

devoted to the study of chemistry. It contains space for large chemical engineering laboratories, which have been fitted up with apparatus for teaching the unit processes in chemical industries. Provision has also been made for laboratories for undergraduate study in organic, inorganic, quantitative and qualitative analysis and physical chemistry. These laboratories will accommodate about 1,300 undergraduate students.

In addition to the laboratories there are three large lecture rooms, an auditorium seating over two hundred and fifty people and four classrooms. The fourth floor is given over to research laboratories for members of the faculty and graduate students. There are in all twenty-five laboratories in the building and each can adequately accommodate several investigators. The Loeb library of chemistry is on the fourth floor. This library was founded by the late Solomon Loeb, of the banking firm of Kuhn-Loeb and Company.

### SCIENTIFIC NOTES AND NEWS

DR. IRVING LANGMUIR, of the General Electric Company, Schenectady, N. Y., has been awarded the Perkin Medal for 1928. The presentation will be made on January 13.

DR. ARTHUR H. COMPTON, professor of physics at the University of Chicago, who was recently named as cowinner of the 1927 Nobel prize in physics, has left Chicago for Stockholm, where he will receive the prize on December 10, and will deliver the Nobel lecture on "X-Rays as a Branch of Optics." He will return to the university on January 1 to resume his work. On November 28 Professor Compton was the guest of honor at a dinner and celebration at the College of Wooster, from which he graduated in 1913. Professor Dayton C. Miller, of the Case School of Applied Science, Cleveland, Ohio, was the representative of the American Association for the Advancement of Science at this celebration.

THE honorary degree of doctor of science was conferred on M. Paul Painlevé, professor of analytical and celestial mechanics at the Sorbonne and French Minister for War, by the University of Cambridge on November 16. In the afternoon of the same day M. Painlevé lectured in the Arts Schools on "Resistances d'un liquide au mouvement d'un solide."

THE following is a list of those elected to the council of the Royal Society at the anniversary meeting on November 30: *President*, Sir Ernest Rutherford; *treasurer*, Sir David Prain; *secretaries*, Mr. J. H. Jeans and Dr. H. H. Dale; *foreign secretary*, Sir Richard Glazebrook; *other members of council*, Dr. E. D. Adrian, Sir Hugh Anderson, Dr. F. W. Aston, Dr. F. A. Bather, Sir Archibald Garrod, Sir Thomas

Heath, Professor A. Lapworth, Professor J. C. G. Ledingham, Professor F. A. Lindemann, Mr. J. E. Littlewood, Mr. C. Tate Regan, Professor A. C. Seward, Professor G. Eliot Smith, Dr. T. E. Stanton, Sir Gilbert Walker, Sir James Walker.

AT a meeting of Delta Omega, the national honorary public health society, on October 19, C.-E. A. Winslow, Anna M. R. Lauder professor of public health at Yale University, was elected president. Major Edgar E. Hume, U. S. Army, vice-president, and Dr. James A. Tobey, New York, secretary. Chapters of the society have been established at the Johns Hopkins University School of Hygiene and Public Health, the Harvard University School of Public Health, the National Institute of Technology, Yale University School of Medicine, the University of Michigan and the University of California.

DR. F. BAKER has been appointed honorary curator of mollusks at the Scripps Institution of Oceanography, La Jolla.

DEAN JOHN N. COBB, of the University of Washington College of Fisheries, has been appointed to the economic division of the United States Fisheries Association.

DR. H. E. BARNARD has resigned as president of the American Institute of Baking.

THE portrait of Professor J. A. Fleming was presented to University College, London, on November 30. Professor Fleming was also presented with a copy of the portrait, and he has intimated his intention of presenting this copy to the British Institution of Electrical Engineers.

PROFESSOR R. B. WILD, who retired in September from the Leech chair of materia medica and therapeutics in the University of Manchester, was presented on November 11 with his portrait and other gifts. The presentation was made by Professor G. R. Murray, on behalf of Professor Wild's past and present colleagues in the faculty of medicine, in appreciation of the valuable services he has rendered to the cause of medicine and education in Manchester. In accepting the gifts Professor Wild expressed a desire that the portrait should be given to the university, and the vice-chancellor accepted the offer.

THE resignation of Professor E. C. Williams from the Ramsay chair of chemical engineering, tenable at University College, London, has been accepted as from the end of the present academic year.

