

a scale of six inches to a mile, furnish much instructive material for the study of the way in which the crust of the earth has been reticulated by faults. In most cases, dip-faults are predominant, sometimes to a remarkable extent, as in the portion of the South Wales coal-field represented in Fig. 272. In other places, the dislocations run in all directions, so as to divide the ground into an irregular network.

It often happens that, by a succession of parallel and adjoining faults, a series of strata is so dislocated that a given stratum, which may be near the surface on one side, is carried down by a series of steps to some distance below. Excellent examples of these step-faults (Fig. 273) are to be

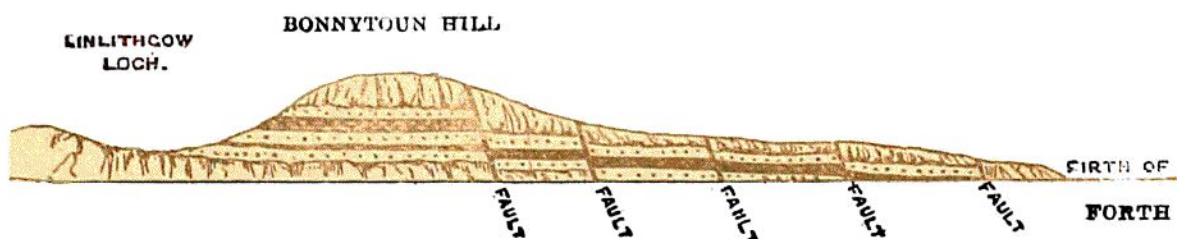


Fig. 273.—Step-Faults, Linlithgowshire.

seen in the coal-fields on both sides of the upper part of the estuary of the Forth. Instead, however, of having the same downthrow, parallel faults frequently show a movement in opposite directions. If the mass of rock between them has subsided relatively to the surrounding ground, they are trough-faults (Fig. 274), and inclose wedge-shaped masses of rock. It will be observed that the hade of these faults is in each case toward the downthrow side, and that the wedge-shaped masses with broad bottoms have risen, while those with narrow bottoms and broad tops have sunk.

The faults of a district may not have been the result of one series of movements, but of a long succession of displacements, or of renewed disturbance after prolonged