

devoted largely to the fundamentals, leaving the individual companies to build upon this substructure their own specific technical developments." The American Institute of Mining and Metallurgical Engineers is cooperating in the development of this new project.

The second phase of the program, which, it is expected, will extend over a long period of years, will be research directed toward increasing fundamental knowledge of iron and its combinations with other substances, particularly alloys of pure iron with one or two or three or more other pure metals; also the effects of the impurities incident to practical operations.

For other research the foundation has appropriated \$10,000. At Lehigh University, Professor Bradley Stoughton is investigating combinations of silicium with iron. At the Carnegie Institute of Technology, Pittsburgh, Professor V. N. Krivobok is studying combinations of manganese with iron.

CHEMICAL EDUCATION AT THE JOHNS HOPKINS UNIVERSITY

THE numerous inquiries about the chair of chemical education, provided by Francis P. Garvan, president of the Chemical Foundation, seem to warrant a few preliminary remarks at this time. This chair has been established in the department of chemistry of the Johns Hopkins University and has for its primary objective the promotion of chemistry through chemical education. The principal project being investigated at the present time is connected with the regular chemical work of the scholastic year.

During the scholastic year, there is a program of study in the selection and education of prospective leaders in the field of chemistry. In the study to be pursued, emphasis is to be laid equally upon the selection of men to be trained and the training of men selected. In order to limit the project and, at the same time, to place it upon a truly national basis, the plan adopted makes ultimate provision for one student from each of the forty-eight states. Selection is to be made from the sophomore, junior or senior classes of the colleges and universities of the respective states. The time of selection is indicated by the desirability of obtaining students as soon as possible after they have had reasonable opportunity to determine the field in which they desire to specialize. It is, furthermore, in harmony with the present plan of the Johns Hopkins University, which affords the student an opportunity to acquire the Ph.D. degree in a minimum of four years after the completion of the sophomore year.

The selection is accomplished through state committees which evaluate the student's complete previous scholastic record and the following personal qualities as rated by his instructors: health, ability to cooper-

ate, creative ability, intellectual honesty, persistency, faculty of observation, enthusiasm, initiative, reliability, conduct, morality, scholarship.

As an assurance that men of unusual promise shall not be debarred by lack of funds, a four-year fellowship of one thousand dollars annually will be offered in each state.

Among the fellowships to be thus offered are those established by: The Eli Lilly Company, of Indianapolis, Indiana; The J. T. Baker Chemical Company, of Phillipsburg, New Jersey; The Firestone Tire and Rubber Company, of Akron, Ohio; Dr. H. A. B. Dunning, of Hynson, Westcott and Dunning, Baltimore, Maryland; Bill Raskob Foundation, Wilmington, Delaware; Kewaunee Manufacturing Company, Kewaunee, Wisconsin; Francis P. Garvan, New York, N. Y.; Brown Company, Portland, Maine; Brown Company, Berlin, New Hampshire.

In the training of these selected men, fundamental courses in mathematics, physics and English, as well as the four major branches of chemistry (inorganic, organic, physical and analytical), will be emphasized. There will be no attempt to specialize in the various applications of chemistry. The elective system of study for the student is under an advisory committee of the department.

An explorative opportunity will be offered in the teaching of chemistry and in industrial work to determine the line of work for which the student is best fitted.

Those who choose teaching as a profession will have the opportunity of taking four subjects in addition to the regular curriculum for a Ph.D. degree in chemistry. The subjects are: educational psychology, philosophy of education (or history of education), theory and practice in chemical education and comparative study of chemical development. These subjects will be presented with a view to fitting the candidate to teach in colleges or universities. The satisfactory completion of these subjects will be rewarded by a certificate, which will be given in addition to the Ph.D. degree in chemistry.

In addition to pursuing the fundamental curriculum above outlined, the students will have the opportunity of coming into personal contact with leading European and American chemists through a series of special lectures, means for which have been provided by Dr. A. R. L. Dohme, of Sharpe and Dohme, Baltimore, Maryland.

SCIENTIFIC NOTES AND NEWS

DR. W. W. KEEN, emeritus professor of surgery at the Jefferson Medical College, celebrated his ninety-second birthday on January 19. An Associated Press dispatch reports that on February 13 Dr. Keen un-

derwent an operation at the Jefferson Hospital and that his condition was reported as favorable.

