following program of popular science lectures, to be given in Association Hall, Fifteenth and Chestnut Streets, under the joint patronage of the institute and the Central Branch of the Y. M. C. A.:

Friday, January 13.—Professor Leslie W. Miller, School of Industrial Art, Philadelphia, 'Civic Beauty and Civic Duty.'

Friday, January 20.—Mr. H. E. Duncan, American Waltham Watch Co., Waltham, Mass., 'The Mechanism of the Pocket Watch.'

Friday, January 27.—Mr. Fred. E. Ives, New York, 'Here and There with a Color Camera.'

Friday, February 3.—Professor Angelo Heilprin, Philadelphia, 'El-Kantara: A Glimpse of the African Desert.'

Friday, February 10.—Dr. B. H. Warren, Commissioner of the Dairy and Food Division of the Department of Agriculture, Harrisburg, Pa., 'The Adulteration of Food Commodities and Pennsylvania's Method of Suppressing the Growing Evil.'

Friday, February 17.—Mr. W. N. Jennings, Philadelphia, 'Snap-Shots in Florida and Cuba.'

THE executive board of the association for Maintaining the American Women's Table at the Zoological Station at Naples and for promoting Scientific Research by Women wishes to call attention to the opportunities for research in zoology, botany and physiology provided by the foundation of this table. Each appointee of the association who has occupied the table for at least three consecutive months, may receive the title of Scholar of the Association, if, in the judgment of the executive board, she is entitled to this distinction. The appointments are made by the executive board with the cooperation of a board of advisers, to whom work presented as evidence of research may be submitted. The members of the present board of advisers are Professor Ethan A. Andrews, of Johns Hopkins University, Professor R. H. Chittenden, of Yale University, and Dr. W. T. Porter, of the Harvard Medical School. The year of the association begins in April, and all applications for the year 1905 should be sent to the secretary on or before March 1, 1905. Application blanks and detailed information in regard to the advantages at Naples for research and collection of material will be furnished by the secretary, Mrs. A. D. Mead, 283 Wayland Ave., Providence, R. I.

Nature says: "The sale of Chartley Park, Staffordshire, the hereditary seat of Lord Ferrers, involves also a change of ownership of the remnant of the celebrated herd of white cattle which have been kept there for the last 700 years. It is much to be regretted that the cattle could not have gone with the park, and have been maintained there by the new owner; but as this is not to be, it is to be hoped that they will be given a safe home elsewhere, where they will flourish and increase. It was long considered that the herds of wild cattle in various British parks were direct descendants of the wild aurochs, but it is now generally admitted (largely owing to the writings of Mr. Lydekker) that they are derived from domesticated albino breeds nearly allied to the Pembroke and other black Welsh strains, some of which show a marked tendency to albinism. This view, as pointed out by a writer in the *Times* of November 29, is strongly supported by the fact that the Chartley cattle frequently produce black calves. The theory advocated by a later writer in the same journal that the British park cattle are the descendants of a white sacrificial breed introduced by the Romans rests upon no solid basis. The Chartley cattle, believed to be reduced to nine head, are to be captured by the purchaser—no easy task."

THE *British Medical Journal* states that the Liverpool School of Tropical Medicine is about to dispatch an expedition to study yellow fever at the Brazilian town of Manaos, the capital of the Amazonas province of the Republic. It is situated at the point where the Rio Negro enters the river Amazon. Manoas is a great center for the rubber trade. The members of the expedition are Dr. Wolferton Thomas (Canada) and Dr. Anton Brienl (Prague). The same school is sending an expedition, consisting of Professor Boyce, F.R.S., Dr. Evans, and Dr. Clarke, to Sierra Leone and the Gambia, and another, consisting of Colonel Giles, I.M.S., and Dr. MacConnell (Canada), to the Gold Coast, Logas and Nigeria. The members of the several expeditions were introduced by Sir Alfred Jones, the president of the school, to the Colonial Secretary on December 7. Mr. Lyttelton said that no service could be more acceptable and honorable than that directed to making more safe and useful tropical regions to which Englishmen went to do the work of the Empire.

