(2) that the seven journals for the period from January, 1925, to June, 1929, give a correct view of the relative use of technical periodicals in general by American electrical engineering students, faculty and research workers; (3) that the seven periodicals used should be weighted equally.

The results obtained in this survey have cost no little effort upon the part of those interested in graduate work at this institution. Other institutions doubtless will appreciate such a list of periodicals in checking over their holdings. It is with this in mind that this paper is presented for publication.

SCIENTIFIC EVENTS

THE RAYLEIGH COLLECTION AT THE SOUTH KENSINGTON MUSEUM[1]

AMONG recent additions to the Science Museum, South Kensington, is a most interesting collection of apparatus used by the late Lord Rayleigh in the course of his scientific research. On the occasion of the unfortunate fire, last year, at Lord Rayleigh's home at Terling, Essex, a considerable quantity of apparatus was destroyed, but the historical apparatus was fortunately undamaged and the bulk of it has been generously given by the present Lord Rayleigh to the Science Museum, where it should prove a continual source of interest and inspiration to professional and amateur scientific workers alike. It is scarcely necessary to remind readers of *Nature* of the extent and importance of the late Lord Rayleigh's contributions to science. During a period of more than fifty years he published no fewer than 446 papers, every one of which made a distinct addition to our knowledge of the subject and was characterized by that lucidity and elegance of expression for which its author was renowned.

On viewing this collection, one is struck very forcibly—as were visitors to the laboratory at Terling—by the extraordinary simplicity of the bulk of the apparatus. The ability to attain results of the highest accuracy and importance by the aid of odd bits of wood, glass tubing, wire and sealing-wax was undoubtedly bound up with Rayleigh's unerring instinct in discriminating between the essential and the non-essential. It is doubtless true that some branches of modern physical research can not profitably be pursued without the use of expensive apparatus. At the same time, many workers who are apt to grow despondent after a perusal of the price-lists of the scientific instrument makers should find a tonic in the Rayleigh collection, which also serves as a salutary reminder that the man is more important than his tools.

The present collection is thoroughly representative of the vast field which Lord Rayleigh covered, and is exhibited in six cases, two dealing with acoustics, while the remainder come under the headings of optics, magnetism and electricity, argon, and miscellaneous. It is impossible in a short notice to deal adequately with the whole of the exhibits, but a few representative examples may perhaps be mentioned. The acoustics section includes apparatus used in experiments on reflection and interference and on the intensity of aerial vibrations; also the apparatus by means of which it was demonstrated that our lateral perception of the direction of a sound depends upon the phase-difference at the two ears. One of the most important exhibits in the optical section is the apparatus used for the determination of the constant of the magnetic rotation of light in carbon disulphide, while there is also a reminder that, so early as the year 1902, Rayleigh made an attempt to detect motion through the ether. Prominent in the electrical section will be found apparatus for determining the laws of resistance of periodic currents. The argon collection gives an excellent idea of the course taken in that classical series of investigations extending from 1892 to 1895 in the latter part of which Sir William Ramsay collaborated, while under "Miscellaneous" the chief exhibits deal with capillarity, fluid motion, and cognate problems. Every piece of apparatus has been provided with a full explanatory label giving references to the original source and to the "Collected Scientific Papers," and public lectures on the exhibits will be given from time to time.

[1] From *Nature*.

THE NEW SCIENTIFIC LABORATORIES AT THE UNIVERSITY OF CHICAGO

TWO new science buildings, each believed to be the finest of its kind in the United States, were opened recently at the University of Chicago for the first time to accommodate summer quarter classes. The recently completed buildings are the Bernard A. Eckhart Hall of Mathematics, Mathematical Astronomy and Physics and the new Botanical Research Laboratory.

Seventeen classes in mathematics and astronomy moved into the Eckhart building, the erection of which was made possible by a gift of $710,000 from Mr. Bernard A. Eckhart. Adjoining the older Ryerson Physical Laboratory on the east, the new structure rises to four floors along University Avenue on the Main Quadrangle.

