

standing the phenomena now alluded to, although I must guard him against supposing that it is a true section. A great number of details have of necessity been omitted, and the scale of heights and horizontal distances are unavoidably falsified.

Starting from the shores of the Atlantic, on the eastern side of the Continent, we first come to a low region (A B), which was called the alluvial plain by the first geographers. It is occupied by tertiary and cretaceous strata, before described (pp. 180, 231, and 254), which are nearly horizontal. The next belt, from B to C, consists of granitic rocks (hypogene), chiefly gneiss and mica-schist, covered occasionally with unconformable red sandstone, No. 4 (New Red or Trias?), remarkable for its footprints (see p. 346). Sometimes, also, this sandstone rests on the edges of the disturbed paleozoic rocks (as seen in the section). The region (B C), sometimes called the "Atlantic Slope," corresponds nearly in average width with the low and flat plain (A B), and is characterized by hills of moderate height, contrasting strongly, in their rounded shape and altitude, with the long, steep, and lofty parallel ridges of the Alleghany mountains. The out-crop of the strata in these ridges, like the two belts of hypogene and newer rocks (A B, and B C), above alluded to, when laid down on a geological map, exhibit long stripes of different colors, running in a N. E. and S. W. direction, in the same way as the lias, chalk, and other secondary formations in the middle and eastern half of England.

The narrow and parallel zones of the Appalachians here mentioned, consist of strata, folded into a succession of convex and concave flexures, subsequently laid open by denudation. The component rocks are of great thickness, all referable to the Silurian, Devonian, and Carboniferous formations. There is no principal or central axis, as in the Pyrenees and many other chains—no nucleus to which all the minor ridges conform; but the chain consists of many nearly equal and parallel foldings, having what is termed an anticlinal and synclinal arrangement (see above, p. 48). This system of hills extends, geologically considered, from Vermont to Alabama, being more than 1000 miles long, from 50 to 150 miles broad, and varying in height from 2000 to 6000 feet. Sometimes the whole assemblage of ridges runs perfectly straight for a distance of more than 50 miles, after which all of them wheel round altogether, and take a new direction, at an angle of 20 or 30 degrees to the first.

We are indebted to the state surveyors of Virginia and Pennsylvania, Prof. W. B. Rogers and his brother Prof. H. D. Rogers, for the important discovery of a clue to the general law of structure prevailing throughout this range of mountains, which, however simple it may appear when once made out and clearly explained, might long have been overlooked, amidst so great a mass of complicated details. It appears that the bending and fracture of the beds is greatest on the southeastern or Atlantic side of the chain, and the strata become less and less disturbed as we go westward, until at length they regain their original or horizontal position. By reference to the section (fig. 505), it will be seen that on the