

Chapter 9

Scientific research

Early research in Canada was related mainly to the primary industries. Geological mapping and agricultural research were almost the only areas of scientific activity until the beginning of the present century. The National Research Council, which was set up in 1916 by the federal government to encourage and stimulate research in the universities and industry, established its own research laboratories in the late 1920s and early 1930s. During World War II, the National Research Council assumed responsibility for research and development activity for the Armed Services and for the development of atomic energy. After the War, in 1947, the Defence Research Board of the Department of National Defence was established to take over responsibility for military research and development and a Crown corporation, Atomic Energy of Canada Limited, was formed in 1952 to further the development of atomic energy in Canada. The National Research Council then reverted to its previous activities. Certain other Crown corporations such as Eldorado Nuclear Limited, Polymer Corporation Limited, and the Canadian National Railways also developed important research programs. The Medical Research Council was established in 1960 in association with the National Research Council.

Research councils were set up both before and after World War II in several provinces to improve utilization of provincial resources and industrial efficiency. The Ontario Research Foundation and B C Research, although established under provincial legislation, are self-governing institutions engaged in research and development on contract for manufacturers, departments of government and on their own account; they derive their revenue mainly from sponsored research. These councils and foundations have recently formed the Non-Profit Industrial Research Association of Canada (NIRAC).

Industrial research was slow to develop in Canada, although certain large industries, particularly the chemical and pulp and paper industries, have long histories of successful research and development. Since 1950, individual company programs, some aided by various government-sponsored incentive programs, have grown and diversified considerably. The degree of foreign ownership of manufacturing companies in Canada has undoubtedly had some influence on the development of industrial research, since Canadian subsidiaries of foreign companies had ready access to the research and development work of their parent companies. As a result, all but a few of these subsidiaries refrained from establishing their own laboratories. However, more recently, to meet the challenge of competition from other countries Canadian industry has increased its own scientific and technical investigations. The Sheridan Park Research Community, near Toronto, is an example of a recent concept for expanding and improving the efficiency of industrial research in Canada. A somewhat similar but more diffuse development took place earlier at Pointe Claire, Que. Industrial research centres of this type facilitate applied research and development activities for both scientists and engineers as they permit ready interchange of non-proprietary scientific and technical information and give them access to a wide variety of instrumentation, equipment and skills. The centres also provide an attractive environment for skilled personnel, which encourages trained scientists and engineers to stay in Canada.

A significant element in the training of scientists beyond the undergraduate level involves research and development activities undertaken in the universities as part of their program of graduate studies. These activities are related directly to the educational process and are important in the training of skilled personnel needed for the development of Canada's economy; they also create centres of basic research in Canada and serve as listening posts attuned to the progress of science and technology in other parts of the world.

9.1 Federal science policy

The ultimate authority for federal policy on science resides in the Cabinet. To exercise this authority a Cabinet committee known as the Committee of the Privy Council on Scientific and Industrial Research was established in the National Research Council Act. The Committee was chaired by the Minister designated in the National Research Council Act as responsible for that Council. The members were Ministers of other departments with significant science programs. The National Research Council for many years had the responsibility for advising