general principles, and then descends again from these general principles to particular applications and exemplifications.

While the great and important labours by which science is really advanced consist in the successive steps of the *inductive* ascent in the discovery of new laws perpetually more and more general; by far the greater part of our books of physical science unavoidably consists in *deductive* reasoning, exhibiting the consequences and applications of the laws which have been discovered; and the greater part of writers upon science have their minds employed in this process of deduction and application.

This is true of many of those who are considered, and justly, as distinguished and profound philosophers. In the mechanical philosophy, that science which applies the properties of matter and the laws of motion to the explanation of the phenomena of the world, this is peculiarly the case. The laws, when once discovered, occupy little room in their statement, and when no longer contested, are not felt to need a lengthened proof. But their consequences require far more room and far more intellectual labour. If we take, for example, the laws of motion and the law of universal gravitation, we can express in a few lines, that which, when developed, represents and explains an innumerable mass of natural phenomena. But here the course of developement is necessarily so long, the reasoning contains so many steps, the considerations on which it rests are so minute and refined, the complication of cases and of consequences is so vast, and even the involution arising from the properties of space and number so serious, that the most consummate subtlety, the most active invention, the most tenacious power of inference, the widest spirit of combination, must be tasked and tasked severely, in order to solve the problems which belong to this portion of science. And the persons who have been employed on these problems, and who have brought to them the high