

in the forming of mental habits, of such paramount importance that it should be secured by a further study of the subject, even if the knowledge incidentally gained is of little value. He must be able to treat in the same way, reading, writing, spelling, grammar, geography, drawing, music, algebra, geometry, mineralogy, botany, geology, physiology, and all other subjects which might be introduced into the programme of the common schools. He must be able to estimate fairly well the time that will be required to gain the necessary knowledge of each subject, and the additional time in which to gain the mental power which he conceives to be needed over and above what will result from the acquisition of the necessary knowledge. He is now prepared to find the sum of the times required to do the work decided upon in all the proposed studies. If this sum exceeds the available school time of the children, it will be necessary to subtract the time devoted to purely mental training, which has no reference to needed knowledge. This done, if the required time is still in excess of the available time, there must begin a process of comparison, by which it can be ascertained how much the time required for each study can be further reduced without the loss of knowledge of more value than that resulting from the further reduction of the time devoted to any other subject.

Such are some of the qualifications of a maker of programmes. Possessed of these, a man may hope to lay out a course of study adapted to the needs of pupils with whose origin and destiny he is tolerably familiar; possessed of less, he should never attempt to make a programme or to change one.

Which of the qualifications that I have just mentioned can one dispense with and yet be fitted for administering a programme? Which can he lack

and still be qualified to examine and promote pupils? It would be difficult to say. And yet it must be admitted that it is easier to drive on a road after it is made than it is to make a road. It would seem that it must be easier to follow a good course of study than to construct one. Still there are so many opportunities to go astray in the directing of children, so many subjects of study the exaggeration of the importance of which will deprive the children of needed knowledge of other subjects, and so many ways of over-estimating the relative value of knowledge as compared with mental training, so many places where words may be mistaken for knowledge, that a man ought to be well versed in the aims, process, agents, and means of education, and to have great skill in estimating the values of different studies and of different stages of the same subject, or he is likely to make sad havoc with the children, if he attempts to guide and limit their work, even on a good course of study.

Examining, directing and criticising teachers requires no less of professional knowledge and skill. It requires an educational expert to examine a trained teacher. A man of ordinary learning might possibly test a teacher's knowledge of arithmetic and grammar, but to test his ability to teach arithmetic and grammar would require something more than common learning. To be able to ascertain whether a man knows the science which underlies the art of teaching, and which alone makes artistic teaching possible, presupposes a knowledge of the science of teaching on the part of the examiner.

A little more than twenty years ago I was asked by the late Mr. Loring Lothrop, then a member of the Boston school committee, and chairman of the special committee on the Normal school, to be a candidate for the office of head master. At the end of