Organic Chemistry, with Professor James B. Conant, of Harvard University, as chairman.

A second symposium, on "Cooperation between Industry and Chemical Education," will be sponsored by the Division of Chemical Education, of which Dr. John N. Swan, of Tuckahoe, New York, formerly head of the department of chemistry in the University of Mississippi, is chairman. Teachers from high schools and colleges all over the United States will participate. Exhibits from high-school chemistry classes in many states will compete for prizes. There will also be an exhibition of chemical apparatus and products by manufacturers. On April 1 the Senate of Chemical Education, composed of representatives of education and industry, will convene to receive reports of committees. On April 2 the members of the division will attend the dedication at Bloomington of the new chemistry building of the University of Indiana.

A third symposium, on "Mathematics in the Service of Chemistry," will be given by the Division of Physical and Inorganic Chemistry, of which Professor Farrington Daniels, of the University of Wisconsin, is chairman.

"Dietary Facts and Fads" will be the subject of a public address at 8:30 P. M. on April 1 by Professor William C. Rose, of the University of Illinois. The Divisions of Gas and Fuel Chemistry, Industrial and Engineering Chemistry, and Petroleum Chemistry will combine in joint sessions on the "Utilization of Gaseous Hydrocarbons." New and unpublished research work at agricultural experiment stations will be reported at a meeting of the Division of Agricultural and Food Chemistry, headed by Professor James S. McHargue, chief chemist of the Kentucky Agricultural Experiment Station at Lexington.

The Division of Cellulose Chemistry, Frederich Olsen, director of research of the Western Cartridge Company, East Alton, Illinois, chairman, and the Division of Colloid Chemistry, Professor R. A. Gortner, of the University of Minnesota, chairman, will join in a symposium on "The Physical and Colloid Chemistry of Cellulose and Cellulose Derivatives."

The Paint and Varnish Division, of which P. R. Croll, of Milwaukee, is chairman, will discuss plans for nation-wide research to improve the finish and durability of protective coatings.

Sanitation, water softening, sulfide wastes and other problems of the water supply of cities will be discussed before the Division of Water, Sewage and Sanitation Chemistry. The Division of Sugar Chemistry, the History of Chemistry Division and the Division of Rubber Chemistry will also meet.

Divisional officers of the society will convene on the morning of April 1, Erle M. Billings, of the Eastman Kodak Company, presiding. Officers of the eighty local sections will gather on the morning of April 2, with Dr. H. T. Herrick, of the Bureau of Chemistry and Soils, Washington, D. C., as chairman.

Trips of inspection to the industries and educational institutions of Indiana and many social events, including group dinners and luncheons, have been arranged. J. K. Lilly, R. E. Lyons and P. C. Reilly, of Indianapolis, have been named honorary chairmen of the general convention committee. Harry E. Jordan is general chairman.

The business reorganization of the society, reports of officers and committees, endowment plans and expansion of publications, involving the world-wide reporting of scientific developments for the use of American men of science, will be taken up by the council.

SCIENTIFIC NOTES AND NEWS

DR. DAVID STARR JORDAN, chancellor emeritus of Stanford University, celebrated his eightieth birthday on January 19. Dr. Jordan was able to sit up for a short time to receive his most intimate friends. As a permanent expression of appreciation faculty, alumni and friends presented the "Jordan Room," his former office in the Zoology Building. This is to provide "a room beautiful in form and color, comfortable and convenient, in which his favorite subjects can be pursued for years to come." In Danville, at the foot of Mount Diablo, students planted a valley oak as a suitable expression of the strength manifested in Dr. Jordan's life. Dr. Barton W. Evermann, one of Dr. Jordan's first students at Indiana, was the principal speaker.

DR. WILLIAM H. WELCH, professor of the history of medicine, and Dr. William H. Howell, professor of physiology and director of the School of Hygiene and Public Health of the Johns Hopkins University, will retire at the end of the present academic year. Dr. Welch was the first professor of pathology at the Johns Hopkins University School of Medicine, having been appointed in 1884. In 1916 he became the first director of the School of Hygiene and Public Health. In 1926 a chair of the history of medicine was created for him and in 1929 the new medical library was dedicated in his honor. Dr. Welch's eightieth birthday on April 8 of last year was marked by an international celebration. Dr. Howell, whose seventy-first birthday occurred on February 20, has been professor of physiology since 1893, succeeding Dr. Welch as director of the School of Hygiene and Pub-

lic Health in 1926. He was president of the International Physiological Congress held at Harvard University in 1929.

