

they teach and illustrate. Public and private philanthropy have developed them with a rapidity almost phenomenal, for they are all yet in their infancy, and on a scale commensurate with the dignity of the metropolis of America. The cordial cooperation of a municipality with public-spirited citizens to build and maintain such institutions for the welfare of the people and of science, finds here, in New York, its maximum evolution, which has as yet, however, by no means reached its complete development nor its maximum usefulness. What shall be said of their position and importance when after fifty years the New York Historical Society opens the tablet which we now place upon this bridge? And, what discoveries will science have made for the benefit of the human race during these next fifty years?

The selection of this bridge recently constructed by the park department, as a permanent memorial of Linnæus, is most appropriate. It is situated just outside the New York Zoological Park, with the New York Botanical Garden a short distance to the north, being thus between the two institutions which teach the subjects on which the fame of Linnæus chiefly rests. The suggestion that it be known hereafter as the Linnæus Bridge came from the Director of the American Museum of Natural History.

On behalf of the New York Academy of Sciences I now unveil this tablet and present it to the city of New York, there having been placed in it copies of to-day's program and other documents befitting the occasion.

SCIENTIFIC NOTES AND NEWS

DR. FREDERICK L. DUNLAP, instructor in the University of Michigan, has been appointed associate chemist in the Bureau of Chemistry, and will be a member of the board of food and drug inspection. The other members of this board are Dr. H. W. Wiley, chairman, and George P. McCabe, solicitor of the department.

THE Vienna Academy of Sciences has awarded its Baumgarten prize (2,000 Kr.) to Dr. Egon Ritter v. Schweidler, professor of physics in Vienna, for his work on the phe-

nomena of dielectrics; the Lieben prize (2,000 Kr.) to Dr. H. Benndorf, associate professor of physics at Graz, for his work on the transmission of earthquake-waves in the interior of the earth, and the Haitinger prize (2,500 Kr.) to Dr. Robert Kremann, docent at Graz, for his work on the esters.

DR. E. RAY LANKESTER, retiring director of the natural history department of the British Museum, has been knighted on the occasion of the birthday of King Edward.

CAMBRIDGE UNIVERSITY proposes to confer, in connection with the celebration of the centenary of the Geological Society, London, in September next, the degree of doctor of science upon Waldemar Cristopher Brögger, professor of mineralogy and geology in the University of Christiania; Geheimrath Hermann Credner, director of the Geological Survey of Saxony, professor of geology in the University of Leipzig, Professor Louis Dollo, curator in the Royal Museum of Natural History, Brussels; Albert de Lapparent, professor of geology and mining in the Catholic Institute, Paris; Professor Alfred Gabriel Nathorst, keeper of the department of fossil plants in the State Museum of Sweden, Stockholm; and Geheimrath Professor Heinrich Rosenbusch, professor of geology and mineralogy in the University of Heidelberg.

THE University of Michigan has conferred the honorary doctorate of science on Mr. Carlos B. Cochran, professor of physical science of the West Chester Normal School and state analyst of Pennsylvania.

At the seventy-third annual meeting of the Royal Statistical Society, its Guy medal in gold was awarded to Professor F. Y. Edgeworth for his special services to statistical science, and for his many important and valuable contributions to the transactions of the society. A Guy medal in silver was awarded to Mr. N. A. Humphreys for his recent paper on "The Alleged Increase of Insanity." The subject of the essays for the Howard medal competition, 1907-8, was announced to be "The Cost, Conditions and Results of Hospital Relief in London."

THE Hanbury gold medal has been conferred on Dr. David Hooper, curator of the economic and art sections of the Indian Museum of Calcutta.

M. ST. C. HEPITES has retired from the direction of the Rumanian Meteorological Institute at Bukharest, after having held the office for twenty-three years. He is succeeded by M. I. St. Murat.

DR. GRAHAM-SMITH, Dr. Nuttall and Professor Woodhead have been nominated to represent Cambridge University at the International Congress of Hygiene and Demography to be held in Berlin in September.

PROFESSOR HERMANN VON IHERING, director of the Museo Paulista, São Paulo, Brazil, will represent the museum at several scientific conferences to be held this year in Europe. During his absence Mr. Rodolpho von Ihering will have charge of the museum.

PROFESSOR A. S. HITCHCOCK, systematic agrostologist, U.S. Department of Agriculture, has returned to Washington after five months spent in Europe studying the types of American grasses in the herbaria at Antwerp, Brussels, Paris, Madrid, Padua, Florence, Geneva, Munich, Vienna, Graz, Prague, Halle, Göttingen, Berlin, St. Petersburg, Stockholm and London. Much valuable material in the way of photographs, drawings and portions of types was secured for the national herbarium.

DR. CHARLES A. DAVIS, of the University of Michigan, who has recently completed a report on the peat deposits of Michigan, has been engaged by the United States Geological Survey to make a reconnaissance survey of the peat formations of the coastal plain from the Carolinas northward during the summer.

