

Soft rocks, indeed, such as loose sand and uncompacted clay, do not show these lines; but where a sedimentary mass has acquired some degree of consolidation, it usually shows them more or less distinctly. It is by means of the intersection of joints that rocks can be removed in blocks; the art of quarrying consists in taking advantage of these natural planes of division. Joints differ in character according to the nature of the material which they traverse; those in sedimentary rocks are usually distinct from those in crystalline masses.

1. **In Stratified Rocks.**—To the presence of joints some of the most familiar features of rock-scenery are due (Fig.

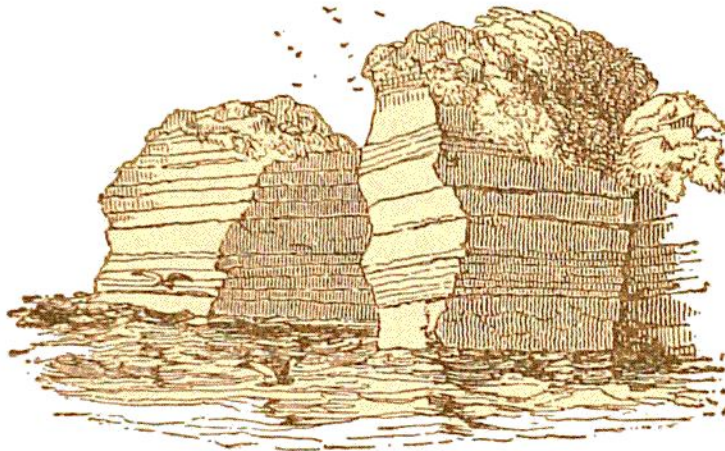


Fig. 225.—Cliffs cut into re-entering angles by lines of Joint (*B.*).
(The faces in shadow are one set of joints, those in light another set.)

225). Joints vary in the angles at which they cut the planes of bedding, in the sharpness of their definition, in the regularity of their perpendicular and horizontal course, in their lateral persistence, in number, and in the directions of their

action, and generally by contraction, as in cooling and drying; or (*b*) Piëso-clases, produced by some external mechanical movement, particularly by pressure, as in the structures called cone-in-cone, stylolites and ruiniform marble. 2. Diaclasses correspond to what in English are called joints. 3. Paraclasses are faults. Bull. Soc. Geol. France (3), x. p. 136. On jointing, faulting and cleavage in rocks see O. Fisher, Geol. Mag. 1884, 204. A. Harker, Geol. Mag. 1885, Brit. Assoc. 1885, p. 813. G. K. Gilbert, Amer. Journ. Sci. xxiii. 1882, p. 25, xxiv. 1882, p. 50, xxvii. 1884, p. 47; W. O. Crosby, Proc. Boston Soc. Nat. Hist. xxii. 1882, p. 72, xxiii. p. 243.