of these staff members, spent the rest of the morning inspecting the Darwin Hall, Insect Hall, Mammal Hall, Bird Hall and Fish Hall.

THE SIXTH ANNUAL SUMMER SYMPOSIUM IN THEORETICAL PHYSICS AT THE UNIVERSITY OF MICHIGAN

IN the summer of 1923, the University of Michigan invited Professor Karl T. Compton of Princeton University and Professor F. A. Saunders of Harvard University to give special lectures during the summer session. These lectures initiated a policy which has been maintained ever since. For the first five years the subjects covered by the lecturers were primarily in the field of experimental physics, but beginning with the session of 1928, a symposium in theoretical physics was inaugurated, and since that date the visiting lecturers have treated theoretical subjects exclusively. An examination of the list of lecturers discloses the fact that many of the foremost physicists of America and Europe have appeared on these summer programs. Particularly in recent years these meetings have attracted not only advanced students but also members of other university and college faculties, and research physicists from governmental and industrial laboratories. The summer is apparently the only time that such men can attend, and the course of eight weeks is sufficiently long to give a very adequate treatment either of an introductory course in modern theoretical physics or of a very advanced one covering perhaps material receiving its first public presentation. In addition to the regular lecture courses there are numerous informal meetings of groups limited to those interested in special problems.

The sixth symposium will be held between the dates June 26 and August 18. In the first or second week of this period Professor Niels Bohr of Copenhagen will give several lectures on "The Foundations of Atomic Mechanics." Professor Enrico Fermi of Rome will lecture throughout the eight weeks of the session on "The Structure of the Atomic Nucleus." Following Professor Bohr's lectures Professor J. H. Van Vleck of Wisconsin will lecture for four weeks on "The Recent Developments in the Theory of Magnetism." Professor G. E. Uhlenbeck of Michigan will give a course on "Quantum Mechanics" and Professor D. M. Dennison of Michigan a course on "The Theory of Band Spectra." Both of these last courses will be given throughout the summer. The informal seminars which meet several times weekly will be under the general supervision of Professors Fermi and Van Vleck. Holders of doctors degrees may attend all lectures, courses and seminars as guests of the university.

In addition to the symposium lectures the department of physics offers its regular advanced courses. Facilities for experimental research are available, particularly in spectroscopy in the fields of x-rays, ultra violet, visible, near and far infra-red, in sound, in electronics and in vacuum tube phenomena.

CONFERENCE ON RECENT DEVELOPMENTS IN CHEMISTRY AT THE JOHNS HOPKINS UNIVERSITY

THE Johns Hopkins University will this summer conduct a second conference on recent developments in chemistry in conjunction with the regular summer session at the institution.

The conference will be divided into five consecutive sessions of one week each. Each week will be devoted to one phase of chemical progress, and will include lectures by men known in that particular field.

"Organic Chemistry Related to Medicine" will be the subject of discussion during the week of June 26, and speakers from the Johns Hopkins School of Medicine and from outside institutions will present various phases of the work. E. Emmet Reid and G. H. Corwin will have charge of the week's program. On June 26, Hugh Young, Justina Hill, Fitzgerald Dunning, Edwin C. White and W. C. Harden will deal with the general subject of "Antiseptics." On June 27, "Oxidation and Reduction" will be discussed by E. Emmet Reid, Leslie Hellerman and G. H. Corwin.

Gordon M. Dean and Hans Jensen will be the speakers on June 28, presenting phases of the topic, "Insulin and Proteins." A sound film, "Some Biochemical, Pharmacological and Medical Experiences as Told to Chemists," by Dr. John J. Abel, will be shown in the evening of that day. On June 29 Joseph C. Bloodgood will preside over a program devoted to "Chemistry and Physics in Cancer." The speakers will include Dr. Bloodgood, Charles F. Geschickter, E. A. Peterson, Dudley Jackson, Curtis Burnam, M. A. Tuve, Carl Voegtlin, Warren H. Lewis, Margaret Lewis and George Otto Gey. Motion pictures related to the subject of cancer will be presented in the evening. June 30 will be devoted to "Chemotherapy," aspects of which will be discussed by Hugh Young, Justina Hill and David I. Macht.

