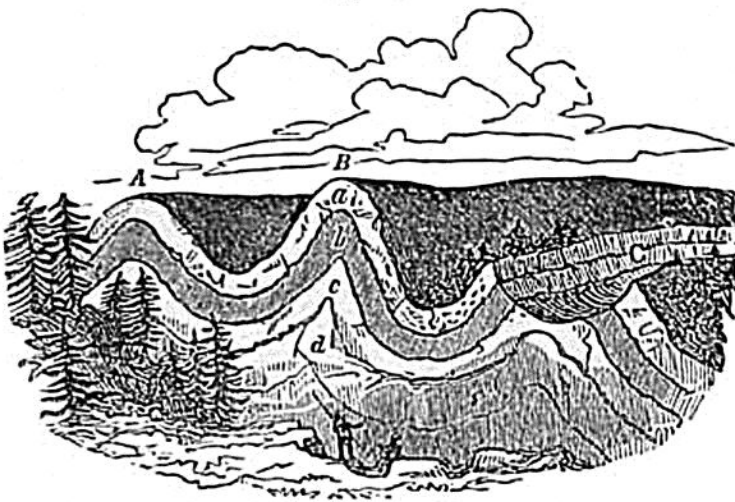


line, it will be seen that the amount of inclination may still be measured by the hands with equal facility.

It has been already seen, in describing the curved strata on the east coast of Scotland, in Forfarshire and Berwickshire, that a series of concave and convex bendings are occasionally repeated several times. These usually form part of a series of parallel waves of strata, which are prolonged in the same direction throughout a considerable extent of country. Thus, for example, in the Swiss Jura, that lofty chain of mountains has been proved to consist of many parallel ridges, with intervening longitudinal valleys, as in fig. 71, the ridges being formed by curved fossiliferous strata, of which the nature and dip are occasionally displayed in deep transverse gorges, called "cluses," caused by fractures at right angles to the direction of the chain.\* Now let us suppose these ridges and parallel valleys to run north and south, we should then say that the *strike* of the beds is north and south, and the *dip* east and west. Lines drawn along the summits of the ridges, A, B, would be anticlinal lines, and one following the bottom of the adjoining valleys a synclinal line.

Fig. 71.

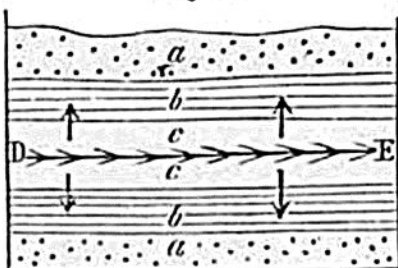


Section illustrating the structure of the Swiss Jura.

It will be observed that some of these ridges, A, B, are unbroken on the summit, whereas one of them, C, has been fractured along the line of strike, and a portion of it carried away by denudation, so that the ridges of the beds in the formations a, b, c, come out to the day, or, as the miners say, *crop out*, on the sides of a valley.

The ground plan of such a denuded ridge as C, as given in a geological map, may be expressed by the diagram fig. 72, and the cross section of the same by fig. 73. The line D E, fig. 72, is the anticlinal line, on each side of which the dip is in opposite direc-

Fig. 72.



Ground plan of the denuded ridge C, fig. 71.

Fig. 73.



Transverse section.

\* See M. Thurmann's work, "Essai sur les Soubremens Jurassiques du Porrentruy, Paris, 1832," with whom I examined part of these mountains in 1835.