The following eminent engineers and scientists have been recipients of the medal: Elihu Thomson, Frank J. Sprague, George Westinghouse, William Stanley, Charles F. Brush, Alexander Graham Bell, Nikola Tesla, John J. Carty, Benjamin G. Lamme, W. L. R. Emmet, Michael I. Pupin, Cummings C. Chesney, Robert A. Millikan, John W. Lieb, John White Howell, Harris J. Ryan, William D. Coolidge, Frank B. Jewett, Charles F. Scott and Frank Conrad.

Dr. Rice is one of the pioneers of electrical development in the United States and has played a conspicuous part, in association with the late Charles A. Coffin, in the building of the General Electric Company.

As a school-boy in Philadelphia he came in contact in 1876 with Professor Elihu Thomson, then a young teacher in the Boys' Central High School. His natural fondness for mechanics and later for electricity was quickly developed by this association, and when in 1880 Dr. Thomson gave up teaching to go into electrical manufacturing as investigator and inventor, Rice became his assistant.

He went with Dr. Thomson to New Britain, Connecticut, in the old American Electric Company, and in 1883 went with him to Lynn, Massachusetts, when the Thomson-Houston Electric Company was organized. At the age of twenty-two years he was made plant superintendent and had full responsibility until the consolidation of the Thomson-Houston Electric Company and the Edison General Electric Company in 1892, under the name of General Electric Company.

In the new company Mr. Rice was first made technical director, then vice-president in charge of manufacturing and engineering. He eventually became senior vice-president, and in 1913 he succeeded Mr. Coffin as president of the company. In 1922, after nine years' service in that office, Dr. Rice was succeeded by Mr. Gerard Swope and Dr. Rice was made honorary chairman of the board, which position he still holds.

Dr. Rice has contributed much through organization methods, improved factory routine, technical development, and engineering and scientific inventions. He invented the present fundamental form of high-voltage oil switch and the cellular system of separating fuses and circuits; as well as the application of synchronous converters to the building of unified alternating and direct-current distribution systems. He was responsible for the establishment of the General Electric research laboratory.

SCIENTIFIC NOTES AND NEWS

THE first session of the council of the American Association for the Advancement of Science at New Orleans will be held in the Gold Room, Roosevelt Hotel, at 2:00 o'clock on Monday afternoon, December 28. It is hoped that a large attendance of council members will be present, as important matters are to be considered. Later sessions of the council will occur at 9:00 on the mornings of Tuesday, Wednesday, Thursday and Friday, December 29, 30, 31 and January 1. These sessions are to be adjourned in time for council members to attend the scientific sessions that begin at 10:00 o'clock.

DR. FREDERICK V. COVILLE, principal botanist in charge of the division of botany of the Bureau of Plant Industry; acting director of the National Arboretum; curator of the United States National Herbarium at the Smithsonian Institution, and chairman of the research committee of the National Geographic Society, recently was awarded the George Robert White Gold Medal of Honor by the Massachusetts Horticultural Society for distinction in botanical fields.

THE Henry S. Wellcome Medal and Prize of $500 have been awarded to Colonel George A. Skinner, chief surgeon, seventh corps area, U. S. Army, Omaha, for a paper on "The Influence of Epidemic Disease on Military Operations in the Western Hemisphere." The Wellcome award was established in 1916 to encourage study and research on problems connected with the health of armies and the efficiency of the medical services.

PROFESSOR KÁLMÁN J. DEJUHASZ, of the Pennsylvania State College, was presented with the Rudolph Diesel Award at the recent annual meeting of the American Society of Mechanical Engineers. The award was made for a paper on Diesel engine operation entitled "Dispersion of Sprays in Solid Injection Oil Engines."

THE Institution of Civil Engineers, London, has awarded the Indian Premium for the session 1930–31 to Mr. G. C. Minnitt, Bombay, for a paper read and discussed at an ordinary meeting of the institution. They have also made the following awards in respect of "Selected Engineering Papers" published without discussion: A Telford gold medal to Mr. Herbert Addison, Giza, Egypt; Telford premiums to Messrs. H. A. Sieveking, London; William Blackadder, Aberdeen; R. F. Legget, Montreal, and jointly to Messrs. R. G. C. Batson and H. R. Mills, Teddington.

THE Buckston Browne Prize and Medals of the Harveian Society of London have been awarded to Mr. Cecil P. G. Wakeley and Mr. Laurence O'Shaugh-

nessy, whose essays on "The Treatment of Shock by Intravenous Therapy" were deemed to be of equal merit.