DR. JAMES M. ANDERS celebrated his fiftieth anniversary in the medical profession on November 28, when he was honored by his friends at a testimonial dinner in the Bellevue-Stratford Hotel. Dr. Josiah H.

Penniman, provost of the University of Pennsylvania, presided. A life-size bust of Dr. Anders was presented to him by Dr. John B. Deaver. At the dinner the speakers were Dr. George L. Omwake, president of Ursinus College; Dr. Judson Daland, professor of medicine in the graduate school of the University of Pennsylvania; Dr. Llewellyn Barker, emeritus professor of medicine at the Johns Hopkins University; Dr. Hobart A. Hare, professor of therapeutics, materia medica and diagnosis at Jefferson Medical College; Dr. David Riesman, professor of clinical medicine at the University of Pennsylvania, and Franklin Spencer Edmonds, who represented the legal profession.

DR. LOUIS F. JERMAIN, dean emeritus, director and professor of the department of internal medicine, Marquette University School of Medicine, Milwaukee, was recently honored at a testimonial dinner given by the faculty and students, and by the bestowal of a golden key commemorating his years of service to the university. The address on this occasion was made by Dr. Eben J. Carey, acting dean and professor in the department of anatomy.

DR. THOMAS BARBOUR, who was recently appointed director of the Harvard University Museum, has resigned as president of the Boston Society of Natural History.

BECAUSE it will be impossible for him to be in attendance throughout the week of the approaching Nashville meeting, Dr. Roger Adams, of the University of Illinois, has resigned from the committee on award of the Nashville prize of the American Association. (See SCIENCE for November 25, 1927, page 511.) Dr. G. Canby Robinson, dean of the Medical School of Vanderbilt University, has been named to fill the vacancy. The committee consequently consists of William H. Roever, William Duane, G. Canby Robinson, Charles Schuchert and Robert J. Terry.

DR. W. C. AUSTIN has recently been appointed a research associate in the sugar section of the U. S. Bureau of Standards, having been granted a fellowship by the Medical Fellowship Board of the National Research Council.

DR. ROBERT F. MEHL has been appointed director of the Naval Research Laboratory.

DR. ROBERT J. PIERSOL, formerly research physicist with the Westinghouse Engineering and Manufacturing Company, is now a consulting physicist with offices in Pittsburgh.

DR. JOHN PHILLIPS, formerly director of the Forest Research Station at Deepwells, Knysna, South Africa, has accepted the post of senior botanist under the Colonial Office of the Imperial Government to assist

in the research on the tsetse fly carried on under the direction of Mr. C. F. M. Swinnerton in the Tanganyika Territory. His work will be to study ecologically the habits and habitats of the various species of *Glossina*, in relation to methods of combating the tsetse fly. After the middle of December he will be at the Department of Game Preservation, Kondo-Irangi, Tanganyika Territory, Africa.

ROBIN JOHN TILLYARD, entomologist and chief of the biological department of the Cawthron Institute, Nelson, N. Z., has been appointed to take charge of entomological investigations under the Australian Council of Scientific Research.

DR. E. C. WILLIAMS, professor of chemical engineering in University College, London, has been appointed to establish a research organization in California for the Dutch-Shell oil interests.

IN connection with his studies of the flora of Central America, Paul C. Standley, associate curator of plants at the U. S. National Museum, left New York for Honduras, on November 26, for the purpose of conducting botanical exploration in that country for a period of about four months.

DR. I. F. MOLL, of Berlin, recently spent a week studying the collection of shipworms in the U. S. National Museum prior to preparing a monograph on the structure of the pallets of the group.

PROFESSOR OTTO AICHEL, head of the department of anthropology at the University of Kiel, has undertaken a research expedition to Chile. Later he will go to Peru and Bolivia.

ARTHUR S. VERNAY, who with Colonel J. C. Fauntleroy has provided a rare series of specimens of Indian mammals for the American Museum of Natural History, sailed on November 24 on another expedition in the interest of the museum. With him is Albert E. Butler, of the museum's department of preparation, and Clarence S. Rosenkranz, artist.

DR. MICHAEL S. NAVASHIN, of the Timiriasev Federal Institute of Scientific Research, recently arrived at Berkeley, California, where he will spend a year at the University of California. He will work in the genetics laboratories on the cytology of *Crepis* species and interspecific hybrids. Dr. Jens C. Clausen, of the Royal Veterinary and Agricultural College of Copenhagen, has also arrived at Berkeley, where he will work for several months in the laboratories of the division of genetics on *Viola* and *Crepis*. Dr. Clausen has a fellowship under the International Education Board.

