were in attendance. For the first time since the reorganization of the academy, sectional programs were held, at which eighteen papers were presented.

A public lecture was given in the evening in the Skinner Memorial Chapel by Dr. W. S. Cooper, University of Minnesota, whose subject was "Forests and Glaciers in Southeastern Alaska."

At the business meeting 150 new members were taken into the academy. Important actions included the authorization of a committee to formulate plans for the organization of a Junior Academy of Science. Officers for the coming year include the following: *President:* Rev. Wendel Luetmer, St. Johns University, Collegeville; *Vice-President:* O. T. Walter, Macalester College, St. Paul; *Secretary-Treasurer,* H. K. Wilson, University of Minnesota, St. Paul; *Councilors:* E. M. Freeman, University of Minnesota, St. Paul; E. T. Tufte, St. Olaf College, Northfield; G. W. Friedrich, St. Cloud Teachers College, St. Cloud; Louis H. Powell, St. Paul Institute, St. Paul.

H. K. WILSON,
*Secretary*

## THE OHIO ACADEMY OF SCIENCE

THE Ohio Academy of Science held its forty-sixth annual meeting at the University of Toledo, Toledo, Ohio, on April 10 and 11, under the presidency of Dr. Walter H. Bucher, of the University of Cincinnati. One hundred and seventy-three members registered for the meeting. The program was rich and full and carried out with great enthusiasm, the section of zoology offering 31 papers, botany 16, geology 16, medical sciences 5, psychology 17, physics and astronomy 26, geography 14 and chemistry 7. In addition, the sections of the medical sciences and zoology in a joint session staged a remarkable symposium on "Virus Diseases," the various phases of the subject being discussed by eminent scientists, both within and without the state. Another unique feature was a joint education program, engaged in by the sections of physics and astronomy and chemistry and the Ohio Physics Club. The visiting scientists also had the privilege of inspecting the Owens-Illinois Glass Research Laboratory, a laboratory unique in that it is constructed entirely of glass blocks, is insulated with glass wool and has no windows.

President Bucher chose for his presidential address "The Concept of Natural Law in Geology," which was delivered before a large, appreciative assemblage at the annual dinner. The invitation address was given by Dr. Roberts Rugh, of Hunter College, on the topic, "Endocrine Factors in Sexual Reactions of Amphibia," illustrated by excellent slides and a marvelous movie film.

Forty-one new members were received into the academy at this meeting, and the following members were elected to fellowship: Clyde Stewart Adams, Antioch College; Richard Bradfield, Ohio State University; Donald Joyce Borror, Ohio State University; Karl G. A. Busch, Capital University; W. Storrs Cole, Ohio State University; Ralph Howard Davidson, Ohio State University; Willis Conrad Fernelius, Ohio State University; Miss Margaret Fulford, University of Cincinnati; Jesse R. Harrod, Ohio Northern University; Edwin Elmore Jacobs, Ashland College; Josef Nissley Knull, Ohio State University; William A. Manuel, Ohio Wesleyan University; John Alden Miller, Ohio State University; Nicholas Mogendorff, University of Toledo; Paul W. K. Rothemund, Antioch College.

The following officers were elected for the ensuing year: *President,* Dr. Charles A. Doan, Ohio State University; *Vice-presidents—Zoology,* Dr. A. W. Lindsey, Denison University; *Botany,* Dr. Claude O'Neal, Ohio Wesleyan University; *Geology,* Dr. Fred Foreman, Oberlin College; *Medical Sciences,* Dr. R. A. Knouff, Ohio State University; *Psychology,* Dr. Garry C. Myers, Western Reserve University; *Physics and Astronomy,* Dr. G. E. Owen, Antioch College; *Geography,* Dr. R. B. Frost, Oberlin College; *Chemistry,* Dr. A. P. Mathews, University of Cincinnati; *Secretary,* William H. Alexander, Columbus, Ohio; *Treasurer,* Dr. A. E. Waller, Ohio State University; *Members of the Executive Committee,* Drs. Walter H. Bucher and H. H. M. Bowman; *Trustee of Research Fund,* Dr. William Lloyd Evans, Ohio State University.