THE Croonian lectures of the Royal College of Physicians, London, have been delivered by Dr. W. J. R. Simpson on "The Plague."

IN connection with the summer school of Columbia University, a course of lectures on recent advances in physics will be given on successive Monday afternoons at 4:30 o'clock in room No. 301, Fayerweather Hall, as follows:

July 15—"The Perception of Color and Theories of Color Vision," Professor F. L. Tufts.

July 22 and 29—"The Resolving Powers of Optical Instruments," two lectures, Professor C. R. Mann.

August 5—"The Phenomena of Radioactivity and Their Bearing on Our Theories of the Structure of Matter," Professor William Hallock.

August 12—"Some Problems in Artificial Illumination," Professor F. L. Tufts.

AT the exercises commemorative of the one hundredth anniversary of Henry Wadsworth Longfellow, at Bowdoin College, it was announced that the daughters of the poet, Miss Alice H. Longfellow, Mrs. Richard H. Dana and Mrs. J. C. Thorpe, have given \$10,000 to the college to endow a fellowship in literature in memory of their father.

DR. C. B. WARRING, for many years instructor in mathematics and physics in the Poughkeepsie Military Institute and the author of works on the relation of the Bible to modern science and other subjects, died on July 5, at the age of eighty-two years.

PROFESSOR KUNO FISCHER, professor of philosophy at Heidelberg, and well known for his publications on the history of philosophy, died on July 5, at the age of eighty-three years.

THE deaths are also announced of Dr. Karl Müller, docent in botany in the Technical Institute at Berlin; of Dr. Egon Ritter von Oppolzer, associate professor of mathematics and astronomy at the University of Innsbruck, and of Dr. Hermann, emeritus professor of mechanical engineering in the Technical Institute at Aachen.

THE third Prehistoric Congress of France will be opened at Autun on August 12, under the presidency of Professor Adrien Guébbard, and will close on August 18.

The Journal of the American Medical Association says: "Representatives of the leading anatomic associations of the world gathered at Würzburg, Germany, during the last week of April. Romiti, of Pisa, presided, and numerous communications were presented showing progress in all lines of comparative anatomy and embryology, and general microscopic and macroscopic human anatomy and embry-

ology. The congress was under the auspices of the German *Anatomische Gesellschaft*, forming its twenty-first annual meeting. Four vice-presidents were elected, who will preside in turn at the annual meetings—Waldeyer, of Berlin; Ebner, of Vienna; Stöhr, of Würzburg, and Nicolas, of Nancy. Stöhr is Kölliker's successor at Würzburg, where his assistants are Schultze, Sobotta and Sommer. They have at their disposal the remarkably well-equipped Institute of Anatomy with its unusual collections of specimens and works on anatomy, the Würzburg faculty having made rather a specialty of anatomy under Kölliker's leadership. The *Presse Médicale* for May 22 has a good report of the congress."

THE Hudson-Fulton Celebration Commission has set apart the days from September 18 to 26, 1909, as the time for the observances in honor of the three hundredth anniversary of the discovery of the Hudson by Henry Hudson and the one hundredth anniversary of Robert Fulton's first practical application of steam to navigation. The exercises will include the dedication of the Robert Fulton memorial watergate in Riverside Park and various parks and memorials which it is hoped will be erected along the river.

THE literature concerning the alcohol and drug problems has grown to such extent in pamphlets, books, papers and studies of every description that it is impossible to keep in touch with everything written on the subject. Hence a society has been formed in Boston, Mass., and incorporated by the laws of the state, called The Scientific Temperance Federation. This society is a bureau for the collection of every pamphlet, book and paper relating to any possible phase of this question. These are to be put on file and tabulated so as to be available for students and writers. A trained specialist will be in charge to furnish abstracts and data, or copies of the papers on file. The society will charge a small membership fee and will be endowed so that its work will be permanent. Already a nucleus has been made and the work begun. Dr. Crothers, of Hartford, Conn., is chairman of the board

of directors. Miss C. F. Stoddard, 23 Trull St., Boston, Mass., is the secretary, to whom all inquiries should be addressed.

WE learn from *Nature* that an exhibition of engineering models, optical, electrical and scientific instruments, technical education appliances, and tools, is to be held at the Royal Horticultural Hall, Vincent Square, Westminster, S. W., on October 22-26. In addition to exhibits by leading makers, there will be a loan collection of experimental and exhibition models and apparatus, and also lectures and demonstrations in various branches of applied science.

THE annual *conversazione* of the Royal Geographical Society was held on June 14 at the National History Museum, South Kensington. Sir George Goldie, Miss Goldie and several members of the council received the guests, who numbered nearly 1,200. The okapi recently obtained by Major Powell-Cotton from the Ituri Forest, Equatorial Africa, was on view, together with a special exhibition of specimens, manuscripts and objects relating to Linnæus, arranged in celebration of the bicentenary of Linnæus's birth.

