

for individual work, and even those that are provided with them have not enough to give all or any considerable number of their pupils real scientific training. (It will be remembered that in the Collège de Genève there is no individual laboratory work in the classical division at all, and only in the last year is there any in the other divisions.)

The secondary schools of Berlin have already recognised this weakness, and last year (1907) a commission of seven experts was visiting England and Scotland to find out, as the authorities informed me, "why scientific teaching in English schools was so much better than it was in Germany."

I must not omit to say that in the technical secondary schools, and in some technical departments of ordinary secondary schools on the Continent, the teaching of Science is generally better, and approaches the standard of the best schools in Great Britain; for instance, the Director of the Istituto Tecnico, or Technical High School, of Rome (for boys of fifteen to nineteen years of age) informed me that he did not believe in "lectures," but the pupils and teachers discussed and explained what they had observed, and deduced principles therefrom. The course of science is uniform in all the Istituti Tecnici in Italy, and is very similar to that of kindred schools of Switzerland and Germany.

[In these Istituti Tecnici, which have a four-year course, Natural History, as it is called, is taken for three hours a week during the first two years—namely, Zoology and Botany in the first year, Mineralogy and Geology in the second year. As the school museums are well provided with stuffed and bottled specimens, with good models and illustrations, and these are supplemented by living and fresh specimens collected by the professors or sent from public gardens or institutions, there is not lacking material for observation. In the third year, three hours a week is given to Chemistry—that is, in general, to class demonstrations, and discussions based upon them, although a professor of chemistry at the Roman Istituto told me that, having ample laboratory accommodation, he often adopted the "English method" of making the boys do the experiments individually themselves, instead of giving a demonstration. In the same year all pupils give five hours a week to general physics, treated in a similar manner. In the fourth year pupils of the Physico-Mathematical Section take four hours a week in the Chemical Laboratory, and three hours in the Physical Laboratory, but the Agricultural and Commercial Sections drop these subjects, while the Industrial Section takes instead applied mathematics, industrial chemistry, and laboratory work to correspond.]

The full science programme of these technical institutes is given in the Appendix. It may be interesting to compare it with the work in Natural Science, Natural Science, Physics, and Chemistry in the programmes of the several sections of the Collège de Genève, which are also to be found in the Appendix, and give a fairly representative idea of the work done in these subjects in most German and Swiss Gymnasien and Realschulen. It may be said on behalf of the science-teaching in all these schools that, however short the training in scientific method falls of the best English ideals, this result, at all events, is secured: that no pupil leaves school ignorant of the leading facts in any of the chief branches of natural and physical science.]

In all Continental countries great importance is attached to History; even in America, as we shall see, more attention is given to this subject than here or in England.

"History" is not restricted to National History, but in most cases includes a general view of the history of the world; less attention is given to military history and military events, and more to national, social, and literary movements than in the text-books written for our boys and girls. Even in the highest classes of secondary schools no pupil is allowed to drop either history or geography, but the treatment of these subjects is adapted to the more mature age of the pupils. It is especially worthy of note that these subjects, being regarded as "Humanities," are treated in a way to kindle truly human interest in the pupils, facts being used only to elucidate and emphasize principles.

Drawing, as is well known, receives full attention as a compulsory subject in the secondary schools on the Continent, and its treatment is probably most successful in France. Everywhere there is a tendency to give up drawing from flat copies, drawing from objects and from nature being substituted. (This is now also a marked feature of the best English schools, primary as well as secondary.) In many of the schools, both English and Continental, can be noted too the facility with which pupils make freehand dimension sketches of objects or models placed before them and develop therefrom working plans and sections. This applies to exercises connected with the instruction in science as well as with the manual work done in the schools. The work in design is based not only on conventionalised representations of natural objects, as flowers and the like, but on the principles of art as seen in Greek, Egyptian, Moorish, Italian, and other examples—that is, on the history of ornament (see "Drawing" in the programmes of the Collège de Genève, &c.).

Some of the professional, technical, and trade schools in Switzerland and Germany lay what would at first sight appear to us to be an extravagant emphasis on the importance of drawing in the technical course; but it must be remembered that in a German or Swiss Gewerbeschule the instructor in drawing, in discussing with his pupil the plans, say, of a machine, enters into