Summit Hill fire barrier and stripping was the last coal property visited, after which the party went to the carnotite locality in the Pottsville conglomerate near Mauch Chunk, at which point they disbanded.

The trip was planned and conducted by the staff of the department of geology, Lehigh University, with the hearty assistance and cooperation of various coal companies.

LAWRENCE WHITCOMB,
Secretary

IN HONOR OF PROFESSOR CARLSON

ON June 1 a portrait bust of Dr. Anton J. Carlson, prepared by Mrs. Alice Littig Siems, was presented to the University of Chicago by students, colleagues and friends of Dr. Carlson. The unveiling and presentation speech was made by Dr. A. B. Luckhardt, who paid the following tribute to his colleague:

It is unfortunate, perhaps, that I, who probably know Professor Anton Julius Carlson better than any one in this audience, should have been called upon to present to the University of Chicago, through its vice-president, this portrait bust about to be unveiled. I think I know enough of medical history, with its lore and legends, to thoroughly realize that many of the past worthies have been glorified much beyond their merited deserts. I do not propose to make the same mistake by a deluge of encomiums and reflection on *a great man* and *one* with a marvelous career. Even if he were here with us, I should say the same of him. He would not want it otherwise from me.

Many years ago, Anton Julius Carlson came from Sweden as a lad of fourteen—a non-descript immigrant. America gave him an opportunity for a fruitful life of scientific and civil endeavor and influence. He seized the opportunity and made the most of it. First at Stanford University, next at Pennsylvania and then at Chicago, he pursued biological truths on the basis of intense experimental efforts. Throughout a long life time, he has practiced the principle that facts must be ascertained by observation and not by divination. After that, logic and philosophy might well toy with them. Like his illustrious predecessors, he used a variety of gadgets to get at the facts; and like a Claude Bernard and a Carl Ludwig he wove a logical and philosophical fabric about many of them. But, he would be the first to discount the importance of the philosophic fabric, and also the first to emphasize the importance of the facts.

Establishing for himself an enviable record at this university as a great teacher and investigator, he attracted numerous students. Many a recipient of a higher degree from this university (and one well earned under Dr. Carlson's guidance) now holds an important post in this country. In fact, I doubt whether any departmental chairman at this university or abroad, past or present, could adduce a greater scientific progeny than he—with the possible exception of the immortal Carl Ludwig!

Aside from a warped judgment on the scientific worth of former students and adventurers in science, born of extreme personal loyalty, he has distinguished himself among his medical and scientific colleagues by an unerring judgment based on astute and critical analysis of the presented data. That is why potential contributors to scientific and medical journals have sought his counsel in advance, to avoid his straight-from-the-shoulder and trenchant criticism on the floor of any scientific gathering.

Little wonder then that scientific bodies of all kinds have elected him to work in their behalf and have granted him honors. He is on all occasions an honored, respected and inspiring guest. His admirers here and abroad are legion!

I have the honor and the rare privilege to present to you, Mr. Woodward, as representative of the university, the portrait bust of Professor Anton Julius Carlson, living and active chairman of the department of physiology.

Vice-president Woodward, in receiving the gift on behalf of the university, also paid tribute to Dr. Carlson's accomplishments and expressed, on behalf of the president and board of trustees, their great appreciation of his long service to the university.

RECENT DEATHS

DR. JOHN H. HAMMOND, consulting mining engineer, died on June 8 at the age of eighty-one years.

DR. JULIUS A. NIEUWLAND, professor of chemistry at Notre Dame University, died suddenly on June 11. He was fifty-eight years old.

DR. CHARLES E. JOHNSON, head of the department of forest zoology and director of the Roosevelt Wild Life Forest Experiment Station at the New York State College of Forestry, died on June 6, at the age of fifty-six years.

DR. ALBERT B. REAGAN, special professor of anthropology at Brigham Young University, died on May 30 at the age of sixty-five years. Before joining the staff of Brigham Young University in 1934 he had served for thirty-four years in the U. S. Indian Service.

THURAL DALE FOSTER, a promising young student of Mollusca, died of Hodgkin's disease on June 6 after having completed all requirements for the doctorate in zoology in the University of Illinois. He would have received his degree on June 8.

SCIENTIFIC NOTES AND NEWS

THE honorary degree of doctor of laws, the only honorary degree given at the commencement of the Johns Hopkins University, was conferred on Dr. Joseph Sweetman Ames, president emeritus. The degree was conferred *in absentia,* owing to the illness of Dr. Ames.