DR. G. R. MANSFIELD, of Harvard University, with a party of students expected to reach Bozeman, Montana, on July 2, where they will outfit with wagons and camp equipment and start for the mountains, visiting first the geological section of the Bridger Range, then the intervening Cretaceous section to the base of the Crazy Mountains, where they will join Professor Wolff, who, assisted by Mr. H. E. Merwin, assistant in mineralogy, is making a revision of the geology of the mountains. The two parties will spend three weeks in a joint study of the eruptive rocks of the range, and of the exposures in the cañons of dikes, sills and stocks; the summer school party then returning to Bozeman and disbanding, Dr. Mansfield returning to the smaller party to study the extinct glaciation of the range.

THE annual meeting of the Naples Table Association for Promoting Laboratory Research by Women held its annual meeting April twentieth, at Mount Holyoke College, by invitation of Miss Woolley on behalf of the

college. Miss Sarah E. Doyle, of Providence, was elected president, Mrs. Elizabeth L. Clarke, treasurer and Mrs. Ada Wing Mead, secretary. The Table of the Association at the Zoological Station at Naples has been occupied at different times during the past year by Miss Grace Watkinson, A.B., Smith, 1902, A.M., 1904; Miss Florence Peebles, A.B., Women's College of Baltimore, 1895, Ph.D., Bryn Mawr, 1900, and Miss Anna G. Newell, A.B., Smith, 1900. It has been assigned for the spring of 1908 to Miss Mary J. Hogue, A.B., Women's College of Baltimore, 1905. The next annual meeting will be held in Providence on invitation of Dean King and President Faunce in behalf of the Women's College in Brown University. Nine theses were received in competition for the \$1,000 prize offered in 1907. Three of them were sent from foreign countries. The theses showed wider range of endeavor than those received in the two previous contests as they dealt with botanical, anatomical, morphological, physiological and chemical problems. Several were of decided merit, but since, in the opinion of the examiners, no one was of adequate merit to deserve the award, the association voted to exercise its right to withhold the prize. The fourth prize is announced for 1909.

ACCORDING to statistics compiled for the United States Geological Survey by Edward W. Parker, coal-mining expert in charge, the total production of coal in the United States in 1906 was 414,039,581 short tons of 2,000 pounds, valued at \$512,610,744. These figures, compared with those of the preceding year, when the output amounted to 392,919,341 short tons, valued at \$476,756,963, show an increase of 21,120,240 short tons, or 5.4 per cent., in quantity, and of \$35,853,781, or 7.5 per cent., in value. Of the total production in 1906, Pennsylvania contributed 200,546,084 short tons, or 48.4 per cent., in quantity, and \$262,182,935, or 51.1 per cent., in value, the larger percentage in the value being due, of course, to the higher value of anthracite, which is produced almost exclusively in that state. The production of coal in 1906 by states was as follows:

State.	Product.	Value.
Alabama	13,107,663	\$17,467,886
Arkansas	1,864,518	2,999,774
California and Alaska .	30,831	78,684
Colorado	10,114,074	12,738,509
Georgia and North Carolina	363,463	407,247
Idaho and Nevada	6,165	24,238
Illinois	41,497,435	44,742,440
Indiana	12,084,281	13,105,168
Indian Territory	2,859,450	5,481,653
Iowa	7,321,639	11,688,598
Kansas	6,010,858	8,935,195
Kentucky	9,673,536	9,794,823
Maryland	5,434,528	6,473,829
Michigan	1,336,338	2,402,529
Missouri	3,755,778	6,163,449
Montana	1,787,934	3,186,620
New Mexico	1,963,558	2,635,571
North Dakota	300,998	437,894
Ohio	27,729,843	30,386,297
Oregon	79,731	212,338
Pennsylvania:		
Anthracite	71,282,411	131,917,694
Bituminous	129,263,673	130,265,241
Tennessee	6,262,686	7,682,121
Texas	1,160,707	2,058,731
Utah	1,773,847	2,411,992
Virginia	4,275,815	4,207,521
Washington	3,276,184	5,908,434
West Virginia	43,276,485	40,777,382
Wyoming	6,138,152	8,019,486
Total	414,039,581	\$512,610,744

THE Meteorological Service of the Dominion of Canada is now sending time signals from the observatory at St. John, of which Mr. D. L. Hutchinson is director, by telegraph to the wireless station at Camperdown, where special apparatus has been installed to automatically transmit the signals to ships at sea within the zone of that station. Time signals will be sent each week day morning as follows: Beginning at 9h. 58m., A.M., Atlantic time, dots are made each second up to and including 9h. 58m. 57s., then a pause of two seconds, followed by a dot at 9h. 59m.; then another pause of two seconds follows; the clock then makes dots each second up to and including 9h. 59m. 50s.; a pause is then made, followed by a dot at 10h. A.M., Atlantic or Standard time of the 60th meridian west longitude, equivalent to 2h., P.M., Greenwich mean time.