

the support of scientific personnel and with respect to grants in aid of research. The former category involves awards to Medical Research Fellows who are in training, as well as to Medical Research Associates who are independent scientists. The grants in aid of research involve assistance covering the whole or part of the costs of investigations in the basic medical sciences, such as anatomy, physiology, pharmacology, biochemistry, bacteriology and pathology, as well as of investigations in the clinical sciences, including experimental medicine and surgery. The Department of National Health and Welfare provides funds for research available on the recommendation of provincial departments of health in the following fields: public health research, tuberculosis control, child and maternal health and general public health services. It also gives assistance to the Canadian Arthritis and Rheumatism Society (which obtains other support by public subscription) and to the Ontario Heart Foundation (which derives its other resources from the Ontario Government and through public fund-raising campaigns). In addition, the Department makes available funds for cancer research of benefit to the National Cancer Institute.

The Defence Research Board awards grants for research related to problems of importance for defence such as shock, preservation of blood, use of blood substitutes, effects of low temperature, etc.

Medical schools and hospitals also receive funds for research from provincial branches of the Canadian Cancer Society and from such government foundations as the Ontario Cancer Treatment and Research Foundation, and the Alcoholism and Drug Addiction Research Foundation. Fraternal societies and clubs such as the Rotary Club also show interest in the support of research.

Private foundations like the J. P. Bickell Foundation, the Atkinson Charitable Foundation, the Muscular Dystrophy Association of Canada, the Canadian Life Insurance Officers Association, the Banting Research Foundation, the Multiple Sclerosis Society and pharmaceutical companies also contribute significantly to the support of medical research in Canada. Finally, it should be remembered that granting agencies in the United States provide grants in aid of research to many investigators in several universities in Canada.

Subsection 4.—University Research

Although there is considerable diversity of purpose in the aims of Canadian universities and colleges, they may be described generally as (1) the diffusion of knowledge through some teaching, extension and evening classes, and written reports; (2) the preservation of knowledge with some reorganization from time to time; and (3) the extension of the boundaries of knowledge essentially through research.

There are, of necessity, differences in emphasis in carrying out these aims. The undergraduate courses are designed to provide broad basic understanding in a variety of subject fields, to be followed by a more extensive and intensive application in one or two of them. Graduate schools provide for a broader and deeper penetration and understanding in one field, supplemented perhaps with more general knowledge in related fields. Seminars, directed study, and individual research usually form a considerable part of advanced study. Most of these courses provide for practice in the research methods of the discipline—whether through experiment, questionnaire, logic or statistics—in order to prepare students capable of adding to present knowledge. This applies to the closely knit professional fields as well as to the more general branches.

For many years research in the universities was directed toward obtaining knowledge for its own sake and was considered pure research. Later it was recognized that the conclusions of such research provided the basic information for applied science and before long the universities, because of their unique position in having trained specialists and equipment, were involved in both basic and applied research. During World War II they were encouraged to undertake emergency and other contractual research and since then the trend toward broadening the field of research, increasing the capacity of universities to educate advanced students, and procuring large-scale costly equipment has