DR. ALBERT EINSTEIN will leave Pasadena late in February on his way home to Berlin. He expects to sail from New York on March 4. Just before sailing Professor Einstein will be the guest of honor at a dinner at the Hotel Astor to start a campaign for $1,000,000, the New York City quota in the nation-wide American-Palestine campaign for $2,500,000. More than 1,000 guests, who will pay $100 each, are expected to be present.

THE degree of doctor of science has been conferred by the University of Pittsburgh on Dr. Harlow Shapley, professor of astronomy and director of the Harvard College Observatory; Dr. Edward Ellery, professor of chemistry and dean of the faculty of Union College and secretary of Sigma Xi; Dr. George E. Coghill, of the Wistar Institute of Anatomy and Biology, and Dr. George W. Stewart, head of the department of physics at the University of Iowa.

RECIPIENTS of honors bestowed on the occasion of a dinner on February 18 of the American Institute of Mining and Metallurgical Engineers include Francis W. MacLennan, of Miami, Arizona, who receives the William Lawrence Saunders Medal for discovering a method to produce copper profitably from ores which had been considered virtually worthless; William H. Peirce, of Baltimore, the James Douglas Medal for numerous improvements in devices for smelting, refining and rolling copper; Edmund S. Davenport, of Kearny, New Jersey, the Robert W. Hunt award, for studies in cast iron, tungsten, thorium and transformation of austenite. Professor Waldemar Lindgren, geologist of the Massachusetts Institute of Technology, was made an honorary member of the institute.

DR. ALEXANDER WETMORE, assistant secretary of the Smithsonian Institution, has been elected an honorary member of the Ornithological Society of Bavaria.

SIR WILLIAM BRAGG, Fullerian professor of chemistry in the Royal Institution, has been elected an honorary member of the British Institution of Electrical Engineers.

THE gold medal of epidemics has been conferred posthumously on the late Dr. Ernest Conseil, director of the Health Office of Tunis, and collaborator with Dr. Charles Nicolle in his work on typhus, cholera and plague.

THE Buchan Prize of the Royal Meteorological Society, awarded biennially for the most important original papers contributed to the society during the previous five years, was presented to Dr. C. E. P. Brooks at its meeting on January 21.

OFFICERS of the American Society of Naturalists were elected at the Christmas meetings as follows: Dr. S. J. Holmes, University of California, *president;* Dr. E. J. Kraus, University of Chicago, *vice-president;* Dr. Sewall Wright, University of Chicago, *treasurer;* Dr. Leon J. Cole, University of Wisconsin, *secretary.*

DR. MORRIS M. LEIGHTON, state geologist of Illinois, was elected president of the Association of American State Geologists and Dr. George C. Brannon, of Arkansas, secretary, at the recent annual meeting held in Washington, D. C. Plans were discussed for the sixteenth International Geological Congress, to be held in Washington in June of next year. Dr. W. C. Mendenhall, acting director of the Geological Survey, sketched the history of the congress. The major topic for investigation, he said, would be the petroleum resources of the world. A special committee has been appointed to deal with this topic. Its findings will be compiled and published in a monograph for distribution at the congress. A considerable sum is necessary in order to make the meeting a success. The Geological Survey is seeking a special grant from the federal government to aid in defraying expenses.

PROFESSOR GEORGE H. MEAD, head of the department of philosophy at the University of Chicago where he was appointed assistant professor in 1894 and has been professor since 1903, resigned on February 5, owing, it is said, to differences of opinion concerning an appointment made in the department by President Robert M. Hutchins. Dr. Mead will lecture at Columbia University next year. Professor Edwin A. Burtt and Associate Professor Arthur Murphy have also resigned, having accepted positions at Cornell University and Brown University, respectively.

MR. HAROLD L. MADISON has been appointed director of the Cleveland Museum of Natural History. For thirteen years Mr. Madison was director of the Park Museum, Providence, Rhode Island. In June, 1921, he became curator of education at the Cleveland Museum, and was appointed acting director upon the resignation of Paul M. Rea in January, 1928. From 1918 to 1922 Mr. Madison was secretary of the American Association of Museums.