A BRONZE bust of Mr. Herbert Hoover, by Mrs. D. W. Leys, of Yonkers, N. Y., was presented to the American Institute of Mining and Metallurgical Engineers by C. A. Fisher, of Denver, on February 19. Mr. Hoover is a past president and honorary member of the institute.

THE Edison medal, awarded to Dr. William D. Coolidge for his contributions to incandescent and electric lighting and to X-rays, was presented on February 15 at the annual winter meeting of the American Institute of Electrical Engineers. Dr. Michael I. Pupin outlined the achievements of Dr. Coolidge, who then delivered an address.

THE award of the Western Society of Engineers for 1929 has been conferred on Colonel Bion J. Arnold, chairman of the Board of Supervising Engineers of Chicago.

PROFESSOR P. W. BRIDGMAN, Hollis professor of mathematics and natural philosophy at Harvard University, will deliver the Guthrie lecture for 1929 of the Physical Society of London on April 19.

DR. SIMON FLEXNER, director of the Rockefeller Institute for Medical Research, delivered the William H. Welch lectures at Mt. Sinai Hospital, New York, on February 1 and 4, on "Twenty-five Years of Epidemic Poliomyelitis"; and on February 6 the Nathaniel Lewis Hatfield lecture at the College of Physicians, Philadelphia, on "Epidemic and Post-vaccinal Forms of Encephalitis."

THE retirement of Professor R. S. Newall from the chair of astrophysics in the University of Cambridge is being chosen as an opportunity to secure for the university a bust or a portrait. In 1889 Mr. Newall presented to the university his 25-inch refractor, then the largest in England, and, as the authorities had not the funds to meet the annual expense required in its use, Mr. Newall agreed to give his services gratuitously for five years and the five years of this arrangement have been extended to forty. Sir J. J. Thomson, at Cambridge, and Sir Frank Dyson, at the Royal Observatory at Greenwich, are treasurers of the fund.

A SPECIAL number of the "University of Iowa Studies in Psychology" has been issued in honor of Dr. C. E. Seashore. The volume contains a telephotograph of Dr. Seashore as frontispiece, a complete annotated bibliography of his writings, a review of the ten volumes of Iowa Studies in Psychology, issued from his laboratory, and researches by his former stu-

dents, extending in all to 223 pages. The dedication to the volume reads: "To Carl Emil Seashore, psychologist, dean of graduate study, explorer in the realm of music, man of science. In commemoration of the completion of twenty years' distinguished service to psychology and to the State of Iowa, this volume is affectionately dedicated by former students." In addition a portrait painted by Mildred W. Pelzer, of Iowa City, has been presented to Dr. Seashore by his students and will be hung at the university, and a collection of letters from former students has been assembled and presented to him.

DR. KARL JORDAN, of Tring, England, has been elected president of the International Commission on Zoological Nomenclature, to succeed the late Professor F. C. Monticelli. Professor Fillipo Silvestri, of Portico, Italy, has been elected a member of the commission.

SIR RICHARD GREGORY was elected president of the Royal Meteorological Society at the annual general meeting in London on January 16.

PROFESSOR HENRY LOUIS, formerly professor of mining and metallurgy at Armstrong College, Newcastle-on-Tyne, was nominated at the meeting in Balboa for election as the next president of the British Iron and Steel Institute.

M. JEAN PERRIN has been elected president of the French Physical Society, and M. Charles Fabry has been elected president of the Meteorological Society.

PROFESSOR D'ARCY W. THOMPSON, professor of natural history in the University of St. Andrews, has been elected a corresponding member of the Biological Society of Paris.

DR. WILLIAM SALANT has resigned as head of the department of physiology and pharmacology of the medical department of the University of Georgia, the resignation to be effective at the expiration of the current academic session. Dr. Salant will devote himself exclusively to research at the pharmacological section of the biological laboratory, at Cold Spring Harbor, Long Island.

NATHAN W. BASS has resigned as geologist with the U. S. Geological Survey to accept a position on the staff of the Pure Oil Company, with headquarters at Tulsa, Oklahoma.

DR. G. A. TALBERT and his collaborators in the department of physiology of the University of North Dakota have recently received a fourth grant of \$300 from the American Medical Association Research Fund Committee, of which Dr. Ludvig Hektoen is

chairman. This grant is for the further extension of their work on the simultaneous study of the urine and blood as result of profuse sweating.

