

sink to the bottom. The presence of coals, ashes, pumice, bitumen or burnt substances shows the former neighbourhood of some subterranean fire.

Steno established by direct observation some important axioms in stratigraphy. Every stratum, he said, has been laid down upon a solid subjacent surface. The lowermost strata must have become firm before the uppermost were deposited. A stratum must originally have terminated laterally against a solid body, or else must have extended over the whole earth, so that when the truncated ends or edges of strata are exposed, we must either seek for evidence of their former prolongation, or for the solid surface against which they ended and which kept their materials from slipping down.<sup>1</sup> As each bed at the time of its formation was covered only with fluid, when the lowest member of a series was laid down none of those above it had yet been deposited.

The bottom of a series of strata necessarily conforms to the irregularities of the surface on which it has been deposited, but the upper surface, where the rocks are in their original position, is parallel to the horizon or nearly so. Hence all strata save the lowermost lie between two plains approximately parallel with the horizon. We must, therefore, conclude that strata which are now vertical or inclined to the horizon were originally nearly or quite horizontal.

That the edges or sides of the strata are laid bare

<sup>1</sup>Steno had not realised the really lenticular character of all sedimentary strata. But his conclusion that the truncated ends of strata on a cliff-face point to the former continuation of the strata beyond their present termination, is now a commonplace in geology.