

the repetition of the task assigned for to-day. And it is only the teacher who is far advanced beyond his class who can do that. He who is only equal to his task is not to be entrusted with such an important trust. He must be able to instruct so that the information which he gives at the time may become connected with that which the pupil is to learn afterward; and so I say that the teachers of the elementary school should be selected from among the ablest. They should be the best teachers. They should be capable of rendering the study attractive, interesting, and so pleasant, indeed, that the hour for the school should be the hour expected with anxiety by the scholar, instead of the hour dreaded as bringing something imposed by duty, and not desirable in itself.

This is particularly the case with reference to the study of natural history. The teacher who would undertake successfully to teach the elements of that science, must be so far advanced, that he knows how to select those topics which are particularly instructive, and best adapted to awaken the interest, to sustain it, and to lead it forward to the undertaking of more difficult questions. But it is not only in the study of natural history that it is desirable to have good teachers. I say that even to teach the A, B, C, or how to read and write, a teacher should know a great deal. And I can see that it requires that inexhaustible thirst for knowledge, which is imparted to human nature, to have children sustain their interests in study when the elements are imparted to them in the manner in which they are imparted. Can you conceive anything more dry and less attractive than the learning of the twenty-four signs which are called letters, and of combining them in syllables and then into words—and all in the most mechanical and humdrum way, as if there was no sense in it? Yet there is a deep sense in it, and there is in every series of letters, material for the most attractive and the most instructive information, if it was in the heads of the teachers. Let them show how men have learned to write their thoughts in words; how, after writing was invented, in what way it was used in the beginning, how it has been shortened into the abbreviations made use of to write words as they fall from the speaker's lips, and which are read with as great certainty as if the writer had them before him already written and had only to copy them; and then the children will be eager to learn them, and be ready to avail themselves of the advantages which they possess. But I say that in order to create that interest in them, they ought not merely to be taught mechanically that such a figure is A, and that another is B, and another is D, and so on, but they ought to be shown how men came to think of writing; they ought to be shown that writing, or the letters, are only symbols to express thoughts, and that the earliest and simplest ways of recording those thoughts, was to represent the object to the eye. Let a class of children be before their teacher, and let the teacher ask them how they would convey to others what they have in their minds. Let him ask how they would convey an idea of what they had seen during the day. They go along the street, they have seen houses and trees and waggons, men, women and children; and now let them, the very first day they go into school and sit on the benches, attempt to represent what they have seen. Let them all be called upon to make figures of what they have seen. They have seen trees, and let them represent a tree, and while they make that attempt, let the teacher tell them what different kinds of trees there are, and the difference which exists between trees; let him explain that there is a variety of trees, and let him represent the elm, for instance, or the pine, for the elm has a characteristic branch so peculiar that it can never be mistaken for a pine; and then again, the maple will be represented in a way entirely different from either the pine or the elm, arising from the very nature of the tree. On another day, let some implement of the household be brought forward and its parts analyzed and represented in the same manner, and when they have been drawn accurately and minutely, and copied on the slate, let them be represented, as it were, in short-hand, by a figure which will come in the simplest outline nearest the object it was meant to represent. And in course of time, the pupils will have collected thousands of different images representing things with which they have become acquainted, all of which will be familiar to them; and being called upon to represent one of those objects, they will readily make signs therefor; and, as they advance in that way, it will be found that these signs have become so numerous that it is trying to have so many things recorded; and then will be the time to show the children that this can be done in a more expeditious way—that we need not, in order to record all the things with which we are familiar, to have as many signs as there are different things; but that every thing has a name, and having received a name, instead of recording the thing itself, we may record the name.

¶ We may record the sound by which we express the thing, and to record the sound we may agree to let one of these signs which we use for elm represent a part of the sound of elm—the E; we may use one of the signs by which we represented the maple for a part of the sound of maple—the M; we may use one of the signs for representing the pine to signify a part of the sound of the word pine—the P; and then we can combine these signs so as to represent the sounds with which these objects are designated. That is the way in which the letters were invented. The letters we use now may be traced back to *hœnnicia*; they are in imitation of the hieroglyphics of Egypt, and if the teachers only knew them, they would know at once that these three letters which we read b-a-g, are only a representation of signs made in the manner in which these signs were made by the Phœnicians nearly thirty-five hundred years ago. They were borrowed by the Phœnician merchants from the Priests of Egypt, and then carried in their business transactions all over the eastern world, and came down, through the Greeks, in our alphabet. Would not these things interest a child? Would they not very soon learn their A, B, C, and while learning it, learn a great deal more which would be useful in their lives afterward? And what may be done for the A, B, C, ought to be done in every branch of study. It ought to be done in the study of astronomy, it ought to be done in the study of geography, it ought to be done in the study of natural history.

A mistake in our elementary education is that we teach everything in the same way. We resort to books, as if everything was to be learned from books, and from books alone. I will speak from personal experience. I have been a teacher since fifteen years of age, and am a teacher now and I hope I shall be all my life. I do love to teach, and there is nothing so pleasant as to be placed in a position to develop the faculties of my fellow-beings, who, in their early age, are entrusted to my care; and I am satisfied that there are branches of knowledge that are better taught without books than with books, and there are some cases where it is so obvious that I wonder why it is always to books that teachers resort when they would teach some new branch in their school. When we teach music we do not learn it by heart or commit it to memory, but we take an instrument and learn to play it. When we study natural history, instead of books, let us take specimens, stones, minerals and crystals. When we would study plants let us go to plants themselves, but not to books describing them. When we would study animals let us have animals before us, and not go to books in which they are described.

In geography let us not resort to books, but let us take a class and go out into the field, and point out the hills, valleys and rivers, and show them what are accumulations of water and expanses of land; and then, having shown them that, let us bring representations of what they are to learn, that they may compare them with what they know, and the maps will have a meaning to them. Then you can go on with the books, and they will understand what these things mean, and will know what is north and east and south, and will not merely read the letters N. E. S. W. on a square piece of paper, thinking that England and the United States are about as large as the paper they learn from. When I was in the College of Neufchatel, I desired to introduce such a method of teaching geography. I was told it could not be done, and my request to be allowed to instruct the youngest children in the institution was refused. I resorted to another means, and took my own children—my oldest, a boy of six years, and my girls, four and one-half and two and one-half years old, and invited the children of my neighbors. Some came upon the arms of their mothers; others could already walk without assistance. These children, the oldest only six years old, I took upon a hill above the city of Neufchatel, and there showed them the magnificent peaks of the Alps, and told them the names of those mountains, and of the beautiful lakes opposite. I then showed them the same things on a raised map, and they immediately recognised the localities, and were soon able to do it on an ordinary map. From that day geography was no longer a dry study, but a desirable part of their education.

You may do the same in astronomy. You may use the lamp in the room to show them how a body illuminated may cast its light on others, and how the side opposite is in darkness. Let the teacher turn about in front of the light, and he will show that light is shed on any part of his body as he presents it, and in that way he can teach a child of four years the relative position of the earth and sun. You can go further, and show the complicated motion of the moon, simply by showing them that while you turn around yourself, a piece of paper which you hold may also turn around you, while you radiate about the central light which represents the sun: and in that way the whole movement of the solar