

as a more extended survey of the district would have shown him, that the slate rocks rest on other beds, which have the same inclination as the limestone above them, and that the slate and limestone are conformable.

The modes of stratification which we have been considering are those of plane strata; but, in many situations, particularly in the Alps and the Jura chain, the strata are curved and bent round the mountains, encircling them like a mantle. The ravines and escarpments, according to the position in which the sections have been made, present the most varied forms of stratification in the same mountain. In one part, the strata will seem to rise almost vertically; in another, to be nearly horizontal; and in a third, to be deeply curved: and this will depend, much, on the relative position of the observer, whether he be placed on one side, or in the face of the escarpment. Suppose a transverse section to be made through a mountain in the direction *a b*, (Plate I. fig. 6.) it would show the true position of the arched strata: but if we suppose a section to be made only on the side *c d*, an observer would see the face or escarpment on that side, with the edges of the strata lying horizontally, and might describe them as horizontally stratified, were he to view no other part of the mountain. In some situations, the fracture made in the arched stratification is much broken, and we have, on the side of the same mountain, the appearance both of horizontal and greatly inclined stratification. An instance of this occurs near the Lake of Bourget in Savoy. Plate II. fig. 1. represents the appearance of strata on the side of a mountain, which has the arched stratification before described; but the outermost strata, instead of enfolding the whole mountain, only cover the southern side, and are broken off at the summit in a line nearly parallel with it, and their edges present the appearance of horizontal strata, *a a*. Lower down the mountain, part of the under strata have fallen off in a sloping direction, and their projecting edges present, at a distance, the appearance of highly inclined strata. This may be further illustrated by taking a half cylinder, or, for want of that, a thick book, and opening it a little; place it with the edges upon the table, and the back uppermost; cover the book or half cylinder with a number of folds of paper of different colours,—these will represent arched strata. Cut across the outermost folds along the back, and take away the other half; the edges of the paper will represent those of the upper strata, and their position will appear to be horizontal. Cut away the corners of the under sheets a little behind each other, so that the edges of each coloured sheet may be visible, and these will represent the appearance of highly inclined strata, and they have frequently been mistaken for such. The young geologist may greatly facilitate the study of stratification, by laying coloured planes of any soft and yielding substance over each other, and inclining them in various positions; then let him make sections in different directions with a knife, and also