

National Defence College at Kingston, Ont., the senior defence college, provides an 11-month course of study covering the economic, political and military aspects of the defence of Canada. Senior officers and civil servants from the Armed Forces and Federal Government departments attend, as well as a few representatives from industry. Lecturers are chosen from among the leaders in various fields in Canada and other countries. In addition, tours and visits to certain parts of Canada, the United States, Europe and the Middle East familiarize students with conditions and influences in their own and other countries.

### Section 5.—The Defence Research Board

The Defence Research Board, established in 1947, provides scientific assistance and advice to the Canadian Forces. It consists of a full-time chairman and vice-chairman, two or more ex officio members and nine other appointed members. The ex officio members are the Deputy Minister of National Defence, the President of the National Research Council and such other members as may be appointed by the Minister of National Defence as members representing the Canadian Forces. The other members, appointed by the Governor in Council for three-year terms, are selected from universities and industry because of their scientific and technical backgrounds.

The organization consists of headquarters staff, an operational research corps and seven research laboratories, and liaison offices at London, England, Washington, U.S.A., and Paris, France. Advisory committees composed of leading Canadian scientists provide invaluable assistance to the Board by their consideration of a variety of problems.

The Defence Research Board is an integral and permanent part of the defences of the country. The Chairman is a member of the Defence Council. The Board's fundamental purpose is to correlate the special scientific requirements of the Armed Forces with the general research activities of the scientific community at large. Its efforts are concentrated upon defence problems of particular importance to Canada or for which Canada has unique resources or facilities. Existing research facilities such as those of the National Research Council are used whenever possible to meet the needs of the Armed Forces. The Board has built up new facilities only in those fields that have little or no civilian interest. Close collaboration is maintained with Canada's larger partners; specialization is made possible only through the willingness of Britain and the United States to exchange the results of their broader programs for the less numerous but nevertheless valuable benefits of Canadian research.

The Board operates seven specialized research and development laboratories which are concerned primarily with maritime warfare, guns, rockets and missiles as armaments, defence against missiles, research on the upper atmosphere using ground-based equipment as well as balloons, rockets and satellites, propulsion and propellants, telecommunications, geophysical studies of the Arctic, defence against atomic, chemical and biological weapons, studies of shock and blast, biosciences research and operational research. The Board also supports and organizes an extramural program of research in the universities and industry. Some 200 grants are awarded annually to Canadian university staff members for research on problems of defence interest and a special fund is used to place contracts with industry for research in selected fields.

Research on maritime warfare problems, particularly those relating to submarine detection and tracking, is carried out at the Naval Research Establishment, Dartmouth, N.S., and at the Pacific Naval Laboratory, Esquimalt, B.C. Research and development of weapons and defence against various weapons is undertaken in co-operation with the Armed Services at several establishments, the largest of which is the Canadian Armament Research and Development Establishment near Valcartier, Que. Its principal activities