dip away from them. Next, a few miles farther from Cincinnati, on all sides, we come to the Devonian strata; and next, the Lower Carboniferous.

Very frequently the dip is in opposite directions along a line, as if an inverted nest of troughs had had their bottoms sawed off. If you turn an open book so that it rests on the table with the back up, then the leaves are strata; their inclination to the table is the dip, and the two inclinations in opposite directions form an *anticlinal* structure. If you keep the leaves in the same position and turn the back of the book down, the structure is *synclinal*. It is rather necessary to understand these terms, because we meet with such structures so frequently, and shall have to talk about them.

Very commonly, the dishes and troughs of which I am speaking are irregular. A trough, whether inverted or not, may bend, and change the course of its axis. That makes it more difficult to follow, especially as nearly all the rock surfaces are concealed by Drift. Sometimes the trough is depressed at one end; sometimes at both ends; sometimes in the Again, there may be an uplifting of one or both middle. The determination of the order of ends, or of the middle. the strata is often much complicated by those erosions of which we have talked. Suppose, for instance, we have an anticlinal axis, and suppose the surface of the earth horizontal. Then if a deep broad valley were worn across and through the anticlinal series of strata, what sort of curves would be presented by the cut edges of the formations? Can you think them out? But suppose the anticlinal strata are elevated in a long ridge like a mountain, and a deep valley should be cut down one side, can you picture to your imagination the lines which the cut edges of the strata would trace? I think it would be well for the ingenious reader to contrive something to serve as a model to illustrate these complicated arrange-A nest of wooden or paper dishes might be glued ments. together and sawed and grooved and carved into shapes imitating the configuration of the earth's surface. Even in level and undisturbed strata erosions have created some