

the eye (reading) are not completely mastered until they are reproduced to the eye by writing.

That, as the child learns its early language indirectly, while in pursuit of amusement, or gratifying its curiosity, or thinking only of expressing its feelings, so its early language may be best extended by extending its sphere of general knowledge.

That, therefore, reading for information and amusement should form a prominent part of school exercises, distinct from reading for elocutional purposes; and that all knowledge so obtained should be re-produced in writing or speaking.

That a practical knowledge of the English language,—the ability to speak it, read it, and write it correctly in its simplest forms; and a familiar acquaintance with a few of our best authors,—forms the only sure foundation on which to commence the analytical study of English Grammar.

## ELEMENTS OF NATURAL SCIENCE IN SCHOOLS.

I know full well that the extent and variety of subjects said to be taught to young children in the Prussian Schools, have been often sneered at. 'What,' say the objectors, 'teach children Botany, and the unintelligible and almost unspeakable names, Monandria, Diandria, Triandria, &c.;—or Zoology, with such such technical terms as Mollusca, Crustacea, Vertebrata, Mammalia, &c.;—the thing is impossible!' The Prussian children are not thus taught. For years their lessons are free from all the technicalities of science. The knowledge they already possess about common things is made the nucleus around which to collect more; and the language with which they are already familiar becomes the medium through which to communicate new ideas, and by which, whenever necessary, to explain new terms. There is no difficulty in explaining to a child, seven years of age, the distinctive marks by which nature intimates to us, at first sight, whether a plant is healthful or poisonous; or those by which, on inspecting the skeleton of an animal that lived thousands of years ago, we know whether it lived upon grass or grain or flesh. It is in this way that the pupil's mind is carried forward by an actual knowledge of things, until the time arrives for giving him classifications and nomenclatures. When a child knows a great many particular or individual things, he begins to perceive resemblances between some of them; and they then naturally assert themselves, as it were, in his mind, and arrange themselves into different groups. Then, by the aid of a teacher, he perfects a scientific classification among them,—bringing into each group all that belong to it. But soon the number of individuals in each group becomes so numerous, that he wants a cord to tie them together, or a vessel in which to hold them. Then from the nomenclature of science, he receives a name which binds all the individuals of that group into one, over afterwards. It is now that he perceives the truth and the beauty of classification and nomenclature. An infant that has more red and white beads than it can hold in its hands, and to prevent them from rolling about the floor and being lost collects them together, putting the white in one cup and the red in another, and sits and smiles at his work, has gone through with precisely the same description of mental process that Cuvier and Linnaeus did, when they summoned the vast varieties of the animal and vegetable kingdoms into their spiritual presence, and commanded the countless hosts to arrange themselves into their respective genera, orders and species. Our notions respecting the expediency or propriety of introducing the higher branches, as they are called, into our common schools, are formed from a knowledge of our own school teachers, and of the habits that prevail in most of the schools themselves. With us, it too often happens that if a higher branch,—geometry, natural philosophy, zoology, botany,—is to be taught, both teacher and class must have textbooks. At the beginning of these text books, all the technical names and definitions belonging to the subject are set down. These, before the pupil has any practical idea of their meaning, must be committed to memory. The book is then studied, chapter by chapter. At the bottom of each page, or at the end of the sections, are questions printed at full length. At the recitations, the teacher holds on by these leading strings. He introduces no collateral knowledge. He exhibits no relation between what is contained in the book and other kindred subjects, or the actual business of men and the affairs of life. At length the day of examination comes. The pupils rehearse from memory with a suspicious fluency; or, being asked for some useful application of their knowledge—some practical connection between that knowledge and the concerns of life, they are silent, or give some ridiculous answer, which at once disparages science and gratifies the ill-humor of some ignorant satirist. Of course, the teaching of the higher branches falls into disrepute in the minds of all sensible men,—as, under such circumstances, it ought to do. But the Prussian teacher has no book. He needs none. He teaches from a full mind. He cumbers and darkens the subject with no technical phraseology. He observes what proficiency the child has made, and then adapts his instructions, both in quality and amount, to the necessity of the case. He answers all questions. He solves all doubts. It is one of his objects, at every recitation, so to present ideas, that they shall start doubts and provoke questions. He connects the subject of each lesson with all kindred and collateral ones; and shows its relation to the every-day duties and business

of life; and should the most ignorant man, or the most destitute vagrant in society, ask him 'of what use knowledge can be?' he will prove to him, in a word, that some of his own pleasures or means of subsistence are dependent upon it, or have been created or improved by it. In the mean time the children are delighted. Their perceptive powers are exercised. Their reflecting faculties are developed. Their moral sentiments are cultivated. All the attributes of the mind within, find answering qualities in the world without. Instead of any longer regarding the earth as a huge mass of dead matter,—without variety and without life,—its beautiful and boundless diversities of substance, its latent vitality and energies, gradually dawn forth, until, at length, they illuminate the whole soul, challenging its admiration for their utility, and its homage for the bounty of their Creator.—*Horace Mann.*

## CHARACTERISTICS OF LESSON-GIVING.

FROM CURRIE'S "EARLY AND INFANT EDUCATION."