DR. EDWARD R. WEIDLEIN, director of the Mellon Institute of Industrial Research at Pittsburgh, has announced the appointment of Dr. Leonard Harrison Cretcher to an assistant directorship in the institution. Dr. Cretcher, who since 1926 has been serving

as head of the department of research in pure chemistry, is a specialist in organic chemistry and will have supervisory charge of a group of industrial fellowships that are concerned with problems in organo-chemical technology. In addition to serving in this capacity, Dr. Cretcher will continue as head of the department of research in pure chemistry. In this work he will be aided by Dr. William L. Nelson, who has been made senior fellow in pure research. Beside Drs. Cretcher and Nelson, the departmental staff will include Dr. C. L. Butler and Dr. Alice G. Renfrew, who has gone to the Mellon Institute from the Sterling Chemistry Laboratory of Yale University.

DR. J. VOLNEY LEWIS, of New York City, has resigned as staff geologist for foreign operations of the Gulf Oil Corporation and has joined the staff of "A Century of Progress," where he will undertake to organize the work in geology, mining and metallurgy for the Chicago International Exposition in 1933 and to assemble the appropriate exhibits. The plans are being made and the work will be carried out with the cooperation of the National Research Council.

DR. C. E. K. MEES, director of research and development at the Eastman Kodak Company, who for a number of years has been an assistant editor of *Chemical Abstracts* in charge of the photographic section, has resigned, and Dr. E. P. Wightman, research chemist at the Eastman Kodak Company, has been appointed his successor.

DR. FLOYD W. VON OHLEN, formerly of the Ohio State University, has been appointed instructor in botany in the department of biology at Long Island University, Brooklyn, New York.

SEVEN dismissals from the faculty of Transylvania College at Lexington, Kentucky, are reported. They include Dr. C. A. Maney, for eleven years head of the department of mathematics. Dr. Maney is said to have received a letter stating that for purposes of economy his services would not be required next year. Transylvania College is supported by the "Disciples of Christ."

THE Committee on Scientific Research of the American Medical Association has granted to the New York Homeopathic Medical College and Flower Hospital for the work of Dr. Israel S. Kleiner, professor of chemistry, the sum of $500 to aid in work on crystalized enzymes. The Littauer Foundation has made possible the continuation of his work on studies in diabetes, by a second gift of $1,800. Mr. Lewis Emery has made a gift of $2,150 to Dr. E. Risley Eaton, associate professor of medicine, for studies in arthritis.

PROFESSOR T. H. GOODSPEED, on sabbatical leave from the department of botany of the University of California, and at present carrying on research in the biological institute of the Kaiser Wilhelm Gesellschaft under a fellowship of the Guggenheim Foundation, spoke at the third "Dahlemer Biologischer Abend" on January 12 on "Effects of High Frequency Radiation on Species of Nicotiana."

THE George Fisher Baker non-resident lecturer in chemistry at Cornell University for the present university term is Dr. Nevil V. Sidgwick, of Oxford University. Dr. Sidgwick will conduct a course of lectures on "Molecular Structure and the Periodic Classification" and will hold weekly colloquiums for the benefit of advanced students in chemistry. He is the eleventh holder of the non-resident lectureship founded by George Fisher Baker in 1925, which in accordance with the terms of the foundation is filled in succession by men eminent in chemistry or in some related branch of science.

YALE UNIVERSITY announces the appointment of Dr. Heinrich Wieland, professor of organic chemistry at the University of Munich, and one of the editors of the *Annalen der Chemie,* as Silliman lecturer for the current year. The subject of the lectures will be "Researches on Oxidation Reaction." They will be given at 4:15 P. M., in the lecture room of the Sterling Chemistry Laboratory on March 16, 18, 20, 23, 25 and 26. As provided for by the Silliman Foundation, these lectures in amplified form will be published by the Yale University Press as a volume of the Silliman series. A correspondent writes: "The eminence of Dr. Wieland as an organic chemist and biochemist and his important researches in the field which he has chosen for the subject of the forthcoming course ensure another notable addition to the Silliman series, which already includes many important contributions by distinguished scientists in various fields."

PROFESSOR R. H. FOWLER, of Trinity College, Cambridge, will give a series of twenty-four lectures at the University of Wisconsin on "Some Recent Developments in Theoretical Physics." The topics to be covered include electron emission, the theory of ferromagnetism, the internal absorption coefficient for gamma rays and Milne's theory of the internal constitution of the stars. The lectures will begin on April 1 and will continue through April and May. Visitors are invited to attend the lectures.

PROFESSOR CHARLES GALTON DARWIN, professor of natural philosophy in the University of Edinburgh, will lecture at the Lowell Institute, Boston, during March and April.

