

was illustrated by Werner, after the model of the Saxon mountains, is found to include, perhaps, the largest class of inquiries which has ever been ranked under one head. For, in the attempt which it makes to decipher the history of the past, and to prognosticate the future changes of our planet, it requires the aid of all the gathered knowledge of nature, interpreted by the profoundest researches of abstract science. It is not even enough to know the actual state of the earth, we must further learn the measure of momentary changes in this state; and thus inquiries of a new order are suggested to naturalists, who are seldom aware, while investigating the problems before them, that these include dynamical as well as statical determinations, and that the former are necessary to the right understanding of the latter.

It has been made a reproach to geology, that, in its bold attempts to penetrate the dark veil which time has thrown over the mysteries of ancient nature, it has wandered far from its just mark, beyond the boundary of inductive philosophy and mathematical laws, into the unprofitable regions of cosmogony. Geologists have been equally blamed for stopping short of attainable truth, and declaring, upon inadequate grounds, that the earth shows no trace of a beginning, no prospect of an end. But geology is really distinct from cosmogony. Inquiries into the origin of the planetary bodies belong to one of the highest of human sciences, — astronomy. Geology, far from intruding within its precincts, supposes the globe to be constituted as a planet moving round the sun; takes for granted all the laws which this relation implies, and limits itself to the discovery of the strictly terrestrial phenomena which have happened upon this globe under these conditions. On the other hand, it was rash and presumptuous to assert the invariable uniformity of natural causes and effects, through all past time, upon data so insufficient as those known to Dr. Hutton; and, even if this were established, it would not be sound logic to infer that the