AMONG degrees to be conferred by the University of Wisconsin on June 22 are the degree of doctor of science on Dr. Joseph Erlanger, professor of physiology at the Medical School of Washington University, St. Louis, and on Dr. Lewis R. Jones, professor of plant pathology at the university. The degree of doctor of laws will be conferred on Dr. Isaiah Bowman, president of the Johns Hopkins University.

WILLIAM AND MARY COLLEGE conferred at its commencement exercises on June 8 the doctorate of laws on Dr. James B. Conant, president of Harvard University.

DR. WILLIAM J. MAYO and Dr. Charles Horace Mayo received the honorary doctorate of laws at the graduation exercises of Notre Dame University. Dr. William Mayo delivered the commencement address.

THE honorary doctorate of science was conferred by Yale University on June 17 on Dr. Theophilus Shickel Painter, professor of zoology in the University of Texas, and the degree of master of science was conferred on Dr. Richard Edwin Shope, of the Rockefeller Institute for Medical Research, Princeton, N. J.

AT the commencement of the University of Pittsburgh on June 10 the degree of doctor of laws was conferred on Dr. Robert E. Doherty, dean of the School of Engineering of Yale University, president-elect of the Carnegie Institute of Technology, and the degree of doctor of science on Dr. Karl S. Lashley, professor of psychology at Harvard University.

DR. HARVEY NATHANIEL DAVIS, president of the Stevens Institute of Technology, received the honorary degree of doctor of engineering at the commencement exercises of New York University.

THE honorary degree of doctor of engineering was conferred on Dr. Harrison E. Howe, editor of *Industrial and Engineering Chemistry,* at the commencement exercises at the Rose Polytechnic Institute on June 6, when he gave the address. His subject was "Responsibilities of Technology."

H. C. MANN, senior materials engineer, Ordnance Department of the U. S. Government, Watertown Arsenal, has been awarded the Charles B. Dudley medal of the American Society for Testing Materials for 1936, for his work on "The Relation Between the Tension Static and Dynamic Tests." The medal is awarded to the author of the paper presented at the preceding annual meeting "which is of outstanding merit and constitutes an original contribution on research in engineering materials." The medal will be presented during the 1936 annual meeting at Atlantic City on July 1.

NOMINATIONS for officers of the American Society for Testing Materials for 1936–1937 are as follows: *President,* A. C. Fieldner, chief engineer, Experiment Stations Divisions, U. S. Bureau of Mines, Washington, D. C.; *Vice-president,* T. G. Delbridge, manager, Research and Development Department, The Atlantic Refining Company, Philadelphia, Pa.; *Members of Executive Committee,* O. U. Cook, assistant manager, Department of Metallurgy, Inspection and Research, Tennessee Coal, Iron and Railroad Company, Birmingham, Ala.; H. F. Gonnerman, manager, Research Laboratory, Portland Cement Association, Chicago, Ill.; C. S. Reeve, manager, research development, The Barrett Company, Leonia, N. J.; F. E. Richart, research professor of engineering materials, University of Illinois; F. M. Waring, engineer of tests, the Pennsylvania Railroad Company, Altoona, Pa.

AT the election of officers of the American Association of Cereal Chemists, Harry Liggett, Colorado Mill and Elevator Company, Denver, Colo., was elected *president;* Dr. C. H. Bailey, of the University of Minnesota, *vice-president;* Dr. D. A. Coleman, Washington, D. C., *editor-in-chief of Cereal Chemistry;* C. C. Fifield, Washington, D. C., *managing editor of Cereal Chemistry;* H. W. Putnam, Igleheart Brothers, Evansville, Ind., *secretary;* M. D. Mize, Wallace and Tiernan, Inc., Newark, N. J., *treasurer.*

PROFESSOR WILLIAM BENJAMIN FITE, since 1910 professor of mathematics, now executive head of the department at Columbia University, has been appointed Davies professor of mathematics. This chair has been newly established and is named in honor of Charles Davies, professor at the university from 1857 to 1865.

PROFESSOR DINSMORE ALTER has resigned from the University of Kansas, after a year's leave of absence, to become director of the Griffith Observatory at Los Angeles. He will be succeeded at the University of Kansas by Dr. Norman Wyman Storer, who has been appointed assistant professor of astronomy.

IN the department of physics of Cornell University, G. E. Grantham and L. P. Smith, assistant professors, have been appointed to full professorships, and M. S. Livingston, instructor, has been promoted to an assistant professorship.

FREDERICK TOM BROOKS, fellow of Emmanuel College, has been elected to the professorship of botany at the University of Cambridge as from October 1. Mr. Brooks, who will succeed Dr. A. C. Seward, master of Downing College, has been university reader in mycology since 1932.

