superheated vapors, they are ejected in the form of lava or ashes. Mr. Fisher supposes that the lower half of the double bulge of the crust in a mountain, by being depressed into a lower region, may be melted off, giving rise to siliceous lavas which may rise before the deeper basaltic magma begins to be erupted.

A mountain-chain may be the result of one movement, but probably in most cases is due to a long succession of such movements. Formed on a line of weakness in the crust, it has again and again given relief from the strain of compression by undergoing fresh crumpling and upheaval. The successive stages of uplift are usually not difficult to trace. The chief guide is supplied by uncon-



Fig. 468.—Section showing two periods of Upheaval.

formability (p. 1063). Let us suppose, for example, that a mountain range (Fig. 468) consists of upraised Lower Silurian rocks (a), upon the upturned and denuded edges of which the Carboniferous Limestone (b b) lies transgressively. The original upheaval of that range must have taken place between the Lower Silurian and the Carboniferous Limestone periods. If, in following the range along its course, we found the Carboniferous Limestone also highly inclined and covered unconformably by the Upper Coal-measures (c c), we should know that a second uplift of that portion of the ground had taken place between the time of the limestone and that of the Upper Coal-measures. Moreover, as the Coal-measures were laid down at or below the sea-level, a third uplift has subsequently occurred where-