

angles of dip they *crop out*, that is, rise to the surface, along a perfectly level piece of ground, the outcrop runs at a right angle to the dip. But any inequalities of the surface, such as valleys, ravines, hills, and ridges, will, as in the case of horizontal beds, cause the outcrop to describe a circuitous course, even though the dip should remain

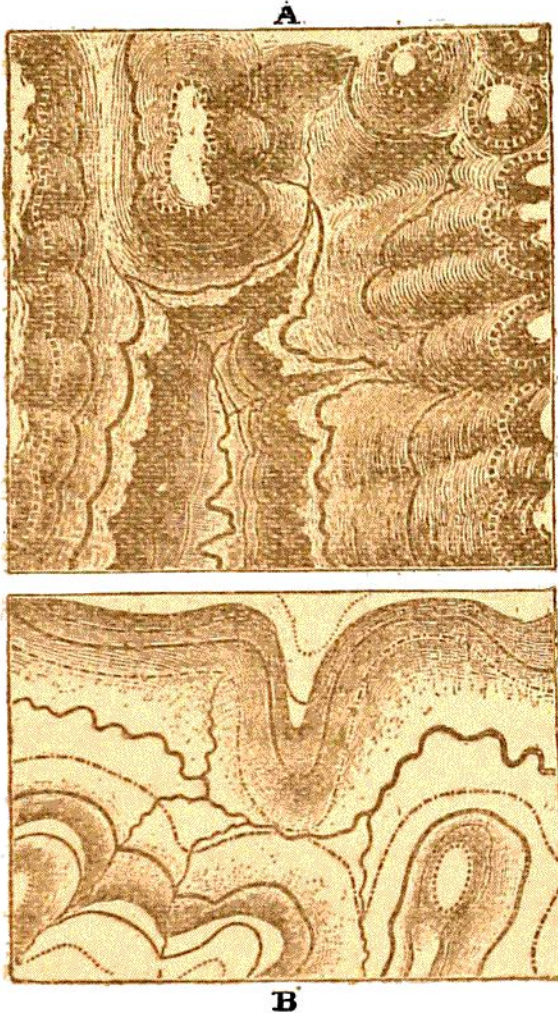


Fig. 237—Sinuous outcrops of horizontal strata depending on inequalities of surface.

The wavy black lines mark the outcrops of successive conformable horizontal beds.

perfectly steady all the while. If a line of precipitous gorge should run directly with the dip, the outcrop will there be coincident with the dip. The occurrence of a gently shelving valley in that position will cause the outcrop to descend on one side and to mount in a corresponding way on the other, so as to form a V-shaped indentation in its course. A ridge, on the other hand, will produce a deflection in the opposite direction. Hence a series of parallel ridges and valleys, running in

the same direction as the dip of the strata underneath, causes the outcrop to describe a widely serpentinous course.

The breadth of the outcrop depends on the thickness of the stratum and on the angle of dip. A bed one foot thick inclined at an angle of  $1^\circ$ , on a perfectly level piece of ground would have an outcrop about 60 feet broad. At