

movements, previous to any investigation of its nature, or any knowledge of the source of its power.

(216.) In estimating, however, the value of a theory, we are not to look, *in the first instance*, to the question, whether it establishes satisfactorily, or not, a particular process or mechanism; for of this, after all, we can never obtain more than that indirect evidence which consists in its leading to the same results. What, in the actual state of science, is far more important for us to know, is whether our theory truly represent *all* the facts, and include *all* the laws, to which observation and induction lead. A theory which did this would, no doubt, go a great way to establish any hypothesis of mechanism or structure, which might form an essential part of it: but this is very far from being the case, except in a few limited instances; and, till it is so, to lay any great stress on hypotheses of the kind, except in as much as they serve as a scaffold, for the erection of general laws, is to "quite mistake the scaffold for the pile." Regarded in this light, hypotheses have often an eminent use; and a facility in framing them, if attended with an equal facility in laying them aside when they have served their turn, is one of the most valuable qualities a philosopher can possess; while, on the other hand, a bigoted adherence to them, or indeed to peculiar views of any kind, in opposition to the tenor of facts as they arise, is the bane of all philosophy.

(217.) There is no doubt, however, that the safest course, when it can be followed, is to rise by inductions carried on among laws, as among facts, from law to law, perceiving, as we go on, how laws which we have looked upon as unconnected become particular cases either one of the other, or all of one still more general, and, at length, blend altogether in the point of view from which we learn to regard them. An example will illustrate what we mean. It is a general law that all hot bodies throw out or *radiate* heat in all directions (by which we mean, not that heat is an actual substance darted out from hot bodies, but only that the laws of the transmission of heat to distant objects are similar