Nature states that the Danish Commission for the Study of the Sea, which is charged with carrying out the Danish portion of the cooperative international investigations, has issued the first memoirs of its report, which is published under the title 'Meddelelser fra Kommissionen for Havundersøgelser." The report, which is to be written in English or German, and is issued in quarto form, uni-

form with the *Bulletin* of the Central Bureau of the International Council, is divided into three series, dealing respectively with fisheries, with hydrography and with plankton. Of the fisheries series one memoir is now published, viz., C. G. Joh. Petersen, on the larval and post-larval stages of the long rough dab and the genus *Pleuronectes* (with two plates); of the hydrographic series three memoirs, Martin Knudsen, on the organization of the Danish hydrographic researches, H. J. Hansen, experimental determination of the relation between the freezing point of sea-water and its specific gravity at 0° C., Niels Bjerrum, on the determination of chlorine in sea-water and examination of the accuracy with which Knudsen's pipette measures a volume of sea-water; and of the plankton series two memoirs, Ove Paulsen, plankton investigations in the waters round Iceland, C. H. Ostenfeld, on two new marine species of Heliozoa occurring in the plankton of the North Sea and the Skager Rak. The memoirs are of interest as being amongst the first fruits of the international scheme of cooperative research. They are, however, all short memoirs, dealing with what may be considered as side issues of the main investigations, the reports upon which must be looked for at a later date. The Danish commission, which is appointed by the Danish Board of Agriculture, consists of Professor C. G. Joh. Petersen (chairman), C. F. Drechsel, C. H. Ostenfeld and Martin Knudsen (secretary).

Nature states that a list of awards to exhibitors from Great Britain and Ireland at the St. Louis International Exhibition has been received from the secretary of the Royal Commission appointed for the exhibition. The number of grand prizes gained by Great Britain is 121, while 238 gold medals, 162 silver medals, and 132 bronze medals have been awarded to British exhibitors, making a total of 653. Among these awards are the following:—Department of Liberal Arts: photography, grand prize, Sir W. de W. Abney, K.C.B., F.R.S.; the Royal Observatory, Greenwich; the Royal Photographic Society; the Solar Physics Observatory; and Sir Benjamin Stone; gold medal, the Geological Photographs Committee of the British Association; the Cretan Exploration Fund; and the Survey of India. Maps and apparatus for geography, grand prize, Board of Agriculture and Fisheries; Ordnance Survey of Great Britain and Ireland; Royal Geographical Society; Admiralty (Hydrographical Department); the Survey of India; Palestine Exploration Fund. Chemical and pharmaceutical arts, grand prize, low temperature research exhibit of the British Royal Commission; Sir William Ramsay, K.C.B., F.R.S.; gold medal, Dr. Ludwig Mond, F.R.S.; the Owens College; Royal College of Science, London. Awards to collaborators, gold medal, Professor James Dewar, F.R.S. (low temperature research exhibit); Mr. T. Wilton and Dr. A. R. Garrick. Various applications of electricity: awards to collaborators, grand prize, Lord Kelvin (for important contributions to electrical engineering); gold medal, Professor Hugh Langbourne Callendar, F.R.S., Mr. W. du Bois Duddell. Theory of agriculture: grand prize, the Rothamsted Experimental Station (Lawes Agricultural Trust); gold medal, Board of Agriculture and Fisheries; Royal Agricultural Society. Department of Horticulture: appliances and methods of pomology, grand prize, Board of Agriculture and Fisheries; Royal Horticultural Society; the British Royal Commission; gold medal, Dr. Henry. Department of Forestry: appliances and processes used in forestry, gold medal, Forest Department, India; silver medal, the Royal Scottish Arboricultural Society. Department of Mines and Metallurgy: ores and minerals, grand prize, Home Office (Mining Department); Department of Agriculture and Technical Instruction for Ireland. Geological maps and plans of mines, grand prize, Geological Survey of India. Mining literature, grand prize, the Iron and Steel Institute; the Geological Survey of India; gold medal, the Institution of Mining Engineers. Fishing equipment and products: grand prize, Marine Biological Association of the United Kingdom, for an exhibit prepared at their Plymouth laboratory illustrating the life-history and the food of fishes, and a gold medal for publications. Department of Anthropology: ethnography, grand

prize, Cretan Exploration Fund; Egypt Exploration Fund; Palestine Exploration Fund.

