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Kapitel: III. — Professional Training.

would depend entirely on the student. Usually in the degree course little or no attention is given to the Foundations of Mathematics, the History of Mathematics, or practical work in Mathematics.

Students taking the ordinary or pass degree commonly take Physics, and sometimes Physics and Chemistry, as well as Mathematics, though certain other subjects could be chosen in place of them. In these branches of Science the teaching is by means of lectures, exercises, preparation, combined with a considerable amount of experimental work in the laboratories.

This theoretical preparation is tested by the University degree examinations. There is no Government examination.

III. — Professional Training.

The professional training may vary in details in the different University departments, but normally students will have had courses in: The Principles of Education. — General Methods of Teaching. — Educational Psychology. — Educational Hygiene. — The History of Education.

In addition the course must include practice in teaching under supervision in a school, and students who have not had previous teaching experience must spend at least twelve weeks in such practice.

The actual amount of instruction in the methods of mathematical teaching given by the University Training Department varies very considerably. The lessons may be given by a member of the university staff, or by someone who is teaching or has taught in schools and is specially engaged for this purpose. The extent of such courses may vary from very little to a thorough discussion of methods, applicable to pupils to the age of sixteen.

The period of practical training may be made up of three separate months at difference points of the year of training, and these three months may be spent at different schools. On the other hand, the period of training may be one of three months taken consecutively in one school. During the period of practical training the student commonly is treated in the same way as a junior member of the teaching staff, with similar privileges, etc. The student who intends to teach Mathematics will be under the immediate direction of the Head Master (if he is a mathematician) or of the Chief Mathematical Master, and will spend his time in hearing lessons, giving lessons in the presence of the regular teacher, and, later on, taking complete charge of classes. In a large school where there may be four or five Mathematical teachers there will be plenty of opportunity for him to see how different parts of the subject are presented, and

in the case of Applied Mathematics, of seeing to what extent practical work is encouraged.

There is no study of Educational Legislation except in so far as it may be dealt with under the History of Education.

The professional training may be tested by a definite written examination or by essays. The diploma may be awarded partly on the mark given for these examinations or essays and partly on the mark given on the student's ability to teach as shown during the three months' practice. On the other hand there may be written examination, in which case the award may be in part on the student's written work throughout the year's training or on a thesis presented by the student.

As to the current opinion on the value of these courses, there is no doubt that a quarter of a century ago they were not regarded with particular favour. The figures previously quoted as to the proportion of trained teachers now in the schools gives some idea of the changed position in this respect.

The method of training referred to hitherto has been that of the University Training Departments. There are, however, two or three other methods that should be mentioned.

(i) The Training Colleges, of which there are a great many, aim primarily at the training of teachers for the Elementary Schools, but a number of these obtain posts in Secondary schools either at the close of training or, later on, by transfer. The general lines of the training are similar to those described except that there may be no special attention given to Mathematics.

(ii) The Board of Education may recognize arrangements for the training of persons who have University Degrees in courses of not less than a year in Secondary schools. Any such arrangements must provide for a systematic study of the practice and principles of teaching, and the school must satisfy the Board that it can provide a course suited to the needs and capacity of the particular student concerned. Few schools carry on this form of training, and in no school would there be more than one or two students.

IV. — Subsequent Improvement.

Courses in Mathematics for Secondary school teachers are held in the summer vacation. There is no compulsion to attend, but there is considerable demand. In 1931, for example, something like 200 teachers applied, and of these 80 were selected for the courses.

It is not usual to grant a term or terms leave, even after some years teaching, in order to keep in touch with developments in the subject; there is, however, a Mathematical Association with numerous