

(89.) In the important business of raising these axioms of nature, we are not, as in the analysis of phenomena, left wholly without a guide. The nature of abstract or general reasoning points out in a great measure the course we must pursue. A law of nature, being the statement of what will happen in certain general contingencies, may be regarded as the announcement, in the same words, of a whole group or class of phenomena. Whenever, therefore, we perceive that two or more phenomena agree in so many or so remarkable points, as to lead us to regard them as forming a class or group, if we lay out of consideration, or *abstract*, all the circumstances in which they disagree, and retain in our minds those only in which they agree, and then, under this kind of mental convention, frame a definition or statement of one of them, in such words that it shall apply equally to them all, such statement will appear in the form of a general proposition, having so far at least the character of a law of nature.

(90.) For example: a great number of transparent substances, when exposed, in a certain particular manner, to a beam of light which has been prepared by undergoing certain reflexions or refractions (and has thereby acquired peculiar properties, and is said to be "*polarized*"), exhibit very vivid and beautiful colors, disposed in streaks, bands, &c. of great regularity, which seem to arise within the substance, and, which, from a certain regular succession observed in their appearance, are called "periodical colors." Among the substances which exhibit periodical colors occur a great variety of transparent solids, but no fluids and no opaque solids. Here, then, there seems to be sufficient community of nature to enable us to use a general term, and to state the proposition as a law, viz. *transparent solids* exhibit periodical colors by exposure to polarized light. However, this, though true of many, does not apply to *all* transparent solids, and therefore we cannot state it as a general truth or law of nature in this form; although the reverse proposition, that all solids which exhibit such colors in such circumstances are *transparent*, would be