reference to the section (fig. 5.), it will be seen that on the eastern side, or on the ridges and troughs nearest the Atlantic, the south-eastern dips predominate, in consequence of the beds having been folded back upon themselves, as in *i*, those on the north-western side of each arch having been inverted. The next set of arches (such as *k*) are more open, each having its western side steepest; the next (*l*) opens out still more widely, the next (*m*) still more, and this continues until we arrive at the low and level part of the Appalachian coal-field (D, E).

In nature, or in a true section, the number of bendings or parallel folds is so much greater that they could not be expressed in a diagram without confusion. It is also clear that large quantities of rock have been removed by aqueous action or denudation, as will appear if we attempt to complete all the curves in the manner indicated by the dotted lines at *i* and *k*.

The movements which imparted so uniform an order of arrangement to this vast system of rocks must have been contemporaneous, or belonging to one and the same series, depending on some common cause. Their geological date is unusually well defined. We may declare them to have taken place after the deposition of the carboniferous strata (No. 5.), and before the formation of the red sandstone (No. 4.). The greatest disturbing and denuding forces have evidently been exerted on the south-eastern side of the chain, and it is here that igneous or plutonic rocks are observed to have invaded the strata, forming dykes, some of which run for miles in lines parallel to the main direction of the Appalachians, or N.N.E. and S.S.W.

According to the theory of the Professors Rogers, the