analyses connected with completion of a study of the Morin anorthosite area, Quebec.

THE NEW YORK MUSEUM OF SCIENCE AND INDUSTRY

CEREMONIES opening the new permanent home of the New York Museum of Science and Industry in Rockefeller Center were held on the evening of February 11. Sir William Bragg, director of the Royal Institution of Great Britain, formally opened the museum from the desk at which Michael Faraday worked out his experiments in electro-magnetism. Seated in Faraday's chair, Sir William lighted a match and candle which sent an impulse over the Atlantic. Picked up in New York through a photo-electric cell, the impulse lighted a small incandescent lamp within the museum, the first lamp manufactured by the Westinghouse Company. In turn, the original lamp lighted a battery of forty new mercury vapor lamps.

Sir William Bragg preceded his formal opening of the museum with an address. Other speakers were Dr. Frank B. Jewett, president of the Bell Telephone Laboratories and president of the Board of Trustees of the Museum; Dr. Albert Einstein; Dr. Harold C. Urey, professor of chemistry at Columbia University; and Mayor La Guardia. Dr. Robert A. Millikan, of the California Institute of Technology, spoke from Pasadena, and Miss Amelia Earhart from Santa Ana, Calif.

The museum, which was established in 1927 through a bequest of Henry R. Towne, seeks in exhibits, many of which can be operated by visitors, to make the underlying principles of science more understandable to the layman and to depict recent developments in science and industry, tracing them to their scientific origins. Five special exhibits, demonstrating notable achievements in science, have been arranged by the laboratories of the General Electric Company, the B. F. Goodrich Company, the Bell Telephone Laboratories, the Eastman Kodak Company and the New York Central Railroad.

The museum has more than 50,000 square feet of exhibition space in Rockefeller Center. The Rockefeller Foundation and the Carnegie Corporation have each given $20,000 a year for its support. The following have been added to the Board of Trustees: Gerard Swope, president of the General Electric Company; Thomas J. Watson, president, International Business Machines Company; Newcomb Carlton, chairman, Western Union; Edward R. Stettinius, Jr., chairman of the finance committee of the United States Steel Corporation, and Nelson A. Rockefeller.

SCIENTIFIC NOTES AND NEWS

SIR FREDERICK GOWLAND HOPKINS, Sir William Dunn professor of biochemistry at the University of Cambridge and retiring president of the Royal Society, will be visiting professor at Harvard University during the coming academic year. While at Harvard he will deliver the Edward K. Dunham lectures at the medical school.

THE fourteenth award of the Faraday Medal of the Institution of Electrical Engineers, London, has been made to Sir William Bragg, Fullerian professor of chemistry at the Royal Institution and director of the Davy-Faraday Research Laboratory. The medal is given "not more frequently than once a year, either for notable scientific or industrial achievement in electrical engineering or for conspicuous service rendered to the advancement of electrical science, without restriction as regards nationality."

THE gold medal of the Royal Astronomical Society for 1936 has been awarded to Professor H. Kimura, since 1899 director of the International Latitude Observatory at Mizusawa, Japan. Professor Kimura has devoted the major part of his activities to a study of the variations of latitude and, since 1919, he has been president of that commission in the International Astronomical Union. His principal discovery relates to the existence of a small variation that is constant with respect to the longitude of the station, but which varies with its latitude.

A BRONZE bust of Colonel William L. Keller, until recently head of the surgical service at Walter Reed General Hospital, Washington, D. C., has been installed in the entrance lobby of the main building of the institution, as a gift of Brigadier General Hugh S. Johnson. Colonel Keller was retired from active duty on October 31 and was made surgical consultant under a special law enacted on May 15.

DR. G. H. PARKER, professor of zoology emeritus at Harvard University, has been elected to honorary membership in the New York Academy of Sciences.

DR. L. C. STRONG, of the Yale University Medical School, has been made a foreign corresponding member of the French Association for the Study of Cancer.

THE honorary fellowship of the Jewish Academy of Arts and Sciences, New York, was conferred on January 26 on Dr. Morris Fishbein, editor of the *Journal* of the American Medical Association. Dr. Fishbein gave the principal address.

PROFESSOR J. W. ALEXANDER, of the Institute for Advanced Study, Princeton, has been appointed Rouse

Ball lecturer in mathematics at the University of Cambridge for the present academic year.

