

In view of the fact that for the initial training of scientists we depend entirely on the University we cannot too strongly urge the necessity for meeting the reasonable needs of the colleges. It is, of course, axiomatic that proper opportunities for research within the University cannot be provided until adequate conditions of staffing, buildings, and equipment have been attained.

Our comments on the University science courses themselves must necessarily be general in character; they concern the transition from post-primary school to University, the length of the courses, the research training received by students, and the subjects in which advanced courses are offered.

First-year science courses at a University college normally assume that a student will have had some preliminary training. We have already stressed the need for a sound preparation at the Sixth Form level for students proposing to specialize in science. Few schools, however, can provide a course, extending over a period of years, in all branches of science that a student may wish to study during his University course. In such circumstances it cannot be uncommon for a first-year University class to include two kinds of students—those who have concentrated on the subject for at least two Sixth Form years, and those who are commencing its study with only a meagre fund of experience. Such classes must be difficult to teach. Opinions on this situation probably range all the way from acceptance of the fact as unavoidable to preference for the rigid enforcement of prerequisites. The very able student can probably cope with the difficulty; but we believe that other students may suffer some strain and run risk of discouragement, in trying to reach a reasonable standard of work in the short time at their disposal. How to meet this situation and how to deal with such other problems as the introduction of some studies of a general kind into science courses and the lengthening of the B.Sc. course to four years to permit either preliminary courses at the early stage or greater specialization and some training in research at the later stage, are matters that we mention as significant without offering a solution. One of these difficulties might be overcome by the introduction of preliminary courses either at selected post-primary schools or at the University colleges. It would, of course, be necessary for the Education Department and the University to work out the details of any such proposal.

The danger of concentrating too narrowly on scientific studies, to the exclusion of the “humanities” has received the attention of University authorities in Britain and the United States, but the exploration of a “liberal education” hardly comes within our terms of reference.

The University has traditionally the responsibility of disseminating and extending knowledge. A University-trained scientist, therefore, should be introduced to the methods of research. We do not mean to suggest that the graduate should be ready to take up scientific work without “on the job” training. On this point we join issue with some of those who placed their views before us. We are, however, of the opinion (and in this we believe we have the support of University teachers) that the student reading for his master’s degree should, during his course at the University, acquire the basic research techniques, and should be equipped by the University with the fundamental methodology of research in his particular subject.

There are spheres of research in which New Zealand could secure world-wide recognition at the highest levels. These include both research work which can be accomplished only within New Zealand and projects which, while they may be carried out elsewhere, can best be carried out in New Zealand. We feel it most necessary for New Zealand to build up research foundations at an internationally recognized level of excellence within its own special fields. Moreover, only if its research has international standing, can New Zealand hope to attract and retain men of the highest calibre. We think that New Zealand should concentrate its efforts largely (though not entirely) in those directions where pre-eminence is possible.