Nature reports that at a general meeting of the French Society of Electrical Engineering on November 7, it was decided to confer the title of honorary member on Mr. Percy F. Rowell, secretary of the Institution of Electrical Engineers, in recognition of his work in establishing close collaboration between the French society and the Institution of Electrical Engineers, particularly during the Anglo-French Congress held in Paris in 1913, the meeting of the institution held in France in 1929, and the Faraday celebrations held in London in 1931.

THE degree of LL.D. has been conferred by the University of Manchester on Professor F. E. Weiss, formerly Harrison professor of botany, on his retirement from active service and in recognition of his long and distinguished membership of the teaching staff.

DR. SVEN HEDIN, of Stockholm, the explorer, has had an honorary doctorate conferred on him by the Berlin Institute of Commerce.

DR. HANS MOLISCH, professor of the anatomy and physiology of plants at the University of Vienna, celebrated his seventy-fifth birthday on December 6.

PROFESSOR DOUGLAS JOHNSON, of Columbia University, has been elected to honorary life membership in the National Geographic Society in recognition of his "contributions for the increase and diffusion of geographic knowledge."

DR. A. RICHARD BLISS, JR., chief of the division of pharmacology, College of Medicine, University of Tennessee, was elected president of the Tennessee Academy of Science at the annual meeting at Nashville on November 28.

AT the thirty-fourth annual meeting on December 10 of the Massachusetts Forestry Association, Mr. Harvey N. Shepard, of Boston, was elected president.

AT the anniversary meeting of the Mineralogical Society, London, Sir John S. Flett was elected president. The vice-presidents are Dr. G. F. Herbert Smith and Professor C. Gilbert Cullis.

DR. WILLIAM S. LADD, formerly on the faculty of the College of Physicians and Surgeons, Columbia University, has been appointed assistant professor of medicine and associate dean of Cornell University Medical College.

IT is announced in *Nature* that Dr. J. Ward, senior lecturer in mechanical engineering at the Northampton Polytechnic Institute, London, has been appointed head of the department of civil and mechanical engineering at the Technical College, Huddersfield, in succession to Mr. J. W. Button, who is about to retire after twenty-four years' service as head of the department.

AT the University of London, Mr. F. W. Twort, F.R.S., of the Brown Animal Sanatory Institution, has been promoted to a professorship of bacteriology, and Dr. H. A. Harris, University College and University College Hospital, to a professorship of clinical anatomy.

DR. JOHN HAROLD ANDREW, professor of metallurgy at the Royal Technical College, Glasgow, has been appointed to the chair of metallurgy at the University of Sheffield.

THE first Arthur lecture of the Smithsonian Institution, endowed by the late James Arthur, to promote study of the sun, will be given on January 25 by Dr. Henry Norris Russell, of Princeton University, on "The Composition of the Sun." In March Dr. Aleš Hrdlička, of the National Museum, will lecture on his recent archeological explorations in Alaska dealing with the coming of man from Asia to North America.

DR. FREDERICK H. SEARES, assistant director, Mount Wilson Observatory, Carnegie Institution of Washington, gave on December 8, before the Carnegie Institution of Washington, an illustrated lecture on "The Stars about Us."

DR. G. E. COGHILL, of the Wistar Institute of Anatomy and Biology, Philadelphia, delivered an address before the Royal Canadian Institute on November 28 on "Reflex Action in Development and Behavior."

THE Frazer Lecture in social anthropology was delivered at the University of Cambridge on November 26 by Sir Arthur Evans on "Some Aspects of the Earlier Religion of Greece in the Light of Cretan Discovery."

THE forty-seventh meeting of the American Astronomical Society will be held in Washington, D. C., from December 28 to 30.

THE one hundred and seventy-fourth regular meeting of the American Physical Society will be held in Le Conte Hall, University of California, on December 18 and 19. Unless it is necessary to continue the scientific sessions, Saturday afternoon will be spent in tours of inspection of the department of physics of the university for those members who wish to see the researches in progress.