DR. PHILIP B. HAWK, president of the Food Research Laboratories, Inc., New York City, sailed for

Norway on December 1 to conduct a scientific survey of the methods involved in the production of Norwegian cod-liver oil. He will remain abroad about four months.

E. L. WALKER, professor of tropical medicine at the University of California, has been transferred from San Francisco to Honolulu until April 30, 1928, for his study of the isolation of the leprosy bacillus at the Kahlili Leprosy Investigation Station at Honolulu.

LEAVE of absence has been given to Dr. Andrew Watson Sellards, assistant professor of tropical medicine at the Harvard Medical School, for the academic year 1927-28. Dr. Sellards will travel to West Africa to make a study of yellow fever and other tropical diseases.

DR. A. HRDLIČKA, of the U. S. National Museum, returned on November 18 from a trip through Europe in the interests of anthropology. The particular object of the journey was to see the most recent discoveries concerning ancient man in Europe. The trip extended through France, Belgium, Germany and Czechoslovakia and ended in England, where Dr. Hrdlička delivered the Huxley lecture before the Royal Anthropological Society on November 8.

DR. J. C. HEYMANS, professor of pharmacology, University of Ghent, Belgium, addressed the University of Wisconsin Medical Society on November 14 on "Contributions to the Physiology and Pharmacology of the Vagus and Respiratory Centers."

DR. SVEN INGVAR, docent in neurology, University of Lund, Sweden, lectured on November 16 and 17 at the University of Chicago clinic, under the joint auspices of the Institute of Medicine of Chicago and the department of neurology of the university, on "The Cerebellum: Anatomic and Clinical Studies."

DR. NORMAN R. STOLL, of the Rockefeller Institute for Medical Research, Princeton laboratories, addressed the class of medical zoology and tropical medicine at the Harvard School of Public Health, on November 23, on the subject "Recent Methods for Determining the Presence and the Intensity of Helminth Infections."

PROFESSOR A. W. C. MENZIES, of Princeton University, will lecture before the Royal Canadian Institute in Toronto on December 10. His subject will be "Atoms and how they combine."

ON November 22 Sir William Bragg delivered the first of a course of four lectures at the Royal Institution on "A Year's Work in X-Ray Crystal Analysis."

THE tercentenary of the publication of Harvey's epoch-making book, "De Motu Cordis," will be celebrated in London under the auspices of the Royal

College of Physicians, from May 14 to May 18. Invitations are now being issued, and it is expected that delegates from foreign countries will then gather in London to offer their tribute to the memory of the great physiologist.

A LIFE-SIZED bronze statue of the late Dr. John A. Brashear, maker of telescopes and astronomical instruments and founder of the new Allegheny Observatory, has been placed in the rotunda of the observatory and was unveiled on November 24, the anniversary of his eighty-seventh birthday. The statue is the work of the sculptor Mr. Frank Vittor, and is a gift to the University of Pittsburgh from a number of Dr. Brashear's life-long friends.

DR. HENRY C. WHITE, professor of chemistry at the University of Georgia, has died, aged seventy-nine years.

DR. D. G. HOGARTH, keeper of the Ashmolean Museum, Oxford, and president of the Royal Geographical Society, died on November 6, aged sixty-five years.

THE eighth annual meeting of the Southwestern division of the American Association for the Advancement of Science will be held at Flagstaff, Arizona, from April 23 to 26, 1928. A committee on local arrangements has been appointed as follows: Dr. Grady Gammage, president of the Northern Arizona State Teachers' College, *chairman*; Dr. V. M. Slipper; Dr. H. S. Colton; E. C. Slipper; G. A. Pearson; C. O. Lampland; C. F. Deaver; E. M. Mercer; Dr. M. G. Fronske, and Dr. Chas. Ploussard. The following committee will have charge of the program for the meeting: Professor William G. McGinnies, University of Arizona, *chairman*; J. J. Thorner; C. O. Lampland; R. S. Rockwood; D. W. Rockey; Samuel Burkhard; Dr. Byron Cummings; Odd S. Halspeth, and Dr. Elliot C. Prentiss. A special joint meeting will be held with the Pacific division at Pomona College in June. The division has been invited to hold a similar special meeting with the Southwestern division at Flagstaff.