Nature reports that recent appointments to scientific and technical departments made by the Secretary of State for the Colonies include the following: Mr. D. P. McGregor, to be geologist in the Gold Coast, and Mr. K. R. S. Morris, assistant entomologist in the same colony; Mr. J. D. Shepherd to be irrigation officer, Agricultural Department, Palestine; Mr. M. Vardy to be manager, Experimental Fruit Farm, Sierra Leone; Mr. E. Messervy to be veterinary officer in Tanganyika Territory. Among the transfers and promotions are the following: Mr. H. M. Gardner, senior assistant conservator, to be conservator of forests, Kenya Colony; Mr. L. P. Henderson, agricultural instructor, Federated Malay States, to be superintendent, Agricultural Department, Nigeria. Mr. G. N. Sale, assistant conservator of forests, Cyprus, to be director of forests, Mauritius; Mr. D. Stevenson, deputy conservator of forests, British Honduras, to be senior assistant conservator of forests, Northern Rhodesia.

DR. HEBER D. CURTIS, director of the Allegheny Observatory, has sailed from New York to observe the total eclipse of the sun, which will take place on May 9. Dr. and Mrs. Miller, of Swarthmore College, were passengers on the same boat. The party expects to reach Sumatra on February 27, and within a week to make its way some 300 miles by automobile to the selected site in the mountains near the northern tip of Sumatra. Immediately after the eclipse, Dr. Curtis and Dr. Miller will go to Batavia in Java, where the fourth Pacific Science Congress is to be held from May 16 to 25. While there, Dr. Curtis will act as delegate to the congress for the National Academy of Sciences, the American Astronomical Society and the University of Pittsburgh. The party hopes to return by July 4.

PROFESSOR HARLAN T. STETSON, head of the department of astronomy at Harvard, has been at Carleton College during February as exchange professor, giving a series of lectures on "The Development of Astronomical Thought." Dr. Stetson will also lecture at Knox and Pomona Colleges before going to the Philippines in May to observe the eclipse of the sun.

H. W. V. WILLEMS, of Delft, Holland, has been spending some months in the chemical laboratory of the Geological Survey, studying methods of analyzing rocks. After some time in the Geophysical Laboratory Mr. Willems expects to spend five years in Java in connection with geological and petrographic investigations in the Dutch East Indies.

PROFESSOR F. C. GERRETSEN, of the University of Groningen and of the Groningen Agricultural Experiment Station, Holland, has arrived in this country to spend six months in the department of soil microbiology of the New Jersey Agricultural Experiment Station.

N. A. LACROIX, permanent secretary of the Paris Academy of Sciences, has been appointed delegate to the fourth Pacific Science Congress which will be held in Java in May, 1929.

SIR DOUGLAS MAWSON, professor of geology in the University of Adelaide, is in London to arrange for a scientific expedition into the region south of the Continent of Australia. If his plans mature the expedition will leave Hobart, Tasmania, toward the end of this year, which is the beginning of the southern summer.

PROFESSOR A. T. LINCOLN, professor of physical chemistry at Carleton College, has leave of absence during the present semester. He will visit the principal university and industrial centers of Europe during the next six months. During his absence his work will be in charge of Mr. Maryan P. Matuszak, instructor in physical chemistry at Ohio State University.

THE Chicago Medical Society and the Society of Sigma Xi met jointly at the Medical and Dental Arts Club, Chicago, on February 20, when Dr. Ray Lyman Wilbur, president of Stanford University, gave an address on "The Significance of the Laboratory in the Progress of Civilization." Preceding the meeting, a dinner was given at the club in honor of Dr. Wilbur.

DR. EDWIN B. HART, of the University of Wisconsin, spoke on "Iron in Nutrition" at the dinner and meeting of the Mayo Foundation, Rochester, Minn., chapter of Sigma Xi held on January 29.

DR. CHARLES P. BERKEY, of Columbia University, recently gave an address at the annual dinner of the Alumni Association of the Massachusetts Institute of Technology on Boulder Dam.

THE third Ochsner Memorial Lecture was given under the auspices of the North Side Branch of the Chicago Medical Society on February 21, by Dr. George W. Crile, Cleveland, on "The Physical Nature of Death." Preceding the lecture a dinner was given in honor of Drs. Malcolm L. Harris, president-elect of the American Medical Association, ex-presidents Arthur Dean Bevan, William Allen Pusey and Frank Billings, President William S. Thayer, of the Johns Hopkins University, and members of the Board of Trustees and other officers of the American Medical Association.

DR. FRANKLIN SUMNER EARLE, sugar cane technologist at the Tropical Plant Research Foundation at Herradura, Cuba, died on January 31, in his seventy-third year.

