

may say, that such arguments, since they are as good as can be brought in favor of such an opinion, show more clearly how entire the failure was. I proceed now to endeavor to point out its causes.

Sect. 2.—Cause of the Failure of the Greek Physical Philosophy.

THE cause of the failure of so many of the attempts of the Greeks to construct physical science is so important, that we must endeavor to bring it into view here; though the full development of such subjects belongs rather to the Philosophy of Induction. The subject must, at present, be treated very briefly.

I will first notice some errors which may naturally occur to the reader's mind, as possible causes of failure, but which, we shall be able to show, were not the real reasons in this case.

The cause of failure was *not the neglect of facts*. It is often said that the Greeks disregarded experience, and spun their philosophy out of their own thoughts alone; and this is supposed by many to be their essential error. It is, no doubt, true, that the disregard of experience is a phrase which may be so interpreted as to express almost any defect of philosophical method; since coincidence with experience is requisite to the truth of all theory. But if we fix a more precise sense on our terms, I conceive it may be shown that the Greek philosophy did, in its opinions, recognize the necessity and paramount value of observations; did, in its origin, proceed upon observed facts; and did employ itself to no small extent in classifying and arranging phenomena. We must endeavor to illustrate these assertions, because it is important to show that these steps alone do not necessarily lead to science.

1. The acknowledgment of experience as the main ground of physical knowledge is so generally understood to be a distinguishing feature of later times, that it may excite surprise to find that Aristotle, and other ancient philosophers, not only asserted in the most pointed manner that all our knowledge must begin from experience, but also stated in language much resembling the habitual phraseology of the most modern schools of philosophizing, that particular facts must be *collected*; that from these, general principles must be obtained by *induction*; and that these principles, when of the most general kind, are *axioms*. A few passages will show this.

"The way" must be the same," says Aristotle, in speaking of the rules of reasoning, "with respect to philosophy, as it is with respect to

¹¹ Anal. Prior. i. 30.