

## CHAPTER X.

## A RETROSPECTIVE VIEW OF CERTAIN GEOLOGICAL FACTS AND INFERENCES.—RELATIVE AGES OF MOUNTAIN RANGES.—PRELIMINARY OBSERVATIONS ON THE SECONDARY STRATA.

BEFORE we proceed to the Upper Secondary Rocks, it may be useful to review some of the leading facts stated in the preceding chapters, and to notice certain enquiries, which may naturally present themselves to the mind of the geological student. It appears from an examination of the crust of the globe, wherever it has been scientifically explored, that there is an order of succession or superposition in the rocks of every country, which may often be traced over a considerable extent; and that in countries very remote from each other, an approximation to a similar order is observable, except in one class of rocks which are obtruded irregularly, and cover other rocks without any determinate order of succession, as described in the last chapter. The succession of the several *classes* of rock,—the primary, transition, secondary, and tertiary,—may be regarded as certain, where they occur together. Nor is the universality of this succession affected by accidental disturbances, which, in a few instances, have overturned beds of primary rocks, and thrown them upon secondary strata. In such cases, the latter are thrown out of their natural position, as much as when a block of granite is carried by inundations, upon rocks of recent formations. The few cases in which granite is described as rising through and covering secondary strata require critical examination; and geologists should be particularly upon their guard, to avoid being misled by erroneous or fabulous sections of foreign localities. See p. 65.

The succession of the different members of any one class of rocks, is by no means so definite as that of the classes themselves. Many beds common in one country cannot be discovered in another, and hence it may be difficult to determine what part of a series they occupy.

It is easy to conceive, that the cause or causes, whatever they may be, which have formed certain rocks, have been limited in the extent of their action, as we know to be frequently the case on a smaller scale, where a stratum of sandstone, &c., after preserving its regular thickness for several miles, becomes gradually narrower, till at length, in the language of the miner, it *wedges out*, and the strata above and beneath, come into immediate contact. In other instances, the rock which is interposed between two well known and identical rocks, in distant districts, is not the same in both: this may be frequently observed among the secondary strata, which will next be described.