DR. CHARLES W. YOUNG, director of the Bender Laboratory at Albany, died on January 26. Prior to going to the Bender Laboratory some six months ago. Dr. Young spent many years in China where he was assistant professor of medicine at the Peking Union Medical School.

SIR BERTRAM WINDLE, professor of anthropology at St. Michael's College and professor of ethnology at the University of Toronto, died on February 14, at the age of seventy years.

THOMAS HENRY BLAKESLEY, known for his work in electricity and optics, died in London on February 15, at the age of eighty-one years.

DR. PAUL GERSON UNNA, honorary professor of dermatology at the University of Hamburg, Germany, died on January 29, aged seventy-eight years. Professor Unna was recognized as an authority on the histology of the skin.

By the death of Dr. J. M. Coulter on December 24, 1928, botanical science lost one of its foremost American contributors. The esteem and admiration felt for him by many friends and students of botany found expression in a testimonial which Dr. Coulter unfortunately did not live to receive, although it is gratifying to know that news of its imminence afforded him comfort and pleasure in his last hours. The presentation of the testimonial was made on the occasion of the dinner of the Botanical Society of America and botanists in general at Hotel Astor, New York City, on December 28, 1928, by Dr. A. H. R. Buller, president of the Botanical Society of America and it was received on behalf of the family by Dr. W. Crocker, director of the Boyce-Thompson Institute for Plant Research. The testimonial took the form of a silver service and a handsomely bound volume containing expressions of appreciation from hundreds of botanists who took advantage of the opportunity to make formal acknowledgment of the debt owed to a great leader. The contributors were widespread over the United States and Canada. Notable among them was Dr. J. C. Arthur, professor emeritus of Purdue University, who was associated with Dr. Coulter in establishing the *Botanical Gazette*. Initiating and maintaining a botanical periodical of such high quality is a monumental achievement for which every American botanist must feel gratitude to the memory of Dr. Coulter. But beyond this Dr. Coulter was "the teacher par excellence" of botany in

America. The development of botanical research in his department in the University of Chicago during his long administration made that institution the foremost center in botanical research in America.

SHORTLY before his death, at his own request, Dr. T. B. Osborne had been relieved of active charge of the biochemical laboratory of the Connecticut State Station and given the title of consulting biochemist. In recognition of Dr. Osborne's many years of service and his notable contributions in the field of protein chemistry, the following resolution was adopted by the board of control:

In the retirement of Thomas Burr Osborne from active charge of the biochemical laboratory, the Connecticut Agricultural Experiment Station loses one of the ablest and most valued members of its staff.

In the forty-two years that he has served on the staff, he has won distinction for himself and the station, and he is to-day one of the acknowledged leaders in his chosen fields of study, the structure of proteins and the newer aspects of nutrition. His mind has always been raising questions which he was able to define with rare precision, and then with equal discernment he has devised means for their experimental investigation and solution.

The members of the board, in testimony of their recognition of his valued services, of their respect for his abilities, and of their high personal esteem, enter on their records this minute of their hearty appreciation. The members of the board further rejoice that from time to time the station may still have the benefit of his personal suggestions and advice.

THE sixty-first annual meeting of the Kansas Academy of Sciences will be held at the State Agricultural College, at Manhattan, on April 26 and 27.

THE Wisconsin Academy of Sciences, Arts and Letters, under the presidency of Dr. S. A. Barrett, of the Milwaukee Public Museum, will hold its fifty-ninth annual meeting at Yerkes Observatory, Williams Bay, Wisconsin, on April 12 and 13, 1929. It will be a joint meeting with the Wisconsin Archeological Society and the Midwest Museums Conference.

THE Fifth National Shade Tree Conference has concluded its annual meeting in New Haven. The officers elected for the ensuing year were: *President*, Dr. H. H. York, forest pathologist of the New York Conservation Commission; *Vice-president*, Dr. A. F. Burgess, in charge of the Gypsy Moth Laboratory at Melrose Highlands, Massachusetts; *Secretary-Treasurer*, Rush P. Marshall, in charge of the U. S. Forest Disease Laboratory at Yale University. Those in attendance included over forty scientific men, chiefly botanists, plant pathologists and entomologists, about the same number of practical tree men and the remainder interested visitors.