DR. A. H. REGINALD BULLER, first professor of botany at the University of Manitoba, has resigned the

chair which he has held for thirty-two years and has been appointed professor emeritus. He proposes to continue his botanical studies in England, and his headquarters will be at the Herbarium of the Royal Botanic Gardens, Kew, Surrey.

DR. DANIEL FRANCIS CALHANE, professor of industrial and applied electro-chemistry at Worcester Polytechnic Institute, is retiring after a service of thirty-three years.

JOHN E. SNOW, professor of electric power production at the Armour Institute of Technology, will retire from teaching this year with the title of emeritus. He has been a member of the faculty since 1894, and this spring passed the retiring age of seventy years.

DR. W. V. LAMBERT, of the department of genetics at the Iowa State College, has been placed in charge of research in animal breeding in the bureau of animal industry of the U. S. Department of Agriculture at Washington, D. C. Dr. W. M. Dawson, assistant in animal husbandry at the University of Illinois, has been appointed associate animal husbandman. He will work chiefly at the National Agricultural Research Center, Beltsville, Md., on means of measuring inheritance of desirable qualities in meat animals.

PROFESSOR H. R. TOLLEY, director of the Giannini Foundation of the University of California, has been designated acting administrator of the Agricultural Adjustment Administration of the U. S. Department of Agriculture, during the extended absence of Chester C. Davis, who is making a survey of economic conditions and policies of European countries as they affect the demand for American farm products.

DR. J. R. PARKER, senior entomologist of the U. S. Department of Agriculture, with headquarters at Montana State College, has returned from Cairo, Egypt, where he represented the United States at the fourth International Locust Conference, which was attended by entomologists from twenty-six countries.

AT the twelfth conference of the International Chemical Union, to be held in Switzerland in August, Dr. Colin G. Fink will be the American guest speaker. The topic of his address will be "The Electrochemical Protection of Iron and Steel against Corrosion."

DR. F. RASETTI, professor of physics at the University of Rome and since last fall research associate in physics at Columbia University, has been appointed visiting lecturer in physics at Cornell University for the 1936 summer session. Dr. Rasetti will give a course of lectures on "The Elementary Constituents of Matter and Radiation" and will conduct a seminar on "Nuclear Physics."

DR. THOMAS T. READ, head of the School of Mines of Columbia University, will sail for China on July 28 to continue, during his sabbatical leave, his researches into the development of iron casting in China.

A SERIES of special lectures and conferences on genetics will be held at Iowa State College, Ames, Iowa, on July 9, 10 and 11. Guest speakers will be Dr. R. A. Fisher, of the Galton Laboratory of University College, London, Dr. Sewall Wright, of the University of Chicago, and Dr. L. J. Stadler, of the University of Missouri. Topics to receive special attention are the nature and rates of mutation, the genetic nature and analysis of variability in natural populations, and certain aspects of dominance and other types of non-additive gene interactions.

A SYMPOSIUM on nuclear physics will be held in the Rockefeller Physical Laboratory of Cornell University, Ithaca, N. Y., on July 2, 3 and 4. Arrangements have been made for housing those in attendance, including families, in one of the university dormitories. Those taking part in the formal program are: K. T. Bainbridge, Harvard University; M. S. Livingston, Cornell University; H. R. Crane, University of Michigan; J. J. Livingood, University of California; H. A. Bethe, Cornell University; G. Breit, University of Wisconsin; F. Rasetti, University of Rome and Columbia University; T. W. Bonner, California Institute of Technology; L. R. Hafstad, Carnegie Institution, Washington. Further information can be obtained from Professor R. C. Gibbs, Rockefeller Hall, Ithaca, N. Y.

A NEW Division of Research Associates has been established at the Battelle Memorial Institute at Columbus, Ohio, to supplement the work in fundamental science of the regular technical staff, its object being to offer intensive training in practical research to younger workers in selected branches of chemistry, metallurgy, fuels and ceramics. Appointments as research associate will be made for one year's duration and may be extended for a second year. A research associate will be expected to devote his entire time to a research problem approved by the director and supervised by members of the staff. Appointments are open to graduates of any accredited university or college, but preference will be shown to men who have demonstrated a marked aptitude for scientific research in their industrial experience or through one or more year's graduate study. The appointment will carry an annual salary of from $1,200 to $1,800 depending on the training and experience of the individual. Four appointments will be made for the year 1936–1937.