According to Mr. F. H. Oliphant, in the annual report of the U. S. Geological Survey, the total production of crude petroleum in the United States in 1903 was 100,461,337 barrels, a gain of 11,694,421 barrels, or 13.17 per cent. over the production of 1902. The great increase was mainly due to the remarkable output in California, which is now larger than that of any other state. California produced 24.27 per cent., or nearly one fourth of the entire production. Next to California the largest gain in production was in Indiana, which was 1,705,515 barrels, an amount that represents a gain of 22.80 per cent. over the state's production in 1902. Kansas showed a remarkable gain in production—600,465 barrels, or 181 per cent.; Kentucky and Louisiana showed gains of about 369,000 barrels each; Indian Territory gained 101,811 barrels, or 274.4 per cent.; and New York gained 43,248 barrels, or 3.86 per cent. On the other hand, there was a slight decrease of production, 128,086 barrels, or 0.708 per cent., in Texas; and Ohio, Pennsylvania and West Virginia all showed decreased production, amounting to a total of 1,856,619 barrels, or 3.98 per cent., in 1903 as compared with 1902. The largest decrease in production in 1903 was in Pennsylvania, and amounted to 708,724 barrels. During the last six years there has been a very remarkable change in the percentage of the local production. The Appalachian and the Lima-Indiana fields, which for many years produced all but a very small percentage of the whole, produced in the year 1903 only 55.38 per cent. of the total, whereas in 1898 these fields produced 93.99 per cent. of the total. California and Texas have been the most important factors in bringing about the readjustment of the percentages of production.

UNIVERSITY AND EDUCATIONAL NEWS.

Mr. W. A. Riebling, of Newark, N. J., has sent an additional $10,000 to the Rensselaer Polytechnic Institute, Troy, N. Y., to be used in replacing the building destroyed by fire. Mr. Riebling gave $10,000 last June. A gift of $5,000 from Mr. George B. Cluett is also announced.

Wellesley College has received $7,200 from the Robert Charles Billings fund, the income of which is to be applied to the department of botany.

Mr. Thomas McLean has bequeathed £5,000 to the University of Birmingham for the Department of Physics.

Nature states that Professor Woodhead has obtained from friends resident in or connected with Huddersfield a sum of more than 1600*l.* for the endowment of a Huddersfield lectureship in special pathology at Cambridge.

The New York *Evening Post* states that it is probable that the work which Dr. William Osler has been doing at Johns Hopkins will be divided when Dr. Osler goes to assume the regius professorship of medicine at Oxford. It has been suggested that Dr. William H. Welch, now Baxley professor of pathology at Johns Hopkins and pathologist to the hospital, be appointed professor of medicine and director of that department, and that Dr. William S. Thayer, who has been closely associated with Dr. Osler, at Johns Hopkins, be appointed professor of clinical medicine, and Dr. Lewellys F. Barker, of Chicago, be appointed professor of experimental medicine.

Mr. W. McKim Marriott, assistant in the department of chemistry, University of North Carolina, has accepted a research assistantship in the chemical department of the Cornell Medical College in New York City.

Professor Arthur Robinson, of King's College, London, has been appointed to the chair of anatomy at the University of Birmingham, in succession to Professor B. C. A. Windle, now president of Queen's College, Cork.

Dr. Gisbert Kapp, lecturer on dynamo construction in the Technical Institute, Charlottenburg, Berlin, has been elected the first professor of electrical engineering at Birmingham.

Mr. F. F. Blackman, of St. John's College, Cambridge, has been appointed reader in botany in the place of Mr. Francis Darwin.