Interest is the first requisite in a Lesson.

In giving a brief view of the elements of criticism as applicable to the practice of teaching, it is desirable to assign to them no higher importance than what properly belongs to them. It is for the most part points of form with which they deal; and the greatest attention to these, whilst it is highly necessary and becoming, will not of itself make a good teacher. Let it be said, then, at the outset of this chapter, that the first requirement of an infant-school lesson is that it be interesting. Interest is the life of teaching. It is an antecedent consideration of all rules of form. If the teacher show that sympathy with the children and that tact in addressing them which enable him to engage their attention, his lessons will be very gently criticised in other respects. But nothing can compensate for the absence of interest; nor the most elaborate design, the most symmetrical structure, the most faultless language and posture. If this be understood, the teacher may go on to study the following precepts.

The 'Plan' in a Lesson.

Every lesson must have a design, both general and special. Suppose the lesson is on a 'pin,' it must be viewed (1.) as one of a series of lessons designed to exercise the perceptive power of the child, and (2.) as an individual lesson, designed to leave on his mind the impression of the particular thing (a pin). Unless there be a distinct aim, and a distinct conception of the steps by which this aim is to be attained, no training is imparted.

Procedure from the known to the unknown.

Lessons should be so constructed that the minds of the children shall immediately come into contact with something they have observed and can sympathize with. By exciting their activity this at once excites their interest. It serves a double purpose:—(1.) It engages their attention for the new matter that is to follow; and (2.) It becomes the means for explaining it. There is no stereotyped plan, therefore, even for lessons of the same kind. On an animal, for instance, we may begin with its 'structure' and 'parts,' and then consider its 'habits,' as in the case of the sheep, cow, or other domestic animal; but we may, in some cases, find it best to begin with the 'habits' before we examine the 'structure,' as with the wolf, camel, and most of the non-domestic animals. The same difference holds in lessons upon things; with 'salt,' or 'coal,' or 'glass,' we may begin with 'uses,' whilst with 'sealing-wax,' 'gold,' or 'pepper,' we may begin with 'qualities.' The teacher should uniformly ask himself this question before arranging his materials—What is it that the children are likely to know of the particular thing?—and he should connect with that all he intends to say.

Beginning, middle, and end.

Apart from the arrangement of the lesson with respect to the succession of ideas, there is a conventional view of it which it serves some purpose to take. We may recognize in a lesson three distinct parts, with different functions—the beginning, the middle, and the end. The *beginning*, or introduction, is specially designed to arouse the attention of the pupils. It gives them the key-note of the lesson; and the teacher should be accordingly very careful in striking it. It should be bold or picturesque; either imaginative in its complexion, or calling the children to some exercise of activity. The *middle* is the lesson strictly so called. The *end*, or conclusion, is designed to apply what has been taught in the lesson: shortness, clearness, and force in personal appeal should be its features.

Faults in the Plan of a Lesson.

Elaborate and pretentious plans are to be avoided. A lesson is not a treatise; and effect is not to be sacrificed to logic. The aim of the teacher should be, not to say all that can be said on the subject, but only what the children can profitably receive. Each act of instruction should leave them with the desire for a continuance of it, for which purpose it should just be a narrow outline, clearly put, and happily illustrated.

Notes of Lessons.

It is a good practice for the young teacher to prepare a sketch, or what is called 'notes,' of his lesson beforehand. He may hope by so doing to communicate his instruction with great confidence and clearness. This sketch should contain merely the heads of the lesson, and any illustration which he intends to use under each. The notes should be lodged in his mind, however; the freedom necessary to a successful infant-school lesson is quite incompatible with frequent reference to a written plan.

Undue display of Plan.

The 'plan' of a lesson, it must be understood, is for the teacher, and not for the children. There is a great difference between having a plan and making a show of it. Whilst, therefore, lessons must be logically constructed, there must be no parade of construction. A lesson may be compared to the scene upon a stage, which has two sides; on the one some pictorial effect designed for the audience; on the other, the several