

## ELEMENTARY TEACHING.

BY PROF. HUXLEY.

There are a great many people who imagine that elementary teaching might be properly carried out by teachers provided with only elementary knowledge. Let me assure you that that is the profoundest mistake in the world. There is nothing so difficult to do as to write a good elementary book, and there is nobody so hard to teach properly and well as people who know nothing about a subject. It involves that difficult process of knowing what you know so well that you can talk about it as you can talk about your ordinary business. A man can always talk about his own business. He can always make it plain; but, if his knowledge is hearsay, he is afraid to go beyond what he has recollected and put it before those that are ignorant, in such a shape that they comprehend it. That is the way, to be a good elementary teacher. To teach the elements of any subject, requires most careful consideration if you are a master of the subject; and if you are not a master of it, it is needful you should familiarize yourself with so much as you are called upon to teach—soak yourself in it, so to speak, until you know it as a part of your daily life and daily knowledge, and then you will be able to teach anybody. That is what I mean by practical teachers, and, although the deficiency is being remedied to a large extent, I think it is one which has existed from no fault of those who undertook to teach.—*Nature*.

## SIX DEFECTS OF OUR SCHOOLS.

"Prominent among 'the chief defects in our system of public education,' in large cities, and the 'changes' needed there, though differing from the defects which are generally found in the towns and villages, are the following:

1. The scholars are treated too much '*en masse*,' because of the large number of pupils to a teacher.
2. Too much time and effort are given to secure results which are not valuable either educationally or practically.
3. Too much time is spent in mere manipulation and organization, as if order and system were the end in view, and not the means to an end.
4. Too frequent sacrifice of the proper progress of pupils through a course of study (presumably arranged to secure natural development and educational results in its successive stages) in order to equalize numbers in the different grades. This is a disadvantage alike to the bright, ambitious pupils, and the slow but faithful pupils. The former are forced up, to fill vacancies in higher grades, by skipping portions of the regular course of study, which are essential to good progress in higher classes. The latter become duller and often disheartened by too much repetition. They take the routine over again with newly-promoted pupils, after all the charm of novelty, so essential to children, has gone. They are often neglected; because the teacher must be occupied, either in preparing the quick scholars for an extra promotion, or in helping those who are victims of such promotion to supply their lost links.
5. Too frequent changes of teachers, and consequent loss of moral influence over pupils and of that perception of their individual needs and peculiarities which makes discipline easy and natural.
6. Too much reliance upon artificial spurs to study. As is the teacher, so is the school. Where the teacher stimulates ambition to excel others to the '*highest per cent.*,' to be '*number one*,' to sit in the '*first row*,' to get '*an extra*' by a bright remark,—this will be the ruling motive of the school."—*Miss Lucretia Crocker, of Boston Board of Supervisors*.

## SCIENCE TEACHING IN TRAINING COLLEGES.

Mr. Sharpe's report on Training Colleges contains a lengthy section dealing with the present state of science teaching in those institutions. Apparently he is pleased but not satisfied with what he has seen in his visits of inspection. "The lectures on these subjects," he says, "are generally excellent, so far as I can judge from their conformity to good text-books, from the interest evinced by the students, and the success of the experiments. The apparatus also is in conformity with the rules approved by the Science department." There is, moreover, no complaint that the students are not successful in passing their examinations. It is nevertheless true that, at the last Christmas examination of male students in training colleges, one-fifth of those presented in science failed altogether, and less than seventeen per cent. obtained first classes. A great deal too much seems to have been expected of them in science subjects, when it is remembered what pressure there is of other work. At present only two hours a week can be devoted to attending lectures on each science, and not very much more to private study of the same subject. Such is the case in one college referred to in the report. What Mr. Sharpe, however, complains of is, not that the student is ignorant of the facts in his science, but that when he attempts to illustrate his own lessons by experiment, he too frequently fails, through want of practice in handling simple pieces of apparatus. The remedy proposed is that such students as show special aptitude should be put through a six weeks' course of practical work in some particular science, and receive a special certificate for it.

There is no doubt that this course would highly benefit those who were allowed to take it. No doubt it is very desirable that a schoolmaster should be well read and instructed in every science subject he undertakes to teach, and it is of enormous advantage to his class if he has skill and ingenuity in making up apparatus. But the requisite amount of knowledge and skill in a single subject is only to be obtained by long attention and practice. The Associate of the Royal School of Mines spends more than a year in gaining what is considered to be sufficient practical knowledge of physics to become a teacher of that branch of science; while the unfortunate student in training is expected to do equally well, and, besides to be an adept at teaching the usual school subjects, to have a fair knowledge of his own language, to have worked up a tolerable smattering in Latin or French, or both, and to pass examinations in a few other odd subjects, such as mathematics, mental and moral science, and political economy. The Inspectors are not, as matters stand, nearly satisfied with the advance made in the subjects presented at the Certificate Examination. One "is struck with the general hopeless inability to face the analysis (of sentences) with any sort of intelligent notion of the meaning." "The greater number of papers do not come up to the standard of fair," says another, speaking of school management, and so on for the other subjects. In face of this, it is scarcely feasible that the college authorities should be able to give up six weeks entirely to practical science. Already four weeks are taken up by the practising schools, and thus nearly a third of the year would be disposed of before ordinary subjects could be touched.

For such a scheme to be possible, one year would have to be considered sufficient to finish off what may be called the general education of the ex-pupil teacher, and the second year employed in two or three special subjects, of which practical science might be one. But until pupil teachers are better instructed than at present this will not be advisable. One has only to glance over the reports of examiners to satisfy himself that by the end of one year the majority of students are not prepared to throw aside their English.