THE twenty-second annual meeting of the Entomological Society of America is to be held at Nashville on December 27 and 28. In addition to the usual papers the society is planning to have a comprehensive exhibit, including photographs, drawings, apparatus, uniques and other material of technical or general interest. The opening session of December 27 will include a symposium on the physiology of insects. In the evening H. T. Fernald, of the Massachusetts Agricultural College, will deliver the annual public address. A second business meeting will be held the

following day, at which officers for the coming year will be elected.

ACCORDING to the *Indicator*, a new organization, composed primarily of the faculty members of the Rockefeller Institute and Columbia University, as well as of members of various other local research laboratories who are interested in physical and organic chemistry, met on November 17. Following a dinner at John Jay Hall, Columbia University, a scientific session was held in Havemeyer Hall. Professor T. C. Taylor read a paper on "Minor Constituents of the Starch Molecule and their influence on the Properties of Starch." Professor L. P. Hammett gave a paper on "Some Properties of Electrodes." About ninety people were in attendance and a lively discussion followed. The purpose of this organization is to furnish an opportunity for those chemists residing in New York and vicinity, who are interested in the more academic phases of chemical research, to become better acquainted with each other and to report informally upon researches which they are conducting. No formal organization has yet been effected, but the general consensus of opinion was that meetings patterned after those of the Society for Experimental Biology and Medicine would be most desirable. In the meantime, Dr. D. A. MacInnes, of the Rockefeller Institute, and Professor V. K. LaMer, of Columbia University, are acting as temporary officers. Professor A. E. Hill has invited the club to the new chemical building at University Heights for the next meeting to be held on December 15.

FREE lectures and demonstrations will be given at the New York Botanical Garden on Saturdays at 3 P. M. as follows: December 3, "Air-Plants," Dr. H. A. Gleason; December 10, "Winter Birds in the Botanical Garden," Mr. R. S. Williams; December 17, "Ferns," Dr. Marshall A. Howe; January 14, "Australian and South African Flowers," Mr. Kenneth R. Boynton; January 21, "House Plants and their Care," Mr. H. W. Becker; January 28, "Planting Flower Seeds," Mr. George Friedhof.

THE United States Civil Service Commission announces an open competitive examination for junior physicist, applications for which must be on file not later than December 30. The examination is to fill vacancies in the United States Naval Research Laboratory, Bellevue, D. C., in the Bureau of Standards, Department of Commerce, and in positions requiring similar qualifications. The entrance salary in the District of Columbia is \$1,860 a year.

AN engineering tour in Europe has been announced by James A. Moyer, president of the National University Extension Association and director of the Massachusetts University Extension, according to *The*

*Christian Science Monitor*. The tour has been arranged by several member institutions of the National University Extension Association and was planned for the benefit of factory and public utility executives, instructors and students in engineering schools and others interested in international industrial conditions. Professor N. C. Miller, director of university extension at Rutgers University, and Professor J. O. Keller, director of engineering extension at Pennsylvania State College, with Mr. Moyer are in charge of arrangements. Forty-two days will elapse during the proposed itinerary from the embarkation on the *Tuscanica* at New York on July 14, until the return arrival of the *Berengaria* on August 24.

ACCORDING to the *Proceedings* of the Washington Academy of Science the grasses collected on the South Atlantic expedition, 1923-1926, of the Cleveland Museum of Natural History, exploring schooner *Blossom* under the command of George Finlay Simmons, have been sent to the Grass Herbarium of the U. S. National Museum for study. Except for a few from Senegal the grasses were collected on islands on both sides of the Atlantic. While the collection is not large there are many species not before recorded from Ascension, St. Helena, South Trinidad, Fernando Naronha and Cape Verde group. A complete set is deposited in the Grass Herbarium.

CALEB C. DULA, of the board of directors of the Boyce Thompson Institute for Plant Research, has made a gift to the institute of a photographic laboratory to be equipped as completely as possible for the recording of scientific work. Ultra-violet photography, color work, micro-photography, moving pictures, new devices for photographing roots of plants in water with specially devised reflectors, are among the specialized equipment already planned. Besides the recording of the results of experimental greenhouse and field work in all its stages and the making of lantern slides for educational work, much attention will be given to the development of technic with special reference to making scientific records of plant life. Louis P. Flory, formerly of Cornell University, will be in charge of the laboratory.

THE Copper and Brass Research Association has given \$2,500, to be added to the metals research fund in the department of physiology at Columbia University.

