Rouge in the Tarentaise, where the side of the mountain is slowly overwhelming the village of Miroir,<sup>102</sup> or it may be sudden and disastrous.

Along sea-coasts and river valleys, at the base of cliffs subject to continual or frequent removal of material by running water, the phenomena of landslips are best seen. The coast-line of the British Islands abounds with instructive examples. On the shores of Dorsetshire, for instance (Fig. 112), impervious Liassic clays (a) are overlain by porous greensand (b), above which lies chalk (c) capped with gravel (d). In consequence of the percolation of water through the sandy zone (b), the support of the overlying mass is destroyed, and hence, from time to time, segments are launched down toward the sea. In this way, a confused medley of mounds and hollows (f) forms a characteristic strip of ground termed the "Undercliff" on this and other



parts of the English coasts. This recession of the upper or inland cliff through the operation of springs is here more rapid than that of the lower cliff (g) washed by the sea.<sup>103</sup> In the year 1839, after a season of wet weather, a mass of chalk on the same coast

Fig. 112.—Section of Landslip forming mass of chalk on the same coast undercliff, Pinhay, Lyme-Regis (B.). slipped over a bed of clay into the sea, leaving a rent three-quarters of a mile long, 150 feet deep, and 240 feet wide. The shifted mass, bearing with it houses, roads, and fields, was cracked, broken and tilted in various directions, and was thus prepared for further attack and removal by the waves.<sup>104</sup> In February, 1891, a mass of chalk-cliff, calculated to contain some 10,000 tons of material, gave way on the cliffs to the east of Brighton, and fell to the beach, breaking away part of the main road above. In March, 1893, by an extensive slipping of the Lower Greensand toward the beach a large part of the town of Sandgate on the coast of Kent was destroyed. The antiquity of many landslips is shown by the ancient buildings occasionally to be seen upon the fallen masses. The

<sup>109</sup> L. Borrell, Bull. Soc. Geol. France, ser. 3, vi. 1877, p. 47.

<sup>&</sup>lt;sup>103</sup> De la Beche, "Geol. Observer," p. 22.

<sup>&</sup>lt;sup>104</sup> Conybeare and Buckland's "Axmouth Landslip," London, 1840. Lyell, "Principles," i. p. 536.