THE third International Congress of Eugenics will be held under the auspices of the International Federation of Eugenic Organizations. The scientific papers and the social features of the congress will be centered at the American Museum of Natural History in New York City and at the Eugenics Record Office in Cold Spring Harbor, from Sunday,

August 21 to Wednesday, August 24, 1932. Following the congress many members of the congress, particularly those interested primarily in genetics, will go to Ithaca, N. Y., where the Sixth International Congress of Genetics will be held from August 24 to 31. On Monday, August 22, the Eugenics Exhibit will open in New York, closing on September 22. Members of the Exhibits Committee are: William K. Gregory, Frederick Osborn, George H. Sherwood, Clark Wissler and Harry H. Laughlin, *chairman*. It is the purpose of this exhibit to show the history, content, present researches and trends of eugenics, both as a pure and an applied science. It will seek to emphasize the fact that eugenics is concerned primarily with racial and family-stock quality in the turnover of population from generation to generation.

THE ninth International Congress of the History of Medicine will be held in Bucharest in September, 1932. The principal subjects for discussion will be the evolution of medicine in the Balkan states and the protection of Europe against bubonic plague. Those wishing to contribute papers are requested to forward the title and a summary of the paper to the office of the congress, Str. Stirbey Voda, 86, Bucharest II.

ACCORDING to *Nature* the British Institute of Radiology, incorporated with the Röntgen Society, held its annual conference from December 2 to 4. With the conference there was an exhibition of apparatus, organized by the Associated Manufacturers. The conference was opened by the Right Honorable Lord Rutherford, and Dr. A. E. Barclay delivered the presidential address. Besides several technical papers there were two lectures: the fourteenth Silvanus Thompson Memorial Lecture by Sir James Jeans, on radiation, and the twelfth Mackenzie Davidson Memorial Lecture by Professor Dr. Hans Holfelder, on medical, surgical and radiological treatments of disease. Cinematograph films illustrating experiments on the inflammability of films (Prof. F. Haenisch) and the effects of radium on living cultivated tissues (Dr. R. G. Canti) were exhibited.

PUBLIC lectures will be given beginning with January 9 on Saturday afternoons at 3:30 at the New York Botanical Garden during January and February. The subjects and speakers are as follows: "Outdoor and Indoor Ferns," Dr. Ralph C. Benedict, Brooklyn Botanic Garden. "Planting and Growing Conifers," Mr. Alexander Michie, nursery manager for T. A. Havemeyer. "Roses," Dr. B. O. Dodge, plant pathologist. "Begonias," Mr. T. H. Everett, head gardener at the Manville Estate, Pleasantville. "Flowering Shrubs," Mr. J. H. Beale, Boyce Thompson Institute, Yonkers. "Annuals," Mr. Kenneth R. Boynton, head gardener. "Water Lilies and Their Care," Mr. H. W. Becker, in charge of greenhouses. "Dahlias and Chrysanthemums," Dr. M. A. Howe, assistant director, and Mr. Kenneth R. Boynton, head gardener.

THE London *Times* reports that Christmas scientific lectures and experiments for children have been arranged by various institutions in London as follows: Professor E. N. da Costa Andrade, Quain professor of physics at London University, will give the Royal Society of Arts lectures in the afternoons of January 6 and 13. His subject will be "The Vacuum, or the Importance of Nothing at All." Sir William Bragg will lecture at the Royal Institution on December 29 and 31 and January 2, 5, 7 and 9. His subject will be "The Universe of Light." At the Royal Geographical Society will be given lectures on January 4 and 8. The first lecture will be by the President, Admiral Sir William Goodenough, who will speak on "South and East." The second, "Through Lapland in Winter with Sledge and Reindeer," will be given by Mrs. Murray Chapman. Mr. E. R. Jarrett will deliver the Royal Institute of British Architects' lectures on December 28 and 30 and January 1. Special films will be shown at the Imperial Institute cinema.

ONE of the most valuable private zoological collections in existence, numbering 30,000 skins and many thousand birds and eggs, including the rarest North American specimens, has been given to the Harvard Museum of Comparative Zoology by Mr. John E. Thayer, ornithologist, of Lancaster, Massachusetts, a graduate of Harvard University in the class of 1885. The collection was assembled at great cost and labor. Expeditions were sent by Mr. Thayer to Alaska, northeastern Siberia, the Queen Charlotte Island, Lower California and Northern Mexico. The gift also included ten eggs of the great auk. Harvard now has eleven auk eggs, or about one sixth of all known existing specimens.

THE Carnegie Corporation of New York has made a grant of $30,000 to the British Museums Association for the survey of the museums of the British Empire outside the British Isles.

