

cumstances under which it has happened? And will it *always* happen again if those circumstances, so far as we have been able to collect them, co-exist?

(111.) The circumstances, then, which accompany any observed fact, are main features in its observation, at least until it is ascertained by sufficient experience what circumstances have nothing to do with it, and might, therefore, have been left unobserved without sacrificing *the fact*. In observing and recording a fact, therefore, altogether new, we ought not to omit any circumstance capable of being noted, lest some one of the omitted circumstances should be essentially connected with the fact, and its omission should, therefore, reduce the implied statement of a *law of nature* to the mere record of an *historical event*. For instance, in the fall of meteoric stones, flashes of fire are seen proceeding from a cloud, and a loud, rattling noise, like thunder, is heard. These circumstances, and the sudden stroke and destruction ensuing, long caused them to be confounded with an effect of lightning, and called thunderbolts. But one circumstance is enough to mark the difference: the flash and sound have been perceived occasionally to emanate from a *very small cloud* insulated in a *clear sky*; a combination of circumstances which never happens in a thunder storm, but which is undoubtedly intimately connected with their real origin.

(112.) Recorded observation consists of two distinct parts: 1st, an exact notice of the thing observed, and of all the particulars which may be supposed to have any natural connection with it; and, 2dly, a true and faithful record of them. As our senses are the only inlets by which we receive impressions of facts, we must take care, in observing, to have them all in activity, and to let nothing escape notice which affects any one of them. Thus, if lightning were to strike the house we inhabit, we ought to notice what kind of light we saw—whether a sheet of flame, a darting spark, or a broken zig-zag; in what direction moving, to what objects adhering, its color, its duration, &c.; what sounds were heard—explosive, crashing, rattling, momentary, or gradually in-