a valuable philosophical fact by conjecture; and had this statement been known and appreciated by the schoolmen of Greece, Rome, and the middle ages, the modern philosopher would be more engaged in teaching than in learning. Experiment is the foundation of philosophy; and for the want of it men have established dogmas for causes, trusting opinions as data, and building hypotheses on unsound foundations. Every science within the boundary of natural philosophy offers proofs of this statement, and illustrates the value of experiment.

But let it not be supposed that in insisting on the high importance of experiment we depreciate the value of mathematical studies. They are important, and necessary to him who desires to investigate with minuteness any branch of physics; but they are not indispensable to an accurate knowledge of principles, and we have acquaintance with many successful experimenters who are utterly ignorant of the mathematics. In one case we entirely trust to intellectual energy and the infallible power of numbers; in the other to reason and to our senses, which, though they offer a readier, and generally a more appreciable species of evidence, involve at the same time greater liabilities to error. The mixed method of investigation is, therefore, always to be preferred.

The reading public, though not so opposed as it once was to scientific research, is not to be attracted by mathematical erudition, or the statement of prolix propositions, but must have plain reasons, or experiments, before it is willing to admit the statements of those who pretend to teach philosophy. The greater number of readers are unable to appreciate mathematical demonstrations; and there can be no doubt that their general use in elementary works, and the unpopular manner in which scientific truths were explained, have tended to prevent the progress of scientific knowledge. We must interrogate nature by experiment, availing ourselves of the assistance of the sciences of quantity and number, as useful auxiliaries in the study of the more complex principles of motion as exhibited by various agents; but, in the explanation of phenomena, the simplest methods of demonstration ought to be used, and the most familiar illustrations should be chosen to allure and encourage him who is in search of information.

These hinderances to the progress of scientific knowledge have been in our day removed; and though the process of