A SERIES of popular illustrated lectures on important developments and discoveries in various fields of engineering will be given by members of the staff of the Harvard Engineering School during the spring term. The lectures are open to the public, and will be held in 110 Pierce Hall on Thursday afternoons at 4:30 beginning on February 28. The lecturers and subjects are as follows: Professor Philip Drinker, "Modern Methods of Cleaning Air"; Professor C. L. Dawes, "The Transmission of Electricity at High Voltages"; Professor E. L. Chaffee, "Vacuum Tubes and Their Application"; Professor L. C. Graton, "The Deepest Mines of the World"; Professor L. J. Johnson, "The Use of Concrete in Great Structures"; Professor C. H. Berry, "Modern Steam Machinery."

A SERIES of national lectures has been instituted by the British Broadcasting Corporation under which, three times a year, a formal lecture of nearly an hour's duration will be delivered by an eminent authority on physical or natural science, philosophy, literature, exploration, music, art or medicine. Lectures equal in importance to the Romanes Lectures at Oxford or the Rede Lectures at Cambridge are in mind. The scheme has received the approval and support of the following distinguished authorities, who have also agreed to give the corporation the benefit of their advice on the choice of subjects and lecturers: Lord Balfour, Lord Crawford and Balcarres, Mr. H. A. L. Fisher, Sir William Hardy, Sir Frederic Kenyon, Sir Donald Macalister, Lord Ronaldshay, Sir J. J. Thomson, Sir William Bragg, Lord Crewe, Sir Israel Gollancz, Sir James Jeans, Sir Oliver Lodge, Sir Henry Newbolt, Sir Ernest Rutherford and Dr. T. F. Tout. On the recommendation of this advisory board, the first of the national lectures will be delivered on Thursday, February 28, at 9:20 P. M., by Dr. Robert Bridges, the poet laureate, whose subject will be "Poetry." The second lecture is to be delivered on April 15 by Professor A. S. Eddington.

MEMBERS of the Beebe exploring expedition are expected in Bermuda during the next three weeks. There it is planned to spend six months in deep-sea fishing, under the auspices of the department of tropical research of the New York Zoological Society. The party includes Dr. Henry Fairfield Osborn, Dr. W. K. Gregory and Dr. William Beebe. Governor Sir Louis Bois, of Bermuda, has granted the party the use of Nonsuch Island, from March to October. The island contains five acres and is partly wooded. It has alternating coral rocks and sandy beaches, and there are several buildings for laboratories. Directly off shore deep water approaches closer to Bermuda than elsewhere, a mile depth being found a few hundred feet from shore. Daily trawling with

the tug *Gladisden* will be carried on for the next six months. By the aid of pressure tanks and dark rooms, both on the tug and on shore, deep-sea fish, both dead and alive, will be studied. Fish life will be studied intensively by the aid of diving helmets, submarine cameras and a fleet of six small boats, while observation will be carried on in limited areas of coral reefs. Laboratory work will be confined to observations bearing directly on life histories and the development of young fish.

THE Chemical Foundation, Inc., of New York City, has made a grant to the Medical College of Virginia, Richmond, to make it possible to employ for a three-year period a full-time expert to enlarge its present program of research in chemistry as related to medicine, surgery and dentistry. The special laboratory for this work will also be considerably enlarged.

THE new 225 bed Passavant Memorial Hospital, erected on the McKinlock Campus opposite Northwestern University Medical School, will open about May 1. One third of the beds in the Passavant Memorial will be available for university bedside instruction. Nine of the twelve stories will be for patients. The eleventh floor will be devoted to the operating department; the second floor to the laboratories and physical therapy department. For the present the east wing will be set aside for nurses' quarters and the nurses' school, which will be affiliated with Northwestern University. The superintendent of the hospital will be Dr. Irving S. Cutter, dean of the medical school.

UNIVERSITY AND EDUCATIONAL NOTES

YALE UNIVERSITY is the beneficiary of a bequest estimated at \$3,000,000 by the will of Mrs. Ray Tompkins, of Elmira, N. Y., who died on January 22 last at Cannes, France. Mr. Tompkins, a Yale football star, died on June 30, 1918, leaving his widow the life use of his estate, directing that if no provision was made otherwise his entire estate was to go to his alma mater. An amount estimated at \$1,200,000 was bequeathed to the Arnot-Ogden Memorial Hospital, of Elmira, and approximately \$450,000 to the Elmira College for Women.

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE has received a gift of \$1,200,000 from the General Education Board for endowment of research and teaching in diseases of the eye, ear, nose and throat at the Oscar Johnson Institute.

ABRAM E. FITKIN, of New York City, has added \$100,000 to the gift of \$1,000,000 which he made to