

INTRODUCTION.

IN order to the acquisition of any such exact and real knowledge of nature as that which we properly call Physical Science, it is requisite, as has already been said, that men should possess Ideas both distinct and appropriate, and should apply them to ascertained Facts. They are thus led to propositions of a general character, which are obtained by Induction, as will elsewhere be more fully explained. We proceed now to trace the formation of Sciences among the Greeks by such processes. The provinces of knowledge which thus demand our attention are, Astronomy, Mechanics and Hydrostatics, Optics and Harmonics ; of which I must relate, first, the earliest stages, and next, the subsequent progress.

Of these portions of human knowledge, Astronomy is, beyond doubt or comparison, much the most ancient and the most remarkable ; and probably existed, in somewhat of a scientific form, in Chaldea and Egypt, and other countries, before the period of the intellectual activity of the Greeks. But I will give a brief account of some of the other Sciences before I proceed to Astronomy, for two reasons ; first, because the origin of Astronomy is lost in the obscurity of a remote antiquity ; and therefore we cannot exemplify the conditions of the first rise of science so well in that subject as we can in others which assumed their scientific form at known periods ; and next, in order that I may not have to interrupt, after I have once begun it, the history of the only progressive Science which the ancient world produced.

It has been objected to the arrangement here employed that it is not symmetrical ; and that Astronomy, as being one of the Physical Sciences, ought to have occupied a chapter in this Second Book, instead of having a whole Book to itself (Book III). I do not pretend that the arrangement is symmetrical, and have employed it only on the ground of convenience. The importance and extent of the history of Astronomy are such that this science could not, with a view to our purposes, be made co-ordinate with Mechanics or Optics.