

The second class—Beta—had read only three books, with exercises on Book I. On the paper drawn for it the following percentages were obtained:—

					Highest.	Lowest.	Average.
Class Beta	...	...	...	...	80	32	48

This is quite satisfactory, although not nearly so good as in the first division of Class Alpha. The propositions were well understood; but the mode of writing them out might be improved, and more especially the diagrams, which were often of the roughest description.

Papers were also set to Classes Gamma and Delta on the work which they had respectively gone over. Gamma had read two books, and Delta forty-three propositions of Book I. The following were the results:—

					Highest.	Lowest.	Average.
Class Gamma	...	...	...	...	58	5	33½
Class Delta	...	...	...	...	54	9	33

These numbers are far from satisfactory. The propositions were poorly written out, while the two or three very easy exercises were hardly touched.

Below these classes there are three classes of beginners—Epsilon, Zeta 1, and A 1—who have read from five to fifteen propositions of the First Book. They were examined orally, and within the limited field of their attainments acquitted themselves satisfactorily, considerable pains having been taken in grounding them in the elements of the subject.

Trigonometry.

Trigonometry is taught only in the first division of Class Alpha, which numbered six boys. Two of these answered very fairly the paper set, obtaining 64 and 58 per cent. of the marks. The others were beginners, who had not had time to acquire an appreciable knowledge of the subject. This is, without doubt, the weakest spot in the mathematical department of the school.

It is proper to add that in the whole of our written examination the answering of the papers was supervised by masters other than those who had taught the classes under examination.

The papers set for the several classes in arithmetic and mathematics were confined strictly to the work professed to have been gone over. It is our duty to point out, however, that throughout the school the progress made from class to class, and consequently the extent of ground gone over by the different classes, seemed to us rather inadequate. Thus, in arithmetic the classes do not become strong in the general subject until Alpha and Beta, the two highest classes in the Upper School, are reached. Considering the time allowed, it would not be too much to expect that a considerably greater degree of proficiency in arithmetic should be attained in the Lower School; and the subject should be got finally done with in the lower classes of the Upper School, so as to leave the way clear for more rapid progress in algebra and geometry in the higher classes. In algebra, again, there are no fewer than six classes working under the limits of simple equations, while in Euclid six classes are also found jostling one another within the confines of the first three books. The result of this slow progress is that when the highest class has been reached there remains to be done so substantial an amount of work in algebra and geometry—not to mention even arithmetic—that the important and heavy subject of trigonometry is almost completely crushed out of the school.

Thus, while much of the teaching that we saw was of excellent quality, and while the mathematical department is, on the whole, in a sound condition, it is, nevertheless, much weaker than such an important department ought to be in a leading colonial school. The arithmetic of the Lower School is not strong enough to satisfy the requirements of a commercial community, and the mathematics of the Upper School is not carried to that stage of advancement which would give the pupils a fair chance of success in the competition for junior university scholarships. There are, no doubt, several subsidiary causes of this weakness, but we believe the main cause to lie in the present organization of the mathematical department. The work of the department is shared among eight masters, who cannot all be supposed to possess special qualifications, and each master is responsible for only a circumscribed portion of the course, with the temptation to limit his responsibilities by curtailing as far as possible the extent of his work. No one has a personal interest in the continuous progress of the pupils, who pass at short intervals from one master to another, and no one has the power and opportunity to push on the work of the classes so as to secure the highest attainable proficiency at every stage of the school course. We are fully aware of the advantage which the present system offers in admitting of the boys being classified with respect to their attainments in arithmetic and mathematics only; but we are of opinion that this advantage is greatly overbalanced by the diffusion of responsibility that has been adverted to, by the unnecessary subdivision of the classes and frequent change of masters, and, above all, by the fact that the instruction is committed to masters who have not been especially selected for their aptitude and success in conducting classes in arithmetic and mathematics. Moreover, as a matter of fact, the present classification of the mathematical department is very far from being perfect. An inspection of the figures which have been presented above will show that the majority of the classes are very unequal—quite as unequal as in schools where no independent classification in mathematics is attempted. In some instances even whole classes have done better in identical papers than classes above them in the school course. The system, therefore, has broken down in the one point in which it might be expected to be strong; and we have no hesitation in recommending that it be discontinued. We are of opinion that the whole of the instruction in the mathematical department should be placed in the hands of two specialists—a mathematical master, who should have charge of the mathematics of the Upper School, and an arithmetical master, who should be mainly responsible for the arithmetic of the Lower School. If this recommendation be adopted, we see no reason why arithmetic, upon which so high a value is reasonably set by parents, should not become, with the present liberal