

pupil's curiosity is enlisted on the side of the teacher. The boy makes the experiments, and observes the resulting phenomena, because it is from these phenomena, and not from the book, that he must read the answers to the questions.

Of course, I consider the experiments and questions as merely typical, and not exhaustive. The skilful teacher will add to both as circumstances show may be desirable. For example, a wrong answer given by a pupil to one of the questions in the text-book will suggest to the teacher an experiment that will show the pupil his error and enable him to correct it. Bearing in mind that mental training and not acquisition of information is the great end in view, the teacher can afford to take the time to make the pupil study the book of nature until he can read aright.

Very seldom is it necessary for either text-book or teacher to enunciate *observed facts*. I do not mean to say that the pupil will generally enunciate observed facts correctly and fully; far from it. But the teacher, instead of correcting and completing the enunciation given by the pupil, should, by experiments and questions, point out the errors and omissions until the pupil himself constructs a perfect enunciation.

In the next process in the study of physics in the *extension* and enunciation of natural laws as established by observation, the pupil, while needing more direct assistance from the text-book and from the teacher, may still do very much for himself if he is rightly guided. He can learn what, judging from the writings of most men, few know,—that a *law of nature* is simply a statement of what has been found to be true in all the many cases that have been examined, and which we are therefore morally certain is true in all cases.

The third process in the study of physics, the evolution of *hypotheses* which shall blend together, into a harmonious whole, natural laws which seem least connected, calls for the exercise of a genius which we cannot expect our pupils to possess. But we can at least lead them to admire and justly appreciate the few great minds of the world, that, seeing far beyond the facts, have, by imagination, kept in subjection by profound knowledge, discerned the relations among these facts, and thereby made physics a science.

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