

&c.; so that these axioms, however self-evident, are still general propositions so far of the inductive kind, that independently of experience they would not present themselves to the mind. The only difference between these and axioms obtained from extensive induction is this, that, in raising the axioms of geometry, the instances offer themselves spontaneously, and without the trouble of search, and are few and simple; in raising those of nature, they are infinitely numerous, complicated and remote: so that the most diligent research and the utmost acuteness are required to unravel their web, and place their meaning in evidence.

(87.) By far the most general phenomenon with which we are acquainted, and that which occurs most constantly, in every inquiry into which we enter, is motion, and its communication. Dynamics, then, or the science of force and motion, is thus placed at the head of all the sciences; and, happily for human knowledge, it is one in which the highest certainty is attainable, a certainty no way inferior to mathematical demonstration. As its axioms are few, simple, and in the highest degree distinct and definite, so they have at the same time an immediate relation to geometrical quantity, space, time, and direction, and thus accommodate themselves with remarkable facility to geometrical reasoning. Accordingly, their consequences may be pursued, by arguments purely mathematical, to any extent, insomuch that the limit of our knowledge of dynamics is determined only by that of pure mathematics, which is the case in no other branch of physical science.

(88.) But, it will now be asked, how we are to proceed to analyze a composite phenomenon into simpler ones, and whether any general rules can be given for this important process? We answer, None; any more than (to pursue the illustration we have already had recourse to) general rules can be laid down by the chemist for the analysis of substances of which all the ingredients are unknown. Such rules, could they be discovered, would include the whole of natural science; but we are very far, indeed, from being able to propound