

197. It was made clear to the Committee that many students in the past worked under conditions of extreme difficulty and that such a state of affairs is quite common to-day. It is quite true, as quoted in Section 9, that the overcoming of difficulties is a salutary training for a professional life that will be full of trials and problems. On the other hand, standards have risen to the point where the strain has become too great. The evidence of witnesses showed that all professional engineering students should have at least one year of full-time study in order to have a chance of completing their qualifications within a reasonable time. This would help to overcome one of the main drawbacks of part-time study—namely, the difficulty of endeavouring to pass an examination when the whole syllabus cannot possibly be covered in any one year on a part-time basis. A year as a full-time student would have the further advantage of making it easier for students to get at least some acquaintance with laboratories. The existing position where it is possible for a candidate to complete the Institution examinations entirely by correspondence and without doing any laboratory work at all appears to the Committee to be quite unsatisfactory. It notes that the British Institution of Electrical Engineers has just altered its prescriptions to make laboratory work compulsory as from 1949. The system of diplomas referred to in the next section overcomes the weaknesses indicated above by making provision for one year as a full-time student, by arranging the work of each of the four part-time years so that the student can cover a reasonable amount of ground in each year, and also by providing for adequate laboratory work in each year of the course. These are some of the proposed steps in the development of a co-ordinated local system of courses and examinations which the Committee knows the British Institutions of Engineers will welcome as a substitute in this country for their own external examinations.

198. Very few of those students who qualify as professional engineers other than by degree courses can afford to spend a year in full-time study. It is hoped that in the future mere lack of money will not prevent any student from attending the University, but in the meantime there are numbers already in training who would benefit by the full-time study mentioned above. The Committee would prefer these trainees to take the diploma courses, but in the interim period provision may have to be made for those who cannot do this. It is recommended, therefore—

RECOMMENDATION—

That for a limited period men who have the necessary preliminary qualifications and who can produce evidence that they have already entered upon an approved course as students for one of the recognized Institutions should be regarded as eligible for bursaries on terms similar to those recommended for diploma students.

199. Candidates for the Institution examinations are spread throughout the country, but the largest numbers at present are in the four main centres. It is not easy to estimate the full effect of all the Committee's proposals, but with additional incentives to take a degree course, and with the facilities to be provided for diploma courses, it is likely that there will not be very many trying to qualify by other means once the diploma courses have been approved by the British Institutions of Engineers. Probably, as other measures become effective, the majority of students taking external examinations will consist of those who have to study by correspondence. The Committee hopes that increased use will be made of the facilities at the Education Department's Technical Correspondence School, which, if the Committee's recommendations are put into effect, will have a definite place in the organization for the diploma courses. This school endeavours to integrate its work with that of the technical schools so that students who are transferred from one place to another because of their employment may continue their studies with little inconvenience. Moreover, the Technical Correspondence School is in a good position to organize short, concentrated courses of the laboratory work which is so desirable. These courses, too, would give the students and their instructors an opportunity of meeting each other.