During the week of July 3, Joseph E. Mayer will preside over a program devoted to "Physical Treatment of Molecular Binding." The speakers for the week, in the order in which they will present their discusisons, are Dr. Mayer, Maurice L. Huggins, Hugh M. Smallwood, Henry Eyring and Saul Dushman. "X-rays and Structure of Matter" will be the general topic for the week of July 10. Emil Ott will preside, and speakers for the week will include Ralph W. G. Wyckoff, Maurice L. Huggins and Dr. Ott. For the week of July 17, a topic of especial

interest to physicists has been selected. "The Application of Optical Methods and Instruments to Chemical Research" will be discussed, A. Herman Pfund presiding over the week's program. The speakers will be Dr. Pfund, George F. A. Stutz, H. E. Merwin and Ralph H. Muller.

The final week will be devoted to the subject of "Catalysis." J. C. W. Frazer will be chairman of the program for the week of July 24, and the speakers for the conference will include Paul Hugh Emmett, Dr. Frazer, Arthur F. Benton, J. A. Becker and Herbert G. Tanner.

Those interested in the conferences may register for the full five weeks, or for any part of the program that attracts them. Cottages on the shore of the Chesapeake Bay, within commuting distance of the university, are available for those who wish to combine a summer vacation with scientific study and discussion.

IN HONOR OF DR. ELIHU THOMSON

ACCORDING to the final plans for the dinner held at the Massachusetts Institute of Technology on March 29, leaders in science, engineering and education paid tribute to Dr. Elihu Thomson, dean of electrical engineers and inventor, on his eightieth birthday.

A correspondent writes: "Within the span of four score years Dr. Thomson, a pioneer in electrical science, has witnessed and played an important part in the development of the country's great electrical industry. He is the last of the magnificent 'big four,' Thomas A. Edison, Charles F. Brush and James J. Wood. Three of them gave the people electric lighting systems, Edison invented the incandescent lamp. To-day Dr. Thomson is the 'last of the first,' with more than seven hundred United States patents to his credit. From 1920 to 1922 Dr. Thomson was acting president of the Massachusetts Institute of Technology. He is a life member of its corporation and a non-resident professor of applied electricity."

On the afternoon of Dr. Thomson's birthday there was a conference at which brief lectures on the historical development of the applications of electricity, modern theories and the present trends of research were presented. According to the program, President Karl T. Compton, of the Massachusetts Institute of Technology, discussed the historical aspects of electricity with particular reference to Dr. Thomson's achievements in this field. Dr. John C. Slater, head of the institute's department of physics, discussed modern theories of electricity, and Dr. K. K. Darrow, research physicist at the Bell Telephone Laboratories, spoke on the trends of modern research.

As part of this celebration, many models and some of the originals of Dr. Thomson's most significant inventions were on exhibition. This exhibition was open to guests on Wednesday, continuing for the public from Thursday to Sunday, from 2 to 5 P. M. The models included the frictional electrical machine made from a discarded wine bottle by Dr. Thomson when he was eleven years old, and a dynamo invented in 1878, which has all the essentials of the great modern generators. Many early types of the arc lamps designed by Dr. Thomson and his colleague, Professor E. J. Houston, are shown. One of the most significant exhibits was the Thomson recording wattmeter, forerunner of the 30,000,000 meters now installed in homes, factories and stores to record the amount of energy consumed. There were shown early types of lightning arresters, as well as Dr. Thomson's first electrical resistance welding transformer, a method which is now universally used in almost every branch of manufacturing.

It was expected that President Karl T. Compton would preside at the dinner, at which Governor Joseph B. Ely, of Massachusetts, would voice the tribute of the people of Massachusetts to Dr. Thomson. George B. Cortelyou, president of the Consolidated Gas Company of New York, was expected to speak for the electrical industries and Dr. Harry P. Charlesworth, president of the American Institute of Electrical Engineers, in the name of the engineering societies, to pay honor to the inventor. The tribute of educational institutions, many of which had bestowed upon Dr. Thomson their highest academic honors, was to be given by Dr. Vannevar Bush, vice-president of the institute and dean of engineering. Other speakers announced were Dr. Harvey Cushing, of Harvard University, who represented professions other than engineering, and Mr. E. W. Rice, Jr., honorary chairman of the board of the General Electric Company, its former president, and one of Dr. Thomson's earliest associates in the electrical industry in Lynn, for his friends and colleagues.

SCIENTIFIC NOTES AND NEWS

DR. WILLIAM H. WELCH, whose eighty-third birthday occurred on April 8, has been confined to the Brady Clinic of the Johns Hopkins Hospital since February 1. It is announced that there is a slow improvement in his condition.

DR. THEOBALD SMITH, of the department of animal pathology, Rockefeller Institute for Medical Research, Princeton, New Jersey, will deliver the Thayer Lectures at the Johns Hopkins Medical School on April 5, 6 and 7.