

to facts, that is, the associations of phenomena or appearances. We gain no information by perceiving merely that an object is black; but if we also perceive it to be fluid, we at least acquire the knowledge that blackness is not incompatible with fluidity, and have thus made a step, however trifling, to a knowledge of the more intimate nature of these two qualities. Whenever, therefore, we would either analyze a phenomenon into simpler ones, or ascertain what is the course or law of nature under any proposed general contingency, the first step is to accumulate a sufficient quantity of well ascertained facts, or recorded instances, bearing on the point in question. Common sense dictates this, as affording us the means of examining the same subject in several points of view; and it would also dictate that the more different these collected facts are in all other circumstances but that which forms the subject of inquiry, the better; because they are then in some sort brought into contrast with one another in their points of disagreement, and thus tend to render those in which they agree more prominent and striking.

(110.) The only facts which can ever become useful as grounds of physical inquiry, are those which happen uniformly and invariably under the same circumstances. This is evident: for if they have not this character they cannot be included in laws; they want that universality which fits them to enter as elementary particles into the constitution of those universal axioms which we aim at discovering. If one and the same result does not constantly happen under a given combination of circumstances, apparently the same, one of two things must be supposed,—caprice (*i. e.* the arbitrary intervention of mental agency), or differences in the circumstances themselves, really existing, but unobserved by us. In either case, though we may record such facts as curiosities, or as awaiting explanation when the difference of circumstances shall be understood, we can make no use of them in scientific inquiry. Hence, whenever we notice a remarkable effect of any kind, our first question ought to be, Can it be reproduced? What are the cir-