Preliminary steps were taken looking toward the suitable observance of the fiftieth anniversary of the academy four years hence.

WILLIAM H. ALEXANDER,
*Secretary*

# REPORTS

## REPORT OF THE PRESIDENT OF THE NATIONAL RESEARCH COUNCIL OF CANADA

INDUSTRIAL investigations undertaken in the National Research Laboratories at Ottawa generally come to the attention of the council by one of three methods, according to information contained in the eighteenth annual report of the National Research Council tabled recently in the House of Commons by the Hon. W. D. Euler, minister of trade and commerce,

who is chairman of the Privy Council Committee on Scientific and Industrial Research.

Some problems are an outgrowth from the work of the technical officers engaged in a branch of research already in progress in the laboratories. When the solution of such problems is likely to render a new industrial development possible, every effort is made to complete the study and to make the results available to those who are in a position to put them to practical use.

Other projects brought to the council for attention come from private individuals or commercial organizations who either do not have the necessary laboratory facilities of their own to carry out the work or wish to obtain the assistance and technical advice of the specialists on the council's staff. Expenses in the conduct of researches of this kind are usually borne wholly by the organization or individual presenting the problem, and if results of commercial value are obtained, the agency sponsoring the study has first claim on them. It is stated that the council's laboratories do not compete with recognized commercial laboratories in the field of routine analysis or testing; many requests for analyses are received, but the senders are always referred to established testing laboratories doing work of this kind. Tests of a kind that outside laboratories are not equipped to do are carried on in the council's laboratories when the necessary equipment is available. Approved schedules of rates govern the charges made for such services.

The third type of industrial problems comprises those presented by individuals or organizations who are not in a position to finance the project in full. Proposals of merit, that appear to have useful possibilities, particularly in the way of providing new or more profitable outlets for materials of Canadian origin, are sometimes undertaken as joint investigations with the industry concerned; the results of such studies become the joint property of the council and the participating agency.

Problems of broad general interest, such, for example, as the drying of tough and damp wheat, cold storage research, research under the associate committees of the council on field crop diseases, coal classification and analysis, electrical measuring instruments and grain research, are all reported promptly and the results are immediately made available to the interested industries and to the general public.

Two associate committees were reconstituted during the year under review, one to assist in work on problems of aeronautical research arising from the increased interest in civil aviation, and the other on the Trail Smelter smoke problem, because under the proposed terms of settlement between the governments of Canada and the United States evidence of damage done in the Northport area since 1931 would have to be considered.

Five joint associate committees of the Dominion Department of Agriculture and the National Research Council were set up with a view to the better coordination of research in the agricultural field. These joint committees deal respectively with problems of agriculture, field crop diseases, grain research, wool research and weed research, and their memberships are fully representative of all the interests concerned.

Reference is made in the president's report to the change in the form of the *Canadian Journal of Research,* which is now published in four sections—physical, chemical, botanical and zoological sciences. More than 600 papers by Canadian scientists, it is reported, have already been published, and it is noted that most of these papers contain the results of researches undertaken with the assistance of the National Research Council.

An important announcement in the report relates to the establishment of the Canadian Research Institute of Launderers and Cleaners, of which most of the power laundries in Canada are now members. The institute grew out of the laboratory service provided by the council to advise launderers regarding their methods and materials, and is directly financed by the industry itself.

In a general statement on world activities in research, attention is directed to the advances being made, particularly in Japan, Russia and Great Britain, in fostering national research programs as a means of promoting industrial and commercial expansion. It is noted, for example, that Japan maintains 45 research institutes employing 3,500 men, of whom more than 1,000 are scientific experts. Russia has 840 such institutes or more than twice as many as in 1930, and in these 47,900 men are at work. Expenditures on research in Russia are said to amount to approximately $500 millions annually, and it is planned by the end of 1937 to have a capital investment in research institutions of $2,000 millions.

Apart from work done in the army and navy departments, Great Britain spent $3,275,000 last year on research in building materials and construction, chemical investigations, the maintenance of the National Physical Laboratories and food research.

The total appropriation for research in the Canadian laboratories for the year under review is reported as $392,000.

Copies of the eighteenth annual report may be obtained without charge, by those interested, on application to the National Research Council at Ottawa.