

the least attention. While this which we call civilization could never have arisen had it not been for science; science forms scarcely an appreciable element in what men consider civilized training." Science is the Cinderella of knowledges; doing all the work, ministering to her gaudier sisters; and long kept unrecognized in the background. But "we are fast coming to the *denouement*, when the positions will be changed; and while these haughty sisters sink into merited neglect, Science, proclaimed as highest

alike in worth and beauty, will reign supreme."

In the subsequent chapters, on Intellectual, Moral, and Physical Education, Mr. Spencer works out the general principles of a method of training which he bases upon the demonstration of the truth that the best course is to follow and help forward that process of evolution in the individual, which is a repetition in brief of the evolution of the race. With these chapters we hope to deal in another paper.

## NATURAL SCIENCE IN PUBLIC SCHOOLS.

BY AN AMATEUR BIOLOGIST.

**O**URSELVES the work of nature, and surrounded as we are by specimens of the Great Artificer's handicraft, it is somewhat strange that the claims of Natural Science, as a study for the young, have been so persistently fought against, and so successfully driven off the field, covered by public school programmes. From an every day practical point of view, one would be almost forced to the conclusion that the study of common natural objects ought first to occupy the attention of a child. The fly on the window-pane, the "cricket on the hearth," the toad in the garden, "good dog, Pomp," Tabby, the cat, and many other creatures are quite familiar by sight to every one—but the idea of devoting a little bit of school-time to a talk about such things seems to most people the height of absurdity. The examination of a mullein, or a burr, a bat's wing, or a duck's foot, would be regarded in much the same way; and a perfect

feeling of unanimity seems to prevail that although some knowledge of the human body is a very good thing, it is a doctor's business—not the teacher's.

It is quite true that until somewhat recently, books on natural science were far, indeed, from presenting the student with so many attractions as they now do. Much of what might otherwise prove interesting, was disguised by technicalities, and big-sounding dictionary words; and whilst to a certain extent the use of such terms in scientific treatises must always exist, their repulsiveness will wholly disappear, as the learner acquires, bit by bit, a knowledge of their meaning and application.

But books on natural science in a public school are quite out of place. The teacher may consult these at home, but in school he must do all the talking himself, except in so far as he can "draw out" his interested pupils. Probably it is just here that