

(4) WHERE SHOULD FULL-TIME TRAINING BE GIVEN ?

119. The suggestion that candidates hitherto sitting the examinations of the British Institutions or the Engineers Registration Board take a full-time course raises the question : Where should that course be taken ?

(a) TECHNOLOGICAL INSTITUTES

120. It is fitting that in considering the future requirements of this country full use should be made of the ripe experience of Great Britain in the field of engineering education. At the same time care must be taken in drawing comparisons and conclusions to ensure that the relevant conditions are the same in both countries. A good deal of evidence was presented in favour of the establishment of institutes of technology similar to those which operate so successfully in Great Britain and elsewhere. Here it is necessary to be clear what we have in mind. An institute of technology is not a technical school. It teaches to a higher standard—that is, to a standard equivalent to a University degree—and it normally would exclude the majority of the students in our present technical schools. It is not a University, however, because the method of treatment of courses and subjects is different. The University expects a student to take a complete course, in which there is a group of related subjects designed to provide a broad base for the field in which he will ultimately specialize. An institute of technology will, if necessary, take a student in a single subject. Some of the better-known technological institutes, though still retaining this title, are in effect University schools of engineering.

121. The system of education in New Zealand is sufficiently different from that in England to be worth studying in this connection. When the technological institutes began to develop in England educational policy was directed to ensuring that no brilliant boy would be denied educational facilities beyond the primary-school stage. It is only recently that an attempt has been made to provide adequate facilities for all those who want them. The position is very different in New Zealand. The free-place system has made the way to the University more open. If the courses at the Institute are likely to be full time, why should the youths not go to the University ? And if they do, will there be sufficient students to warrant maintaining well-staffed and well-equipped technological institutes ?

122. The Committee is not at all sure that the answer to this question is “Yes” so far as professional engineering is concerned. There are other reasons for establishing technological institutes, but they are beyond the purview of this Committee. It must be remembered that even in our large technical schools the proportion of engineering students at the professional level is very small.

123. Before leaving this for the time being, and considering the arguments of those who favour full-time instruction at the University for a degree course, it is necessary to state the point of view held by a considerable number, as set out in the following quotation taken from one of the replies to the questionnaire :—

It is admitted that the Institution examination is not as high in academic standard as the B.E. degree, but it is sufficient for the purpose for a large number of positions. These positions are filled, and will continue to be filled, adequately by professional engineers whose somewhat limited academic qualifications are offset by practical ability of a high order.

124. These arguments are best considered in retrospect. Professional standards tend to rise. Already the bare Institution qualification which was once regarded as adequate in any circumstances is now conceded to be insufficient for certain types of positions. It is probable, therefore, that the passage of time will make the above arguments largely invalid. In the conditions prevailing in New Zealand to-day, however, they have force and there are other arguments to support them. It has already been shown in the preceding section that the number of engineers to be trained in the next decade or so is large enough to raise doubts whether there will be sufficient young people coming