

variety of circumstances may prevent the accurate perception of truth, but especially prejudice, and a partial view of facts. These are even in the present day sources of error, for they still govern to some extent the reasoning of scientific men. We would not, therefore, force our opinions upon the reader, as though they were capable of the same rigid demonstration as a geometrical problem; we would rather have them considered as elements of thought than as dogmatical conclusions.

In the examination of the facts advanced in this chapter, there are two things which appear to us particularly evident, written, as it were, upon the face of every stratum that forms a part of the earth's crust; first, that a series of causes have acted in the production of rocks, differing from each other either in character, extent, or intensity; and secondly, that the condition of these rocks gives evidence of the existence of more violent igneous agents than are now in operation.

1. The beds forming the crust of the earth being distinguished from each other by mechanical and chymical composition, and each bed or suite of beds being remarkable for some organic remain peculiar to itself, there is evidence of the existence of secondary causes from the period when these rocks were formed; and the variety of agents supposes an interval of time between their successive operations. To imagine that a bed of sand and a bed of gravel could have resulted from the same physical force, or that there was not a perceptible interval of time between the deposition of a limestone, its disturbance by internal forces, and the formation of another bed upon the dislocated stratum, would effect as great an alteration in deductive reasoning as the volcanic force produced upon rocks. Great minds may be guilty of excessive folly in their effort to support a favourite hypothesis, and do sometimes resort to arguments they would condemn if employed by others. It has been maintained by some writers, who have had ample opportunities of examination as well as of reading, that a continuous series of causes, acting within a very short period of time, if not a single cause, produced all rocks, and occasioned all the disturbances under which they have suffered. The Mosaic deluge has been considered sufficient, both in intensity and period, to account for all the varied phenomena to which we have referred. But this supposition is opposed by facts too evident to be denied.