Eckhart Hall, the work of Charles Z. Klauder, Philadelphia architect, is said to be one of the finest

of the university's Gothic buildings. Basement and first floor are devoted to thirty-eight research rooms for the department of physics, part of which will be used for the work of Professors Arthur H. Compton and Arthur J. Dempster and their graduate students. Professor Michelson will retain his laboratory in Ryerson, where he has worked for many years.

The upper floors will be used by mathematicians and astronomers, departments which for the first time will have adequate facilities. In addition to nine classrooms there are thirty-nine offices for the faculty, fellows and graduate students of those departments. Other features of Eckhart Hall are an assembly room seating 240 and a library with facilities for 88 readers and 50,000 volumes.

Three laboratory classes in plant physiology now occupy the new Botanical Laboratory.

There are no classrooms or library in the laboratory, which adjoins the group of greenhouses finished last year. It is to be devoted to research in plant physiology and plant pathology.

Features of the new buildings are its biochemical and biophysical laboratories, where studies such as those on the effect of X-rays on plants will be prosecuted. Constant temperature rooms, where cold as low as 40 degrees below zero can be maintained; inoculation quarters, in which the entire room may be given a shower or steam bath, so that plant disease germs may be transferred without contamination; animal quarters for the study of the plant germs they carry; rooms which reproduce the conditions under which fruits and vegetables are moved; X-ray and seed-germination rooms are also features of the laboratory.

SUMMER MEETING OF THE BOTANICAL SOCIETY OF AMERICA

THE Summer Meeting of the Botanical Society of America will be held in August at the Puget Sound Biological Station at Friday Harbor, Washington.

The local committee, of which Professor T. C. Frye is chairman, has arranged a tentative program in which indoor discussions and a variety of trips and excursions to points of varied interest find place. Unusually favorable tide conditions will offer an excellent opportunity to study the wonderful algal flora of these waters. Many will appreciate the chance to see a sample of the great forest growth of the northwest.

PROGRAM

August 19—Tuesday

Afternoon—Registration at the station office.
8 P. M. Address of welcome.
Lecture on "The Geology of the San Juan Islands."

August 20—Wednesday

8:30 A. M. Marine dredging for algae at Canoe Island.
8:30 A. M. Auto trip to Castle Point for wind effects, forest and prairie gradation.
8:30 A. M. Trip to Douglas Fir Forest.
1:00 P. M. Dr. E. J. Lund will demonstrate electrical polarity in the Douglas Fir.

August 21—Thursday

8:30 A. M. Visit in row boats to Nereocystis beds.
8:30 A. M. Marine dredging and marine ecology.
8:30 A. M. Trip to fields.
2:00 P. M. Discussion—Meetings of groups interested in algae, ecology and mycology.

August 22—Friday

All sections will participate in an early morning drive to False Bay, where tide recedes half a mile. Return to station for lunch.

Tents, meal accommodations, boats and other facilities of the station will be at the disposal of members of the society and guests. At this meeting the spirit of informality will prevail, as at the earlier summer meetings, and all will find much to enjoy in the friendly give-and-take of the occasion. Parking space for automobiles and tenting grounds for those traveling in this way will be available.

RODNEY H. TRUE,
Vice-president for the Committee on Arrangements

FIRST AWARDS OF THE PACK FOREST EDUCATION BOARD

MAKING its first award of fellowships ranging up to $1,800 a year for training leaders in forestry, the Charles Lathrop Pack Forest Education Board has announced its selection of five Americans and one Canadian for the year 1930. The winning candidates were chosen from about ninety contestants. The fellowships were established to encourage men of unusual intellectual and personal qualities to obtain training that will equip them for important work, either in the general practice of forestry, in the forest industries, in the teaching of forestry, in forest research, or in the development of public forest policy. The successful candidates are:

James Lindsay Alexander, assistant professor, College of Forestry, University of Washington. To make an investigation of forest survey methods with the object of developing the needed precision with the least cost at the University of Toronto, the University of Washington and in the forests of the eastern and western United States.

Ralph Caird, graduate student, University of Chicago. To make a general study of forestry at the School of Forestry and Conservation of the University of Michigan, and to do advanced work in tree physiology and pathology.