DR. FRITZ S. BODENHEIMER, author of the comprehensive "History of Entomology before Linné,"

known for his work on the relation of climate to epidemiology, has been appointed lecturer in entomology at the University of Minnesota for the spring term. His topic for the series will be "Insect Physiology, the Regulating Mechanism of Insect Epidemiology and Biocoenotics."

DR. KEIVIN BURNS, assistant director of the Allegheny Observatory, will give a lecture and laboratory course in "Precision Spectroscopy" at the coming summer session of the University of Michigan.

DR. GEORGE K. BURGESS, director of the Bureau of Standards, gave a lecture before the Maryland Academy of Science on February 18 as one of a series on the value of scientific research in industry arranged in cooperation with the Baltimore Association of Commerce. Under the leadership of Dr. Robert B. Owens, director of the academy, it is hoped to increase the membership to 500 and to collect $50,000 to assist in making the academy, of which Dr. William H. Howell, director of the School of Hygiene and Public Health of the Johns Hopkins University, is president, "a scientific instrument to render valuable assistance to the industries of Maryland."

DR. DAVID WHITE, principal geologist of the U. S. Geological Survey, will give a course of six lectures at Yale University under the auspices of the department of geological sciences during the last week of February and first week of March on "The Geology of Coals."

DR. JOSEPH C. ARTHUR, dean of American botanists, professor emeritus of botany at Purdue University, was the guest of the Pennsylvania State College on February 18 at which time he spoke on "Disentangling the Rusts" in the series of lectures sponsored this year by the School of Agriculture.

PROFESSOR JAMES F. NORRIS, of the department of chemistry at the Massachusetts Institute of Technology, will give three lectures at Bowdoin College during the coming semester under the auspices of the department of chemistry.

DR. S. O. MAST, of the Johns Hopkins University, recently gave an address on "Amoebae" before the faculty and graduate students in the department of biology of Western Reserve University.

PROFESSOR EDWARD W. BERRY, of the Johns Hopkins University, lectured recently at the University of Illinois. His subjects were: "The Evolution of Floras," "The Evolution of Faunas," "Principles of Paleontology," "Principles of Historical Geology" and "The Geological History of the Mississippi Embayment."

RECENT lectures given before the Royal Canadian Institute, Toronto, include a lecture on "The Geysers of Yellowstone Park," by Dr. Arthur L. Day, of the Geophysical Laboratory of the Carnegie Institution, and a lecture on "Wild Flowers" by Mrs. Mary Vaux Walcott, of the Board of Indian Commissioners.

LECTURES of the Royal College of Physicians will be given this year as follows: Surgeon Captain S. F. Dudley, R.N., will deliver the Milroy Lectures on February 26 and March 3 and 5 on "Some Lessons of the Distribution of Infectious Disease in the Royal Navy"; Dr. Macdonald Critchley, the Goulstonian Lectures on March 10, 12 and 17 on "The Neurology of Old Age," and Sir William Willcox the Lumleian Lectures on March 19, 24 and 26 on "Toxic Jaundice."

BY the will of the late Albert B. Kuppenheimer the University of Chicago receives an endowment fund of about $1,000,000 for medical research. The Michael Reese Hospital receives $500,000.

YALE UNIVERSITY will eventually receive a fund of $577,732, the income of which will be used to provide scholarships for students of American ancestry, under the terms of the will of Dr. William Whitney Hawkes, who was for many years one of Connecticut's leading physicians and surgeons. Dr. Hawkes was a graduate of the college and of the medical school.

THE new Charles Franklin Kettering Laboratory of Applied Physiology at the University of Cincinnati College of Medicine, Cincinnati, has been dedicated. It is designed primarily for research work in occupational diseases. Dr. Robert A. Kehoe is director. Mr. Kettering, of Dayton, and other industrial leaders, who contributed $130,000 for erection of the laboratory, have provided an annual fund of $40,000 for its operation.

ON account of the proximity of the forthcoming Pasadena meeting of the American Association for the Advancement of Science at the end of June, the executive committee of the Southwestern Division has voted to omit the regular meeting of the division which would ordinarily occur next April. The next meeting of the division will take place in Colorado, at a place as yet unselected, in the spring of 1932.

PREPARATIONS for the twelfth annual industrial conference at the Pennsylvania State College are being made by the School of Engineering. Dean R. L. Sackett announces that arrangements are being completed to have as speakers representatives of the foremost industries in Pennsylvania. The conference will be held for three days, May 13, 14 and 15, with the general aim of bringing the college into closer cooperation with industry, thus giving to industry a better perspective of the college work.

