

ready used untenable. So it is with education.

Now, are there any laws which we can lay down as laws of Nature in education? A little reflection will show that there are such laws, and some of them have been formulated as clearly as were Newton's Laws of Motion. For instance, one of these is stated by Pestalozzi as follows:—"Nature," said he, "develops all the human faculties by practice, and their growth depends upon their exercise."

He bade us inquire what are the child's faculties, how they have been developed by Nature, to what extent they are still capable of development, and what is the divine intention with regard to them. He bade us assist Nature by multiplying the exercises.

The natural theory of education starts with a few such principles as the following:—

1. Every child is capable of action, and surrounding material objects stimulate it to action.

2. The external stimulants act through the organs of sense.

3. The sensations are the fundamental elements of knowledge.

4. The development of the mind begins with the reception of sensations and proceeds by the formation of ideas.

5. Natural education is the action and reaction between the external stimulants and the mind's power, causing growth and development.

6. When Nature is the educator, the laws of the learner's being govern the educator's action, and determine what he does and what he leaves undone. He ascertains, as it were, from the child himself how to conduct his education.

To these another important fundamental principle has been added by Prof. Payne:—

7. The learner's ideas must be incorporated with the learner's mind and become part of his being. Words are the conventional signs, the objective representatives, of ideas; and their value to the learner depends on his possession of the ideas they represent. The words without ideas are not knowledge to him.

Perhaps we should keep these laws the better in mind if we named them as they do in other sciences. We have Pascal's Law, Boyle's Law, Joule's Law; why not Pestalozzi's, Payne's, Scott's, or any other discoverer's law—for instance. Quick's law: "Education is a process of cultivation." The horticulturist who has learnt by observation Nature's methods can assist the processes of growth and development, and sometimes even control them. So also can the educator. The giving of this assistance is the purpose of education. It is education—

YET LACKS EXACTNESS.

Now, you will at once recognize these rules as the foundation of Froebelian teaching, the backbone of the kindergarten; yet they are often set aside and forgotten at the next and subsequent stages. My purpose now is to show how they may be, and ought to be, preserved in the teaching of Elementary Science. The principles of education remain true in all stages, although they are often masked or hidden, and a more subtle search is required to find and expose them; yet they are to be revealed, and those who have had opportunities of following the growth of many pupils from childhood to maturity recognize the identity of the principles which are applied, consciously or unconsciously, from without the pupil, or from within, at differ-