Influence of the Attenuation of Strata upon apparent Dip.—Where a thick mass of sedimentary materials rapidly thins away in a given direction, a deceptive resemblance to the effects of underground movement may be observed. If, for example, we suppose that on a perfectly level bottom, a series of sedimentary beds is accumulated at one place to a depth of 5000 feet, and that this series dies out in a distance of 80 miles, the inclination due to this attenuation will amount to a slope of about 62 feet in a mile. That this structure has not been without considerable influence on the apparent dip of stratified rocks has been well shown by Mr. W. Topley with reference to the Mesozoic rocks of the southeast of England.[12]

Overlap.—Sediment laid down in a subsiding region, wherein the area of deposit is gradually increased, spreads over a progressively augmenting surface. Under such circumstances, the later portions of a formation, or series of

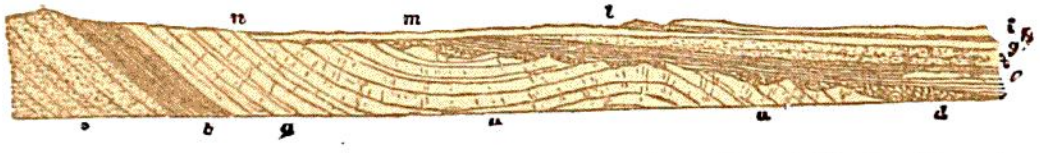

Fig. 221.—Section of Overlap in the Lower Jurassic series of the Southwest of England (*B.*).

The Old Red Sandstone (*c*), Lower Limestone Shale (*b*), and Carboniferous Limestone (*a*) having been previously upraised and denuded, the older beaches (*d m*), laid down unconformably upon them, were successively covered by conformable Jurassic beds. The Lias (*e*), with its upper sands (*f*), is overlapped by the extension of the Inferior Oolite (*g*) completely across their edges, until this formation comes to rest directly on the Palæozoic strata at *n*. The corresponding extension of the overlying Fuller's Earth (*h l*) and limestone (*i*) has been removed by denudation.[13]

sedimentary accumulations, will extend beyond the limits of the older parts, and will repose directly upon the shelving bottom. This relation, called Overlap (Fig. 221), in which the higher or newer members are said to "overlap"

[12] Quart. Journ. Geol. Soc. xxx. 1874, p. 186.
[13] De la Beche, "Geol. Observer," p. 485.