THE fourth annual conference of workers who are engaged in the study of the root-rot disease (caused by *Phymatotrichum omnivorum*) was held at College Station, Texas, on January 19 and 20. This conference, which is part of the cooperative attack on the root-rot problem by the United States Department of Agriculture and the Texas Agricultural Experiment Station, affords a yearly opportunity for the prompt presentation of results secured during the previous year at the many laboratories and field stations at which work on the problem is under way. The 46 papers presented at the present conference included results from six laboratories and field and plat studies from eight stations. A total of 34 plant pathologists, soil chemists, agronomists, botanists and horticulturists took part in the discussions. Director A. B. Conner, of the Texas Experiment Station, and Dr. Oswald Schreiner, of the United States Department of Agriculture, presided at the various sessions. A report of the results presented at this conference will appear in *Phytopathology*.

ON Wednesday afternoon, December 31, those interested in hydrobiology and aquiculture met for papers and discussion in the Herrick Room of the Medical Library Building of Western Reserve University. Dr. E. A. Birge, of the University of Wisconsin, acted as chairman. The secretary, Dr. P. R. Needham, University of Rochester, writes that this was the second special meeting of this group to be held in conjunction with the American Association for the Advancement of Science, the first having been held in Des Moines last year. The great amount of interest in these subjects was evidenced by the attendance which was well over one hundred persons. There were fourteen papers given, most of which were illustrated by lantern slides. Delivery of papers occupied most of the afternoon and discussion periods were all too brief. The subjects covered were as broad as the field of hydrobiology itself and were in most cases the results of research carried on by the speakers. Seven of the papers had to do with lakes and covered such phases as light transmission, gases in solution, thermal stratification, plankton, bottom faunas and fishery problems. Three of the papers were on ecology and life histories of fishes. The only paper having to do with salt-water was one given by Professor Thurlow Nelson, of Rutgers University, on oyster larvae and their reactions to currents and salinity of waters. Most of the papers had to do with pure hydrobiology. Little was said on the more practical aspects of aquiculture or the means by which our bodies of water are to be made into producing units. The meeting was very successful from all points of view.

THE Council of the American Association for the Advancement of Science at the Cleveland meeting passed on January 1, 1931, the following resolution on the revision of the copyright laws of the United States:

WHEREAS, There is prospect of Congressional action at this session on the long discussed Vestal General Revision Copyright Bill (H. R. 12549), which includes among its many just and progressive provisions the qualifying of the United States for entrance into the International Copyright Union, and

WHEREAS, It is highly desirable that the United States outlaw piracy and thus in turn obtain for its authors and composers the automatic protection which is afforded by membership in this Union; it is hereby

Resolved, That the council of the American Association for the Advancement of Science hereby expresses its hearty approval of the Vestal Bill, and it is further

Resolved, That the council recommends that, if without defeating passage, the bill be amended to preserve to the individual, whether resident or incoming, his old privilege of importing for use all legitimate foreign books without intervention, and also to provide for adherence to the 1928 Convention of the Union instead of the 1908 convention, as provided in the present bill.

DISCUSSION

ORIGIN OF PALOUSE HILLS TOPOGRAPHY

THAT part of the loess-covered Columbia plateau which lies in the adjoining counties of Whitman, Washington, and Latah, Idaho, possesses a curious rolling mature topography which has puzzled geographers and physiographers because it appears to belie the topographic age of the surrounding and adjacent country.

This rolling topography has been locally called "the Palouse Hills" from the time of the early white settlers. It is an area of extremely dissected loess, with a relief of more than 150 feet bearing relatively few streams, and presents an aspect so unusual that it is gradually becoming known as a new type, the Palouse Hills topography.

Guesses at its origin over a period of forty years have attributed the unusual topographic forms to normal stream erosion, to aeolian deposition, even to barchan dunes of loess. Unfortunately, the field evidence fails to support any of these hypotheses satisfactorily.

The only topographic map of the area is the Pullman, Washington, quadrangle and its large contour interval and small scale fail to show the most characteristic features of the Palouse Hills topography. It was not until 1927 that Dr. Francis A. Thomson, president of the Montana School of Mines, but at that time dean of the School of Mines at Moscow, Idaho, crossed the region by aeroplane and noticed that nearly all of the intermittent streams tributary to the main drainage lines headed in cirque-like bottle-necked amphitheaters. The studies of the authors,