ANNOUNCEMENT of the twelfth annual session of the Science Summer Camp of the University of Wyoming

has been issued in an illustrated bulletin. Courses are offered in botany, geology and zoology. The professorial staff this year includes a representative from Columbia University; Dr. I. H. Blake, of the University of Nebraska; Dr. George D. Fuller, of the University of Chicago, and five men from the University of Wyoming—Drs. S. H. Knight, director, Aven Nelson, R. H. Beckwith, W. G. Solheim and H. D. Thomas. The camp is situated in the heart of the Medicine Bow National Forest, at an altitude of 9,500 feet. The buildings consist of a lounge-room, dining room and kitchen, lecture rooms, laboratories and furnished cabins for faculty and students. The *Camp Bulletin* may be had upon request, from Dean C. R. Maxwell, director of the summer school of the university.

THE new pharmacy building of Howard College, at Birmingham, Ala., has been completed and is ready for occupancy. It is three stories high and houses the student laboratories of pharmacology, pharmacognosy, manufacturing and dispensing pharmacy. The medical, dental and pharmaceutical alumni of the institution contributed the funds which made this development possible.

AT a meeting of the directors of the American Chemical Society, in Kansas City, a report by the business manager was submitted showing decided progress in 1936: the election of 1,671 new members for 1936 as of April 10; a paid membership in excess of 16,500 as of April 10 and a total membership, paid and unpaid, of 18,127 as of that date; a distinct increase in the receipts for membership dues and subscriptions, and an increase of approximately 20 per cent. in advertising pages in *Industrial and Engineering Chemistry* for 1936 over the same date in 1935.

A SENATE bill providing for the construction of a vessel for research work on Pacific Ocean fisheries has been vetoed by President Roosevelt with a statement that it called for "a wholly unnecessary expense." The measure would have authorized the Department of Commerce to have the vessel built for $500,000. "The Bureau of Fisheries," the President is reported to have said, "can take some out-of-date naval or coastguard ship, . . . fit her out at very low cost and maintain her usefully for many years to come."

THE United States Geological Survey announces the publication of Bulletin 865, "The Geology of the Monument Valley-Navajo Mountain Region," which presents geologic and topographic maps, cross sections, diagrams, half-tone illustrations and text descriptive of an area south of the San Juan River in southernmost Utah that includes within its limits the Rainbow Natural Bridge, Navajo Mountain, Monument Valley and ruins of the habitations of prehistoric cliff-dwelling tribes of the region. The mapping was done on a scale of 1 mile to the inch with plane table and telescopic alidade and thus affords reliable geographic information for a considerable area of which previously only exploratory maps had been available. Of more strictly technical interest to geologists are the data contained in the report on the folding of the rocks, the oil and gas possibilities of the region, and the hypothesis of the doming of the strata about Navaho Mountain by a deeply buried laccolithic intrusion.

Nature states that at the annual meeting of the Parliamentary Science Committee held at the House of Commons under the presidency of Sir Arnold Wilson on December 5, the following officers were elected: *President,* The Right Hon. the Earl of Dudley; *Chairman,* Sir Arnold Wilson, M.P.; *Vice-Chairman,* Professor B. W. Holman; *Deputy-Chairman,* Alan E. L. Chorlton, M.P.; *Hon. Secretary and Treasurer,* H. W. J. Stone. The honorary secretary's annual report discloses that during the 1934–35 session, questions were asked in Parliament concerning agricultural and horticultural research, water supplies, the International Locust Conference, milk pasteurization, aeronautical engines, the gas grid scheme, the possibility of constructing earthquake-proof buildings in India, the research powers of the agricultural marketing boards, technical education and grants for industrial and agricultural research. Members of the committee took an active part in the debates on the Herring Industry Bill and the Metropolitan Water Board General Powers Bill. Looking to the future, the committee contemplates consideration in the near future among other things of such widely diverse subjects as the endowment of research, the finance of industrial research, income tax exemption on industrial research, patent legislation reform and the remission of death duties on bequests for research.

DISCUSSION

FURTHER EVIDENCE FOR A LUNAR EFFECT ON THE IONOSPHERE FROM RADIO MEASUREMENTS

THE possibility of the occurrence of lunar tides in the ionosphere has been discussed in connection with earlier reports of a correlation between field intensity measurements and the hour angle and declination of the moon.[1] To minimize the difficulty of a possible confusion between the lunar period and the period of solar rotation of 27.3 days, measurements have been made of field intensities from distant broadcasting

[1] *Transactions of the American Geophysical Union,* National Research Council, 1932, 1933; *Terrestrial Magnetism and Atmospheric Electricity,* June, 1934.