

ble that their labors would have been far less zealous, and their expositions far less impressive. We by no means regret, therefore, the mixture of these two kinds of knowledge, which has so often occurred; but still, it is our business to separate them. The works of astronomers before the rise of sound physical astronomy, were full of theories, but these were advantageous, not prejudicial, to the progress of the science.

Geological theories have been abundant and various; but yet our history of them must be brief. For our object is, as must be borne in mind, to exhibit these, only so far as they are steps discoverably tending to the *true* theory of the earth: and in most of them we do not trace this character. Or rather, the portions of the labors of geologists which do merit this praise, belong to the two preceding divisions of the subject, and have been treated of there.

The history of Physical Geology, considered as the advance towards a science as real and stable as those which we have already treated of (and this is the form in which we ought to trace it), hitherto consists of few steps. We hardly know whether the progress is begun. The history of Physical Astronomy almost commences with Newton, and few persons will venture to assert that the Newton of Geology has yet appeared.

Still, some examination of the attempts which have been made is requisite, in order to explain and justify the view which the analogy of scientific history leads us to take, of the state of the subject. Though far from intending to give even a sketch of all past geological speculations, I must notice some of the forms such speculations have at different times assumed.

Sect. 2.—Of Fanciful Geological Opinions.

REAL and permanent geological knowledge, like all other physical knowledge, can be obtained only by inductions of classification and law from many clearly seen phenomena. The labor of the most active, the talent of the most intelligent, are requisite for such a purpose. But far less than this is sufficient to put in busy operation the inventive and capricious fancy. A few appearances hastily seen, and arbitrarily interpreted, are enough to give rise to a wondrous tale of the past, full of strange events and supernatural agencies. The mythology and early poetry of nations afford sufficient evidence of man's love of the wonderful, and of his inventive powers, in early stages of intellectual development. The scientific faculty, on the other hand,