

**THE CHILD'S BOOK OF NATURE.
FOR THE USE OF FAMILIES AND
SCHOOLS. IN THE THREE PARTS.
PART I.- PLANTS**

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The Child's Book of Nature. For the Use of Families and Schools. In the Three Parts. Part I.-
Plants by Worthington Hooker

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WORTHINGTON HOOKER

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THE
CHILD'S BOOK OF NATURE.

FOR THE USE OF FAMILIES AND SCHOOLS.

INTENDED TO AID MOTHERS AND TEACHERS IN TRAINING CHILDREN IN THE
OBSERVATION OF NATURE.

IN THREE PARTS.
PART I.—PLANTS.

BY WORTHINGTON HOOKER, M.D.,
AUTHOR OF "PHYSICIAN AND PATIENT," "HUMAN PHYSIOLOGY," &c.

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his acquisition
By Dr. Worthington Hooker.

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P R E F A C E.

CHILDREN are busy observers of natural objects, and have many questions to ask about them. But their inquisitive observation is commonly repressed, instead of being encouraged and guided. The chief reason for this unnatural course is, that parents and teachers are not in possession of the information which is needed for the guidance of children in the observation of nature. They have not themselves been taught aright, and therefore are not able to teach others. In their own education the observation of nature has been almost entirely excluded; and they are, therefore, unprepared to teach a child in regard to the simplest natural phenomena.

Here is a radical error in education. When we put a child into the school-room, to be drilled in spelling, reading, arithmetic, geography, etc., we effectually shut him in from all the varied and interesting objects of nature, which he is so naturally inclined to observe and study. These are very seldom made the subjects of instruction in childhood. And even at the fireside the deficiency is nearly as great as it is in the school-room.

A similar defect appears to a great extent through the whole course of education. The study of the wonderful phenomena

which are all around us and within us, is, for the most part, neglected, except by the few whose inclinations to it are so strong that they can not be repressed. This defect is well illustrated in a remark which was made by a mother in relation to her own education. When at school she stood at the head of her class, and excelled particularly in mathematics. Her remark was, that she every day regretted that much of the time she had given to the study of mathematics had not been spent in learning what would enable her to answer the continual questions of her children. Even when the natural sciences are taught, the mode of teaching them is generally ineffectual. The knowledge which the mass of pupils in our higher schools gain of Natural Philosophy, Chemistry, Botany, and Physiology, is very deficient.

There should be a thorough change in this respect in the whole course of education, beginning in childhood. The natural sciences should be made prominent among the studies even of young children, who, in other words, should be encouraged and guided in that observation of nature to which they are generally so much inclined. In the different departments of natural science there are multitudes of facts or phenomena in which children readily become interested, when they are properly explained.

In this little book my object is to supply the mother and the teacher with the means of introducing the child into one department of natural science—that which relates to the vegetable world,

or vegetable physiology. With this view, I have endeavored to select those points only which the child will fully understand, and in which he will be interested. But this selection has by no means shut me up within narrow limits. I have been surprised at the amount of knowledge in this interesting study that can be satisfactorily communicated to the mind of a child. While the fundamental points in vegetable physiology are quite fully developed in this book, I have avoided as far as possible all technical terms. These can be learned when the pupil becomes old enough to profit by learning them. The facts, the phenomena, are what the child wants to understand; and these can be communicated in the simplest language, so that a child of about seven or eight, or perhaps even six years, can readily be made to comprehend them.

I begin with the most simple and obvious facts—those which relate to flowers—and go on through fruits, seeds, leaves, roots, etc., step by step, until, at the latter part of the book, the circulation of the sap, and other points at first view complicated, are made perfectly intelligible. By this gradual unfolding of the subject, many points are made clear to the child, which are not fully understood by many of those who in riper years have studied botany; for in the common mode of teaching this science the mere technicalities of it are made prominent, while the interesting facts which vegetable physiology presents to us in such variety receive but little attention.

The best time to use this book in teaching is during the sum-

mer, because then every thing can be illustrated by specimens from the field and the garden, and the teacher can amplify upon what I have given. For example, when the lesson is to be on leaves, the teacher can request her scholars to bring as many different kinds of leaves as they can find; and she can point out their differences after the same plan that I have adopted, but in a much more extended manner. Indeed, if the teacher catch herself the true spirit of observation, she will be continually led in her teachings to add facts of her own gathering to those which I have presented.

I believe that there are few terms in the book that can not be readily understood by the child. A little explanation may sometimes be necessary on the part of the teacher, especially when the same word is used as meaning more at one time than at another. For example, the word plant is used sometimes, as in the title of this book, to include every thing that is vegetable; while at another time it is used to distinguish certain forms of vegetables from others, as in the expression plants and trees.

I have made such a division into chapters as will place each subject by itself, and at the same time, for the most part, give lessons of a proper length for the learner. I have placed questions at the end of each chapter, for convenience in instruction. Of course the teacher or parent will vary them as she sees fit, to accommodate the capacities of those whom she teaches.

WORTHINGTON HOOKER.

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