

should be not only circumstantial, but *faithful*; by which we mean, that it should contain all we did *observe*, and nothing else. Without any intention of falsifying our record, we may do so unperceived by ourselves, owing to a mixture of the views and language of an erroneous theory with that of simple fact. Thus, for example, if, in describing the effect of lightning, we should say, "The thunderbolt struck with violence against the side of the house, and beat in the wall," a fact would be stated which we did not see, and would lead our hearers to believe that a solid or ponderable projectile was concerned. The "strong smell of sulphur," which is sometimes said to accompany lightning, is a remnant of the theory which made thunder and lightning the explosion of a kind of aërial gunpowder, composed of sulphureous and nitrous exhalations. There are some subjects particularly infested with this mixture of theory in the statement of observed fact. The older chemistry was so overborne by this mischief, as quite to confound and nullify the descriptions of innumerable curious and laborious experiments. And in geology, till a very recent period, it was often extremely difficult, from this circumstance, to know what *were* the facts observed. Thus, Faujas de St. Fond, in his work on the volcanoes of central France, describes, with every appearance of minute precision, craters existing nowhere but in his own imagination. There is no greater fault (direct falsification of fact excepted) which can be committed by an observer.

(126.) When particular branches of science have acquired that degree of consistency and generality, which admits of an abstract statement of laws, and legitimate deductive reasoning, the principle of the division of labor tends to separate the province of the observer from that of the theorist. There is no accounting for the difference of minds or inclinations, which leads one man to observe with interest the developements of phenomena, another to speculate on their causes; but were it not for this happy disagreement, it may be doubted whether the higher sciences could ever have attained even their