OFFICERS of the Academy of Science of St. Louis for 1936 have been elected as follows: *President,* Dr. Robert J. Terry; *First Vice-president,* Dean A. S. Langsdorf; *Second Vice-president,* The Rev. Jas. B. Macelwane, S.J.; *Directors* (2), H. E. Wiedemann and John J. O'Fallon; *Corresponding Secretary,* Dr. Albert Kuntz; *Treasurer,* C. H. Philpott; *Librarian,* Dr. E. P. Meiners; *Curators* (3), W. F. Shay, Dr. L. F. Yntema, Professor P. E. Kretzmann; *Recording Secretary,* Professor W. D. Shipton.

OFFICERS of the Pathological Society of Philadelphia elected for 1936 are: *President,* Dr. Esmond R. Long; *Vice-president,* Dr. Baxter L. Crawford; *Secretary-Treasurer,* Dr. Herbert L. Ratcliffe.

DR. RALPH E. DE LURY, assistant director of the Dominion Observatory, Department of the Interior, Ottawa, was elected president of the Royal Astronomical Society of Canada at the annual meeting held at the University of Toronto on January 14. Vice-presidents elected were Dr. William Findlay, professor of mathematics in McMaster University, Hamilton, Ontario, and Dr. J. A. Pearce, of the Dominion Astrophysical Observatory, Victoria, British Columbia.

FRED W. MORSE, who retired last month as research professor of chemistry at the Massachusetts State College, has been elected emeritus research professor of chemistry by the trustees of the college.

DR. ALDEN B. DAWSON, associate professor of zoology, has been appointed director of the Harvard Biological Laboratories, to succeed Dr. Alfred C. Redfield, professor of physiology, whose resignation as director of the laboratories took effect at the beginning of the academic year. Professor Redfield is continuing his work in teaching.

DR. WILLIAM G. COLBY, assistant agronomist with the Soil Conservation Service of the U. S. Department of Agriculture and previously research assistant in agronomy at the New Jersey Agricultural Experiment Station, has been appointed research professor of agronomy at the Massachusetts State College.

PROFESSOR NORMAN W. KRASE, of the University of Illinois, has been appointed associate professor of chemical engineering at the University of Pennsylvania, beginning on July 1. He will give special attention to further development of the course in chemical engineering, together with graduate instruction.

DR. CECIL PERCY MARTIN, university anatomist and chief demonstrator in anatomy in Trinity College, University of Dublin, has accepted the Robert Reford professorship of anatomy in the faculty of medicine of McGill University. He will take up the work in September, filling the vacancy created by the resignation of Dr. S. E. Whitnall in December, 1934, to accept the chair of anatomy at the University of Bristol.

CHARLES GALTON DARWIN, Tait professor of natural philosophy in the University of Edinburgh, formerly fellow of Christ's College, Cambridge, has been elected to the mastership of the college on the retirement of Norman McLean. Professor Darwin is a son of the late Sir George Darwin and a grandson of Charles Darwin.

PROFESSOR LACASSAGNE, of the Institute of Radium in Paris, is expected to arrive in the United States on March 9. He will be the guest of the International Cancer Research Foundation and of the Fuller Fund. He plans to visit Chicago and Saint Louis on his way to the Pacific Coast, and to return in time to attend the annual meetings of the Federation of American Societies for Experimental Biology in Washington and of the American Association for Cancer Research in Boston.

THE Joseph Henry lecture of the Philosophical Society of Washington was given on February 1 by Dr. Herbert Dingle, assistant professor of astrophysics at the Imperial College of Science and Technology, London. He spoke on "The Physical Universe."

THE third annual lecture in the E. Starr Judd lectureship in surgery, established at the University of Minnesota by the late Dr. E. Starr Judd, will be given on March 17 in Minneapolis by Dr. Frank C. Mann, professor of experimental surgery in the Mayo Foundation. The subject of the lecture will be "Hepatic Physiology and Pathology from the Surgical Viewpoint."

PROFESSOR VINCENT DU VIGNEAUD, of the School of Medicine of the George Washington University, addressed a joint meeting of the Toronto Chemical Association and the Toronto Biochemical Society on January 16. His subject was "Some Investigations on Homocystine and Related Sulfur Compounds."

DR. E. R. WEIDLEIN, director of the Mellon Institute, Pittsburgh, who was recently elected president of the American Chemical Society, gave an address before the Lancaster Branch of the American Association for the Advancement of Science on February 4. The title of the lecture was "Glances at Scientific Research."

