

he rarely realizes that, in such laboratories as exist in Canadian universities from coast to coast, investigators in all phases of science are building on the work of their predecessors to make possible the physical, chemical, and biological wonders of the future.

*Medical Research in Canada.*—Almost all branches of medical science are included in the problems now being investigated in Canada. Medical research in hospitals or other centres of medical activity and in universities is too intimately related to allow of separate consideration and must be taken as a whole. The fundamental laboratory investigations often have as their aim the clinical application of results so that the university scientist and the clinician must work in the closest association.

Many of the investigations now being conducted relate to cancer, heart disease, tuberculosis, and rheumatism, four of the major causes of death and disability among Canadians. For example, the investigations on tuberculosis include such problems as a search for a specific compound that will act as a curative agent; studies on immunity and detection of the disease; the value of B.C.G. vaccine as a means of prevention among infants in tuberculous families and among nurses exposed to the disease in hospitals and sanatoria; the effect of diet on resistance; and surgical methods of treatment. Cancer researches include a study of the relation of certain food factors to the development of the disease; a test designed to aid in its early diagnosis; researches on standardization of X-ray equipment and radium to improve their efficiency as therapeutic agents; and the effects of cancer-producing substances. Further knowledge is being sought on the causes and treatment of coronary artery disease, high blood pressure, and associated pathological conditions in the thyroid gland and the cerebral vascular system.

Fundamental researches on medical subjects are being conducted in the science departments of many universities. In biochemistry and physiology, for example, the roles of vitamins and hormones, normal and abnormal requirements and functions of the body, nutritional deficiencies, and related topics are being examined. In pharmacology and chemistry, new chemical substances with therapeutic properties are being developed and tested. Immunological problems and methods of treatment of infectious diseases and the organisms causing them, improved techniques for detection and study of bacteria, and production of new or improved toxins and vaccines are all subjects of bacteriological investigations.

The field of university research is, therefore, as broad as science itself and is circumscribed only by the limited facilities at the disposal of the individual institutions. Indeed, most basic scientific research discoveries have been, and will probably continue to be, made in the universities; governmental research, on the other hand, is more properly concerned with the direct application of research knowledge to problems of national importance and the pursuit of individual problems which, because of their nature, scope, or the extensive facilities required, cannot well be followed to a conclusion by the universities.