provide for those who will soon cease formal education, see no objection, and in fact see certain advantages in using these facilities to give practical training to those who hope to qualify as professional engineers. They favour an early introduction to subjects which will give as far as possible a glimpse of what an engineer does. They consider, too, that there is a lot to be said for bringing a boy up in the atmosphere surrounding his future work. He learns so many little things at an age when he is prepared to do little things. These will stand him in good stead when at a later age such knowledge is acquired with difficulty and at the expense of time which should be used for more important things. The practical experience thus given is probably better than that which many apprentices in industry would receive from their employers. It is of considerable value and not lightly to be disregarded.

109. The opponents of this view point out, rightly, that this early vocational specialization, while unobjectionable, is time-consuming, and can only be at the expense of other subjects which are desirable. The course is thus made unduly narrow. They favour, therefore, the introduction of general cultural subjects in order that the student may develop a broad outlook on the world and society in general and some feeling for the arts. At this stage it becomes necessary to decide to what level a student should aspire. Individuals will vary, but the duties of a professional engineer entail as a general rule such heavy responsibilities to society as to make it undesirable that he should have a narrow circumscribed outlook.

RECOMMENDATIONS—

(i) *That for intending engineering students there should be no specialization before the end of the School Certificate year.*

(ii) *That for these entrants instruction at the post-primary stage in technical engineering subjects is not essential.*

110. There is more than one form of early specialization to be guarded against. The vocational specialization already referred to may not be so harmful in its effects as the constant pressure on post-primary schools to concentrate on subjects forming part of examination courses. The Committee feels strongly that at the post-certificate stage even the demands of mathematics and the physical sciences should not be allowed to hinder the cultural development of the student.

RECOMMENDATION—

That, even at the post-certificate stage, concentration on mathematics and the physical sciences should not exclude English and other cultural subjects.

111. The minimum educational standard which the Committee regards as being adequate for entrance to the engineering profession is the University Entrance Examination. According to the evidence submitted, this is, however, hardly adequate for those who propose to take a degree course. For these at least one year in the Sixth Form after qualifying for University Entrance appears to be necessary if the initial hurdle of the intermediate year is to be successfully negotiated.

RECOMMENDATION—

That intending entrants for the engineering degree course should spend at least one year in the Sixth Form after qualifying for University Entrance.

(2) THE HISTORICAL DEVELOPMENT OF PROFESSIONAL TRAINING

112. Traditionally the training of most professional groups was mainly by a method known variously as pupilage, cadetship, or apprenticeship. The advantages in favour of this system were real and for the most part they were obvious. In short, they were that the young man received practical training in the handling of real problems from a person whose standing and experience in the profession qualified him to instruct. This practical training not only proved to the young man that it was necessary for him to study to succeed in his profession, but also provided numerous examples ready to hand which made the theory easier to understand.