

find, what facts or data are given us to work from, and how we reason out the solution. This indictment, I believe, applies to the majority, perhaps even to more than the majority, of our teachers. If teachers who doubt its correctness would take the trouble, after working out an example and by preference a problem, to ask their pupils, while the details are still clearly before the class on the blackboard, to describe shortly how they did the sum, giving not every detail (as they are very prone to do), but the main—the cardinal—steps in the reasoning, they will probably be much surprised at the result, and make a discovery of the first importance for themselves and their pupils. It is my custom at inspection visits to use this kind of test of the clearness and thoroughness of the teaching a good deal, and this is what I find: the pupils cannot rise above the details; they lose sight of, or never grasp, the principles and the real steps in the reasoning, and generally fail signally in giving any concise and clear statement of what has been done. The principles, which are nearly always few and simple, are obscured and lost sight of in the minute consideration of details of adding and subtracting, multiplying and dividing. In short, the pupils do not see the wood for the trees, as the old saw has it.

Too many teachers assume that if a pupil manages to get the answer to a sum he knows all about it. This is very often a most mistaken assumption, as would be evident were the pupil required to state clearly how he had worked it out. In many cases, it would be found, he has puzzled it out by a process more akin to guessing than to reasoning, though he is quite unconscious of this, and looks surprised and humiliated on finding that he cannot tell clearly how he proceeded. He finds he is in a fog, and to learn that this is his real mental condition is a most salutary lesson for him.

Even in the most common routine work this fault of the current teaching may be seen. Ask a child what he must do to the fractions  $\frac{1}{2}$  and  $\frac{1}{3}$  before he can add them and he is at a loss for an answer. He has most likely never had impressed on him that he must change both fractions into others of the same value and having the same denominator. This fundamental principle he seldom knows; all he does know is that he must by a rule of thumb find the L.C.M. of the denominators, divide this L.C.M. by the denominator in each case, and multiply the numerator by the quotient. It is a sort of magic, but it gets the answer in the book; and what more can any one want? We want this and all other processes to be made agents in the training of intelligence; and to instil this virtue into the process our pupil must be got to see that he multiplies the numerator and the denominator of the first fraction by 3, and of the second one by 2, which gives him two new fractions,  $\frac{3}{6}$  and  $\frac{2}{6}$ , that are of the same value as the original ones, and can now be added together, as they are fractions of the same kind. Take again the case of simple proportion. Ask a pupil what we wish to find in a particular sum and he will usually tell you. Next ask him what question he must ask himself before he can state the first two terms of the proportion, and in six cases out of ten he cannot tell you. These are not mere random assertions; on the contrary, they are statements founded on a good deal of careful inquiry. Many of our teachers handle arithmetical examples at the blackboard with great clearness and intelligence, and one would at first sight expect the teaching to be fruitful, but it fails for reasons that can be clearly assigned. Teachers almost habitually give too much aid to their pupils; they neglect to bring into prominence the cardinal steps in the reasoning; they do not generalise the principles applied; and they do not have the solutions summarised in a clear and logical way at the close of the exercise. Thus, in dealing with questions in proportion it is quite common for teachers to ask the very questions that pupils should be trained to ask themselves and to consider before they can state the first two terms—a proceeding that has the merit of being expeditious if in every other way unsatisfactory; and the same kind of taint runs through much of the instruction in other rules also. In a word, the teachers too often do the thinking; the pupils merely echo it, and are not made to assimilate it. I have dwelt at immoderate length on these defects in the teaching of arithmetic because I believe them to be real and of serious import, because I earnestly desire to see them remedied, and because it is difficult to explain all this to a widely scattered body of teachers except by means of such reports as the present, that they are likely to have an opportunity of studying.

It will be noticed that the results in arithmetic in Standards I. and II., which are determined by head-teachers, are much more favourable than those in the higher standards. The difference is chiefly due to the greater ease and simplicity of the work required of these classes, but partly perhaps to the fact that head-teachers do not give such weight to rapid oral exercises as the Inspectors desire, and would require did they determine the passes in these classes. There is no doubt that the teaching in these standards is much more thorough than in the higher ones and than it used to be a few years ago. There is seldom reason to doubt the care and honesty with which head-teachers determine the passes in this subject. It is only in judging of reading that they are prone to use too lenient a standard. Mr. Dickinson points out that there is still too little teaching of arithmetic at the blackboard, and this is no doubt true of a good many schools in other districts as well as in his.

As a rule, the arithmetical exercises in Standards I., II., and III. are done quickly and with satisfactory neatness and accuracy. In the higher classes quickness is nearly as general a desideratum as accuracy. There is still room for improvement in the full and clear setting-out of the working of problems.

Mental arithmetic is, as a rule, better done than one would expect from the general knowledge of the subject. The questions given are always simple, and do not involve large numbers. Mr. Crowe once more reports general backwardness in it in his district, but it is elsewhere of a satisfactory character.

The teaching of geography is certainly no worse than it has been in recent years, and in Standards II., III., and VI. it has of late made considerable improvement. The poor results in Standard IV. are as much due to inability to write down in a satisfactory manner what has been learned as to want of knowledge. The work of this class, too, is very extensive and heterogeneous; it is vaguely defined; and in part it requires a maturity of understanding that is not readily developed