DR. W. F. LOEHWING, professor of botany at the State University of Iowa, addressed the Society of Sigma Xi at Iowa State College on two plant hormones on January 23.

DR. ELLIOT POWERS, of the department of geology and geological engineering of the Gulf Production Company, gave the address before a joint meeting of the Sigma Xi Club and the Faculty Science Club of Texas Technological College on January 15.

DR. LACHLAN GILCHRIST, retiring president of the Royal Astronomical Society of Canada and professor of geophysics in the University of Toronto, delivered the presidential address on "Cosmic Radiations and Astronomical Research" at the society's annual at-home held at the University of Toronto on February 4.

IN compliance with the requirements of a gift under the will of the late Francis Amory, of Beverly, Massachusetts, the American Academy of Arts and Sciences announces the offer of a septennial prize for outstanding work with reference to the alleviation or cure of diseases affecting the human genital organs, to be known as the Francis Amory Septennial Prize. In case there is work of a quality to warrant it, the first award will be made in 1940. The total amount of the award will exceed ten thousand dollars, and may be given in one or more awards. While there will be no formal nominations, and no formal essays or treatises will be required, the committee invites suggestions, which should be made to the Amory Fund Committee, care of the American Academy of Arts and Sciences, 28 Newbury Street, Boston, Massachusetts.

THE late Professor Ramón y Cajal has left a legacy of 25,000 pesetas to found a prize to be awarded by the Spanish Academy of Medicine for the best work on a subject to be settled by that body.

A SET of books, many of them rare, which contain virtually all the scientific data available regarding Spitzbergen, were given recently to the library of the Michigan College of Mining and Technology, Houghton, by the estate of John M. Longyear, the engineer, who died in 1922. Mr. Longyear gathered the set while investigating the coal resources and productivity of the island. Among the oldest volumes are those narrating the visits of seventeenth-century Dutch explorers to Spitzbergen.

Nature states that on the occasion of the seventy-fifth anniversary of its foundation, the Dr. C. Schleussner Company of Frankfort-on-Main offers a prize of 2,000 gold marks for the best scientific work on röntgenology. The president of the German Röntgen Society, in conjunction with the Dr. C. Schleussner Company, will decide the award. Purely technical and statistical works as well as those already published are excluded from the competition.

ACCORDING to the *Journal* of the American Medical Association, Dr. Arthur W. Rogers, for many years director and owner of the controlling interest in the Oconomowoc Health Resort, a sanatorium for nervous and mental disease near Oconomowoc, Wis., has purchased all stock of the institution, converting it into a non-stock, non-profit-making corporation as a memorial to Mrs. Rogers. It will henceforth be known as the Rogers Memorial Sanitarium, operated by Dr. Rogers under the direction of a board of trustees. In addition, Dr. Rogers has arranged that his entire estate will be left as an endowment for the institution. Income from this fund will enable the sanatorium to establish a psychiatric laboratory, to hold clinics and graduate courses in neurology and psychiatry, to publish papers and in general to conduct a sanatorium at minimum cost to its patients and to contribute to the advancement of neurology and psychiatry. The sanatorium is made up of a main building with adjacent cottages on a fifty acre estate on Upper Nashotah Lake in Waukesha County. It is estimated that Dr. Rogers' gift is worth about $1,000,000.

A FEDERAL grant of $1,220,000 (30 per cent. to be given outright, 70 per cent. as a loan) for building the second unit of the Medical and Dental College Laboratories Building of the University of Illinois in Chicago has been approved at Washington and the Board of Trustees has received bids for the work. The low bids exceed the amount of the present loan and grant, and alternative proposals are under consideration by the Board of Trustees and the Federal Emergency Administration of Public Works in the hope that this project can still go forward. Funds for the new unit were originally appropriated by the state legislature in 1931, but the university at that time voluntarily turned back the money because of the state's acute financial condition. This year the university was authorized to borrow money from the federal government for the completion of the plans and at the same time providing means for repaying the loan to the government. It was the hope of the board to have the new units ready for occupancy by the fall of 1936, thus enabling the College of Dentistry to abandon its old quarters, called by a special legislative committee in 1931 "a fire trap and a disgrace to the State." Finally, this new unit will bring nearly all the professional departments under the same roof, thus increasing the continuity of the work.

