

which a given quality is possessed by the different individuals in a descending scale of intensity. Now, it is of consequence to distinguish between cases in which there is a real opposition of quality, or a mere diminution of intensity, in some quality susceptible of degrees, till it becomes imperceptible. For example, between transparency and opacity there would at first sight appear a direct opposition; but, on nearer consideration, when we consider the gradations by which transparency diminishes in natural substances, we shall see reason to admit that the latter quality, instead of being the *opposite* of the former, is only its *extreme lowest degree*. Again, in the arrangement of natural objects under the head of weight or specific gravity, the scale extends through all nature, and we know of no natural body in which the opposite of gravity, or positive *levity*, subsists. On the other hand, the opposite electricities; the north and south magnetic polarities; the alkaline and acid qualities of chemical agents; the positive and negative rotations impressed by plates of rock crystal on the planes of polarization of the rays of light, and many other cases, exemplify not merely a negation, but an active opposition of quality. Both these modes of classification have their peculiar importance in the inductive process; the one, as affording an opportunity of tracing a relation between phenomena by the observation of a correspondence in their scales of intensity; the other, by that of contrast, as we shall show more at large in the next section.

(136.) There is a very wide distinction, too, to be taken between such classes as turn upon a single head of resemblance among individuals otherwise very different, and such as bind together in natural groups, by a great variety of analogies, objects which yet differ in many remarkable particulars. For example: if we make colorless transparency a head of classification, the list of the class will comprise objects differing most widely in their nature, such as water, air, diamond, spirit of wine, glass, &c. On the other hand, the chemical families of alkalies, metals, &c., are instances of groups of the other kind; which, with properties in many respects