

in broad terms for the first time those fields of science and technology that may be expected to contribute most to the country's economic and social objectives and indicate how their development can best be organized and supported. Membership is drawn from industry, the universities and government.

Section 1.—The National Research Council of Canada*

Organized research in Canada on a national basis dates from 1916 when the Government of Canada established the National Research Council. From an initial budget of \$91,600 (only \$50,375 was actually expended) to one of \$74,000,000, the Council has expanded until now it has some 45 Associate Committees studying a wide range of problems, supports the research efforts of 2,500 university scientists and awards 1,900 scholarships, bursaries and postdoctorate fellowships.

The planning and integration of research work, organization of co-operative studies, postgraduate training of research workers, and prosecution of research through grants to university professors formed the basis of the Council's work from 1916 to 1924. As early as 1918, the creation of a central research institute to carry on research in pure science in relation to standards of measurement, quality and composition of material, and research in science applied to the industries of Canada, had been urged and a special committee of Parliament endorsed the proposal. Temporary quarters were secured in 1925 and research on magnesian refractories for steel furnaces was carried out so successfully that an industry established during World War I was re-established on a large scale. As a result of this achievement, the Government in 1929-30 provided funds for new research facilities. The National Research Building on Sussex Drive in Ottawa was opened in 1932 and in 1939 construction was begun on an aerodynamics building located on the Montreal Road, just east of the city. This site now comprises some 400 acres and houses most of the Council's laboratories. A prairie Regional Laboratory built on the campus of the University of Saskatchewan in Saskatoon has been in operation since June 1948 and an Atlantic Regional Laboratory on the campus of Dalhousie University in Halifax since June 1952.

Under the terms of the Research Council Act, the Council has charge of all matters affecting scientific and industrial research in Canada that may be assigned to it by the Committee of the Privy Council on Scientific and Industrial Research. In discharging these responsibilities, the Council may undertake, assist or promote research. Its duties include the utilization of Canada's natural resources; the improvement of industrial processes and methods; the discovery of processes and methods likely to expand existing industries or to develop new ones; the utilization of industrial wastes; investigation and determination of physical standards, methods of measurement, and fundamental properties of matter; the standardization and certification of scientific and technical apparatus used by government and industry; the determination of standards of quality for materials used in public works and government supplies; and investigation and standardization, at the request of industry, of industrial materials or products. As a service to Canadian science, the Council maintains scientific liaison offices in Ottawa, London, Washington and Paris. The liaison officers abroad also serve as scientific attachés in the Canadian diplomatic missions. The National Research Council Library, with holdings of more than 600,000 volumes in science and technology (including 12,000 journals and other serials), acts as the National Science Library of Canada (see also p. 377).

The Council's laboratories are organized in ten divisions and two regional laboratories, each with its own director. Six divisions are engaged in applied and fundamental studies in the natural sciences—biosciences, applied and pure chemistry, applied and pure physics and radiation biology. Four others are devoted chiefly to engineering work—building research, mechanical engineering, radio and electrical engineering, and the National Aeronautical Establishment. The two regional laboratories carry out research related to the

* Revised by Joan Powers, Public Relations Office, National Research Council of Canada, Ottawa.