

the amount expended annually by Government laboratories for investigations of all kinds was less than \$325,000, of which less than \$100,000 was actually expended for research in Government laboratories.

Twenty years ago the value of research was not appreciated by Canadian industries. A number of firms had routine testing or assay laboratories, but until 1905 there were none which employed research for the improvement of their manufacturing processes or of their products. The example of foreign firms has to some extent altered public opinion in Canada on this question, but the number of Canadian firms which apply research to their industrial problems is still very small. In 1917 the Research Council of Canada issued a questionnaire to the industries, when replies received from 2,400 of the leading firms in Canada showed that only 37 had laboratories for research; 83 employed as many investigators and 276 assistants, but the great majority of these were engaged only in routine examinations. Apart from salaries, the total amount expended in 1916 for research by all firms listed did not exceed \$135,000.

With the growth of Canadian wealth, the scientific equipment of the leading Canadian universities has been greatly increased and scientific researches are now being prosecuted on a considerable scale, as a result of the research scholarships granted by the National Research Council of Canada, or endowed by various wealthy benefactors in the leading universities of the country. An especially notable achievement is the discovery of insulin, a preparation which indefinitely prolongs the lives of those suffering from diabetes, by Dr. F. G. Banting, Dr. J. B. Collip and Mr. C. H. Best, working under the supervision of Prof. J. J. R. Macleod, Professor of Physiology in the University of Toronto. The Nobel prize in medicine for 1923 was awarded to Dr. Banting and Dr. McLeod for this discovery, and in the same year Parliament voted to Dr. Banting a life annuity of \$7,500, to enable him to devote himself entirely to medical research.

The importance of scientific and industrial research has been recognized in recent years by the creation of the Honorary Advisory Council for Scientific and Industrial Research, commonly known as the National Research Council. A brief account of the work carried on by the National Council is appended.

Subsection 1.—The National Research Council.

A synopsis of the history of scientific and industrial research in Canada, also full information regarding the establishment, organization and activities of the Honorary Advisory Council for Scientific and Industrial Research, more commonly known under the short title of "The National Research Council", will be found in previous editions of the Canada Year Book, notably on pp. 53-57 of the 1920 edition. It is therefore, only necessary to repeat that shortly after the outbreak of the Great War, a Committee of the Imperial Privy Council was appointed and under it an Advisory Council for Scientific and Industrial Research was established in 1915 by the British Government, to deal with the development of scientific and industrial research, and its application to the problems of war and peace. The British Dominions were invited to establish similar organizations in order to bring about co-operation of effort and co-ordination of research throughout the Empire. Acting on this suggestion, the Government of Canada in 1916 appointed a sub-committee of the Privy Council to devise and carry out measures to promote scientific and industrial research in Canada. This sub-committee decided to copy the organization adopted in Great Britain and appointed the National Research