DR. ELLICE McDONALD, of the University of Pennsylvania, has received a gift of fifty thousand dollars to continue his researches into the causation of cancer. This gift has been taken to the graduate school of medicine of the University of Pennsylvania where it will be administered under a committee consisting of

Dr. Ellice McDonald, *chairman*, Professor William Seifriz, of the department of botany, and Dean George H. Meeker, of the graduate school of medicine. The plan of research is the study of the physico-chemical aspects of cancer and will have associated with it a number of non-medical chemists and physicists. Three scholarships in research will be open in the graduate school for workers familiar with the colloidal aspects of blood such as cataphoresis, particle size determination, tissue cultures, etc.

ANNOUNCEMENT has been made of the gift to the state of Massachusetts of a new wild life sanctuary of 125 acres adjoining the East Sandwich Bird Farm, by the associated committees of the Federation at the Bird Clubs of New England, the Massachusetts Audubon Society and the Massachusetts Fish and Game Association. A fresh-water stream, which separates the new sanctuary from the bird farm, will later be dammed up to make a fresh-water pond on the edge of a salt marsh, which has a variety of cover frequented by many species of song and insectivorous birds, as well as game birds. A small portion of the land is now occupied with pens for the breeding of bob-whites. The property borders on Scorton Creek and Mill Stream and will provide the first public fishing ground that has ever been especially established in the state.

At the British Embassy in London on November 18 the ambassador presented the vice-minister for communications, representing the Japanese government, with a new standard mutual inductance made at the National Physical Laboratory and given to Japan by the British government in place of the one destroyed in the earthquake of 1923. Representative scientists and engineers attended the ceremony. Professor Sakurai, president of the National Research Council, in a cordial speech, paid tribute to the constant assistance Japanese science had received from Great Britain for more than half a century.

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## UNIVERSITY AND EDUCATIONAL NOTES

THE state legislature has appropriated \$3,481,541 for carrying on the work of the University of Wisconsin. There is available \$50,000 for research on special investigations, \$341,220 for university extension, \$30,000 for farmers' institutes, \$60,000 for agricultural extension, \$30,000 for substations, \$5,000 for corn borer work, \$63,100 for county agricultural representatives, \$5,000 for the state soils laboratory, \$2,500 for hog cholera serum, \$6,950 for tobacco experiments and \$5,000 for experiments with truck crops.

ANTIOCH COLLEGE has received a gift of approximately \$300,000 for a new science building from Charles F. Kettering, head of the General Motors Corporation research bureau. Construction will be started as soon as possible.

FREDERICK W. VANDERBILT has given \$116,666.67 toward the construction and equipment of the Vanderbilt clinic at the Columbia Presbyterian medical center. Harold S. Vanderbilt has given \$50,000 toward the construction and equipment of the clinic.

N. B. GUERRANT has resigned his position as associate professor of chemical research at the Oklahoma Agricultural and Mechanical College, to fill a position in the department of animal industry, Alabama Polytechnic Institute, where he is devoting his full time to research in nutrition.

Dr. W. H. FELDMAN, assistant professor and assistant in veterinary pathology at the University of Colorado, has resigned to accept a position with the Institute of Medical Research of the Mayo Foundation at Rochester, Minn., and has been succeeded by Dr. Henry L. Moreney.

APPOINTMENTS to the department of biology in Union College for the present academic year include Dr. Robert K. Enders, assistant professor of zoology, and Mr. Ralph G. Clausen, instructor in biology.

Dr. RALPH T. K. CORNWELL, formerly instructor in organic chemistry at Cornell University, is now at the University of Pittsburgh. Dr. Cornwell spent last year in Europe, studying at the University in Munich, Germany, and with Professor Fritz Pregl, Graz, Austria.

At the University of Chicago, Dr. Warren C. Johnson has been appointed instructor in general and inorganic chemistry, to succeed Assistant Professor Terry-McCoy, who resigned last March.

FLOYD S. DAFT, after spending a year of study with Professor S. P. L. Sørensen at Copenhagen, Denmark, as holder of the Cheney Fellowship of Yale University, has been appointed an assistant in the School of Public Health of Harvard University.

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## DISCUSSION AND CORRESPONDENCE ON ACTIVE GLUCOSE

IN an address delivered September 6, 1927, before the division of organic chemistry of the American Chemical Society, the thought was developed that the active forms of glucose, *i.e.*, the fermentable forms, are the free radicals resulting from the opening of the oxygen bridges.

This thought had its origin in the observations of Levene and Walti on the behavior of propylene oxide