

great world around us. Yet the student who makes any progress in natural philosophy will encounter numberless cases in which this transfer of ideas from the one extreme of magnitude to the other will be called for: he will find, for instance, the phenomena of the propagation of winds referred to the same laws which regulate the propagation of motions through the smallest masses of air; those of lightning assimilated to the mere communication of an electric spark, and those of earthquakes to the tremors of a stretched wire: in short, he must lay his account to finding the distinction of great and little altogether annihilated in nature: and it is well for man that such is the case, and that the same laws, which he can discover and verify in his own circumscribed sphere of power, should prove available to him when he comes to apply them on the greatest scale; since it is thus only that he is enabled to become an exciting cause in operations of any considerable magnitude, and to vindicate his importance in creation.

(183.) But the business of induction does not end here: its final result must be followed out into all its consequences, and applied to all those cases which seem even remotely to bear upon the subject of inquiry. Every new addition to our stock of causes becomes a means of fresh attack, with new vantage ground, upon all those unexplained parts of former phenomena which have resisted previous efforts. It can hardly be pressed forcibly enough on the attention of the student of nature, that there is scarcely any natural phenomenon which can be fully and completely explained in all its circumstances, without a union of several, perhaps of all, the sciences. The great phenomena of astronomy, indeed, may be considered exceptions; but this is merely because their scale is so vast, that one only of the most widely extending forces of nature takes the lead, and all those agents whose sphere of action is limited to narrower bounds, and which determine the production of phenomena nearer at hand, are thrown into the back ground, and become merged and lost in comparative insignificance. But in the more intimate phenomena which surround us