

the University Schools of Engineering were very short of accommodation and of staff to deal adequately with those seeking a degree in engineering and that the facilities for those endeavouring to qualify by passing examinations leading to corporate membership of one of the British Institutions of Engineers were inadequate. The New Zealand Institution asked, therefore, that a representative committee be set up to consider and report on the whole question.

50. The problem which the Committee has been asked to consider is one that has been exercising the minds of those interested in engineering education in other parts of the British Commonwealth and in the United States of America. The great British Institutions of Civil, Electrical, and Mechanical Engineers, with a long tradition behind them, have standing committees on education which have been very active in the past few years. The New Zealand Institution of Engineers has a similar standing committee which had discussed the problems of professional engineering education and training at length before it approached the Government with the request that this Committee be set up.

51. These discussions have varied with the special problems of the countries concerned, but they all recognize that it is a matter of vital importance to the community that engineers shall be fitted to the tasks which they will be called upon to perform. In our present complex civilization we place on the shoulders of our professional engineers the responsibility for the operation and maintenance of the whole material basis of modern living. Very serious difficulties may arise in the near future unless steps are taken to ensure that this country has sufficient well-qualified professional engineers for its needs.

52. The New Zealand Institution of Engineers in its evidence stated that New Zealand B.E. graduates had by their competence established an enviable reputation in other quarters of the globe as well as within the Dominion. The Institution, however, expressed concern lest the advantages and the reputation hitherto enjoyed by degree students might be partially lost.

53. The Committee in its inquiry did not confine itself to the education and training of degree students, but it may be stated here that little evidence was found to suggest that the deterioration presaged by the New Zealand Institution of Engineers had in fact begun. However, the reason for the Institution's concern was soon made clear to the Committee. It is in many ways the crux of the problem. Although the solution is difficult, the problem can be simply stated.

54. In this country there are two main ways of receiving the education and training required to qualify as a professional engineer. Students may attend one of the University schools of engineering and obtain the B.E. degree; alternatively, they may study for the examinations of one or other of the British Institutions of Engineers or the New Zealand Engineers Registration Board at the University, at a technical school, by correspondence, or by private study. The requirements of the various courses as they exist to-day have already been referred to in Section 5 dealing with the education of University students in Engineering, and in Section 6 dealing with education for professional engineering other than by a University degree. Suggestions for improvement and modification to meet new requirements are considered in Sections 10, 11, and 12.

55. The Committee heard about forty witnesses, who, in the aggregate, covered a very wide field. It appeared, however, to the Committee that the best approach to the problem was by trying to answer the question, "By what way should a professional engineer qualify?" This is done in Section 9, which the Committee regards as one of the most important parts of the report. The recommendations made elsewhere follow logically from the conclusions reached in Section 9. For the reasons given in detail in the section the Committee is convinced that a continually increasing proportion of professional engineers will be and should be trained through the University Schools of Engineering.