HUNTINGTON COLLEGE, Huntington, Indiana, has set aside five of its sixty acres of gently rolling and partially wooded campus for an Arboretum and Botanical Garden and has placed it under the direction of Fred A. Loew, head of the department of biology. It is planned to bring into this garden as many trees, shrubs and herbaceous plants native in the state of Indiana as can be grown in this environ-

ment. One plat will be devoted to experimental work in plant genetics under the direction of Professor R. W. Wood.

REALIZATION of the rapidity with which the last remaining stands of virgin deciduous forest in Kentucky are being cut down has led to the organization of a league whose objective is the acquisition of the last remaining forests to be maintained as inviolate preserves. The "Save-Kentucky's-Primeval-Forest" League hopes to do for the deciduous forest what the "Save-the-Redwoods" League has done for California's redwood groves. The organization meeting was held in Lexington at the call of Miss Daisy Hume, a representative on the National Conservation Committee of the Garden Club of America. A further meeting was held in Lexington on January 4. Mrs. Bailey P. Wootton, of Frankfort, is secretary-treasurer of the league.

A CORRESPONDENT of the *Journal* of the American Medical Association reports that a new Microbiologic Research Institute has been established in connection with Osaka Imperial University for which it is planned to erect a large building. There has been only one institute in Japan of this kind, the Infectious Disease Research Institute in Tokyo, which is chiefly devoted to studies of microbiology and to the manufacturing of preventive vaccines. Osaka is often called the gateway of infectious diseases from abroad, and so it will be more convenient for this kind of work than Tokyo. The new institute will study chiefly leprosy, tuberculosis, bacteriology and the prevention of epidemics. It will deal with infectious diseases that are closely connected with the surgical, internal and dermatologic departments. The first chief is Professor Dr. Yashiro Furutake, of the medical department of the university. Drs. Taniguchi, Satani, Imamura, Hosokawa and Sakurai, who are professors and assistant professors of the university, are on the staff. It will be completed in 1939 and the annual expenditure is expected to amount to over 330,000 yen.

THE American Medical Association plans to modernize its building in Chicago at a cost of $400,000. It is announced that approximately $200,000 will be spent on the two-story top addition. The balance will be used for modernizing the entire building and making many changes in departments. The entire new top floor will be used for enlarged editorial and library space. The executive, secretarial and business offices will be moved to the new seventh floor. Various special bureaus will occupy the present sixth floor. The printing departments and others will use the remaining lower stories. Founded in 1847 the American Medical Association now has a membership of 100,000 out of the 130,000 practicing physicians in the United States. It publishes many medical magazines and booklets on its own presses. It employs 550 men and women on a day and night shift. Dr. Olin West is secretary and manager. Dr. Austin A. Hayden is secretary of the board of trustees.

DISCUSSION

COMPUTING PROGRESS IN CHEMISTRY

MEN attempting to measure the progress of science and the progress of civilization have failed to find an acceptable yardstick on which they may mark those numbers which are needed to satisfy their scientific minds, and, moreover, they have not been able to compute the numbers to give a scientific answer to the question in their minds.

The American Chemical Society, without knowing what it was doing, has built the yardstick and computed the numbers for marking the yardstick of progress by publishing its twice-a-month journal, *Chemical Abstracts*.

The American Chemical Society, faced by the unwieldy chaotic mass of rapidly accumulating chemical facts and chemical theories, early this century selected editors and set them to work devising a plan for bringing order out of the chaos, asking them to seek a key to the constantly growing mass of chemical literature throughout the world.

These editors began the magazine *Chemical Abstracts* in January, 1907, endeavoring to collect, condense and then publish in it an abstract of every worthwhile article on chemicals or chemistry appearing in the current scientific magazines.

The first year they condensed and published 7,975 such abstracts, the next year 10,835, and so on, increasing an average of about two thousand a year, until they published 19,025 in 1913.

The great war set back the number until they published only 9,283 in 1918, but immediately after the war the old pace of increase at about two thousand a year reasserted itself. In 1923 they published 19,507 abstracts, which brought them back to where they were in 1913, and the annual increase of two thousand a year marched on to the end of 1935 unaffected by the economic depression so that it is estimated that they published 42,468 abstracts in this last year.

The slight variations of the "curve" shown in the accompanying chart are explained by the editors.