ACCORDING to the *Journal* of the American Medical Association, the Laboratory of Marine Biology was recently dedicated at Rovigno, Istria. The origin of the institute dates back to a zoological station established at Rovigno by Germany in 1891. A recent agreement entered into by the governments of Italy and Germany provides that the institute shall be regarded as the joint property of the two countries, which will share equally the current expense of its administration and will have an equal number of persons on its staff. Professor Sella has been ap-

pointed codirector for Italy and Professor Stener for Germany. The institute has important collections of fish, mollusks and crustaceans. Researches have been made on ocean depths, ocean currents and water pressure at various ocean depths.

THE London *Times* states that the Governors-General of Algeria and of French West Africa have organized a scientific expedition across the Sahara to Central Africa. M. A. Chevalier, professor of applied botany at the French National Museum of Natural History, who has spent many years in studying agriculture and vegetation in the French colonies, heads the expedition. The expedition will visit the oases of Southern Algeria—which is part of the Sahara—to study the vegetation and see if new plants and trees can be introduced. For this purpose slips and cuttings from the best Biskra date palms, notably the "deglet-nour" (Finger of Light) variety, are being taken by the expedition. At Reggan, in the heart of the Sahara, a permanent experimental botanical garden will be established. From Niamey, on the Niger, the expedition will go towards Air and Lake Chad, across country where for the most part the vegetation will be scientifically studied for the first time, to get museum specimens. Here, too, the expedition will carry out important investigations into the laying and breeding places of the African locust. The expedition will return to France by way of the French Sudan and Senegal, in which region it will study the local methods of growing cotton, sisal, groundnuts and native cereals.

ACCORDING to the London *Times* the second annual report of the Executive Council of the Imperial Agricultural Bureaus states that there are now eight bureaus controlled by the council, on which all the Dominions are represented. The funds are provided jointly by the Dominions, the colonies and the home country. During the year, 1930–31, reviewed the council continued to receive the full support of all contributing countries, in spite of acute financial difficulties in many of those countries. The bureaus act as clearing-houses of information in the field of agricultural science and keep Empire research workers in touch with each other and with the latest scientific advances in other countries. During 1930–31 contacts were established with research workers all over the Empire. Over 2,000 names are now on the mailing list to receive the publications of the various bureaus, each of which is established at a leading research station in this country. Three special conferences were organized by the bureaus, and they dealt with soil science, animal health and fruit production. These conferences were well attended by research workers both in the United Kingdom and in the Empire oversea, and at all of them technical questions were discussed as well as the work of the bureaus. Several officers attached to the bureaus have toured one or more of the Dominions to establish personal contact with research workers. Three of the bureaus —those dealing with animal genetics at Edinburgh, plant genetics at Aberystwyth and animal health at Weybridge—now issue regular journals containing abstracts of new and important research papers and bibliographies of publications, in foreign as well as in Empire countries. The report records a resolution adopted by the Imperial Conference, 1930, declaring that the bureaus provide "both a notable precedent for action on a true Commonwealth basis and a contribution that is already bearing fruit in the better dissemination of scientific knowledge throughout the Empire."

The Museums Journal reports that the South African Parliament has established two new game reserves: one in northwestern South Africa between the Aub and Nossob Rivers will provide sanctuary for gemsbock or oryx, kudu, eland, gnu, lions, leopards and rare birds; the other in the eastern part of the Union, the Addo reserve, is the last refuge of a few South African elephants. The new reserves are administered by the National Park Department.

FOR the purpose of conducting further tests in the field of radio wave propagation, the University of Washington has placed both the personnel and apparatus of its Scientific Research and General Engineering Departments at the disposal of the National Park Service, according to an announcement made by Dr. Ray Lyman Wilbur, Secretary of the Interior. Experiments with radio as a means of communication in national parks have been in progress in Mount Rainier National Park in the State of Washington for some time and have demonstrated a sufficient limited use of radio as a means of communication in primitive areas such as the mountainous parks, especially in forest-fire emergencies and interrupted telephone communication caused by storms, to justify further experiments. Mount Rainier now has the first system of radio communication ever to be established in a national park. Late in the summer call letters for six stationary and four portable stations were assigned to Mount Rainier by the Department of Commerce. The university is now building a radio station to aid in this work. Two of the permanent stations in Mount Rainier Park are at Longmire, and the others at Paradise, Sunrise and the White River and Carbon River entrances to the park. These stations have a ten-tube combination modulated by four tubes for voice and six tubes for code. The portable sets, which will, of course, be carried by rangers on patrol, will prove especially effective in emergencies.