

I. INTRODUCTION

THE need for an inquiry into the adequacy or otherwise of scientific man-power has been realized for some years. During the recent war the need for scientists, both for work connected with the Armed Forces and for industry, led the Government to exempt from national service a fairly large number of University students taking science courses. For this and other reasons the past eight years have shown a remarkable increase in the proportion of University students specializing in science. The University, for its part, has therefore been concerned to know whether the number of scientists undergoing training is in excess of the demand. Industry, compelled to face new problems, and having to develop in new directions, has at times found difficulty in recruiting adequately trained people for key positions. Many Government Departments have had difficulty in filling important posts for which qualified scientists are required. Added to these facts is the common knowledge that many brilliant New Zealand students, after completing a course in science in New Zealand, proceed overseas for further training. Many do not return. It is not surprising, therefore, that the Senate of the University of New Zealand should have requested the Government to co-operate with it in an investigation of the supply of, and demand for, scientists generally and of the adequacy or otherwise of the training provided, nor that Government Departments, such as the Department of Scientific and Industrial Research, should have contemplated an inquiry of a similar kind. The present Committee was set up to report upon the whole situation and to make recommendations.

The general case for a regular and adequate supply of trained scientific workers requires little argument. Within a lifetime refrigeration, the internal-combustion engine, the aeroplane, radio and television, the harnessing of atomic energy have all become matters not of theoretical speculation, but of practical moment. The problem of feeding the population of the world is to-day a challenge to the trained intelligence. On the purely material level the supply of consumer goods, with its attendant problems of the search for raw materials, the discovery of cheaper and more efficient methods of production and distribution, requires on every hand the application of known scientific principles and the discovery of new ones.

The basic economy of New Zealand has already been profoundly influenced by the development of refrigeration. Our present and future position as a primary-producing country may be equally affected by the application of the scientific principles of genetics, by the correct nutrition of plants and animals, and by the study of bacteriology. Then, too, there is need for increased efficiency in those secondary industries in which we have to compete with much more highly industrialized countries.

As a Committee we have therefore attempted to assess the known demand for scientific workers and to estimate the probable future demand. Our order of reference, however, requires us to go still further. It is not sufficient to know that the number of posts likely to be available will be matched approximately by the number of persons who have undergone basic scientific training. Some branches of industry, research, and teaching require not only average ability, but ability of the very highest order. Indeed, the investigation of some scientific problems can be undertaken only if there is available a person adequately trained to direct research. A highly competent scientist backed by a well-balanced team of routine workers may find the answer to many obstinate questions. A team of routine workers without expert leadership may be little better than useless. It is therefore necessary in estimating the scientific man-power of the Dominion to think not only of crude numbers, but of the quality of the people available.