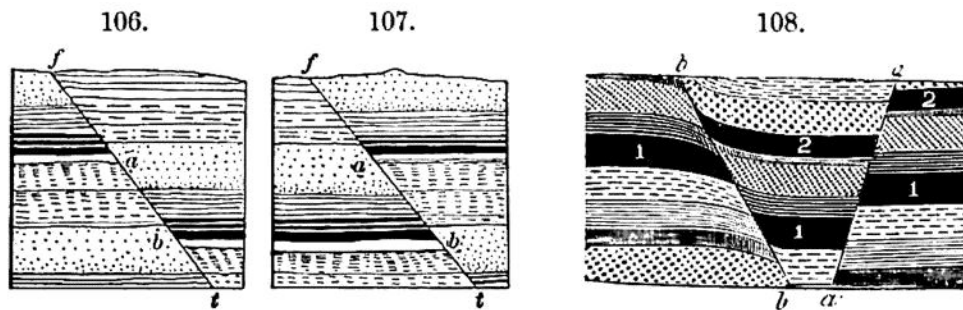


strata is represented. The surfaces of walls often become scratched or "*slickensided*" by the movement.



It cannot be affirmed in all cases that the downthrow or upthrust exhibited in the beds was the whole movement, but only that it was the final differential result of whatever up or down movement took place.

Often there are many small faults in a group, as in the annexed figure; and the group may be of the downthrow or upthrust kind, though usually in such cases, of the former. Frequently one or two blocks in the group of a displacement has undergone a reverse movement; but this does not change the *general* character of the faulting.

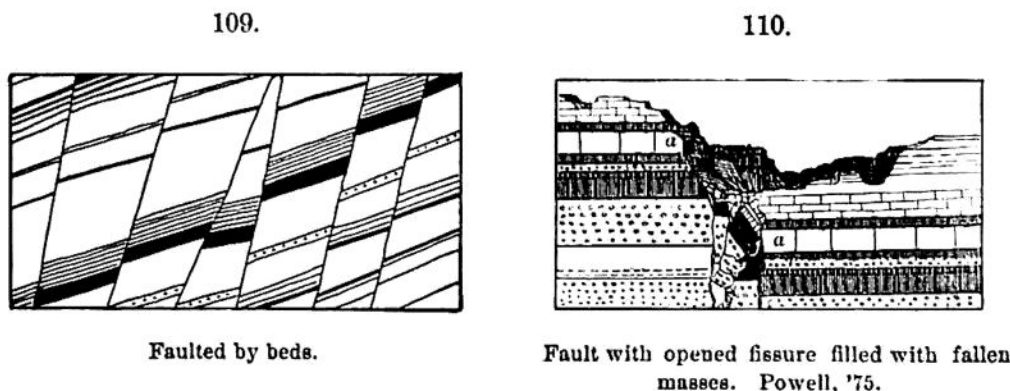


Fig. 110 (from Powell) shows a downthrow fault along a vertical fracture; moreover, the fracture is opened so as to become a wide fissure, and the fissure is filled with masses from the inclosing rocks. For other faults in fissures (veins), see pages 328-330.

*Downthrow* faults are often called *normal* faults; but only from the fact that they are most common. The smaller faults are usually of this kind, since gravity acts that way. The great faults, thousands of feet in displacement, are often *upthrust* faults. Those in the Appalachian Mountain region of Pennsylvania and Virginia have the upthrust of the enormous extent above stated, 10,000 to 20,000 feet; and the beds of the eastern side would now have this great height above those on the opposite side were it not that running waters of the sea and land (mostly the latter) had worn all down to a common level. A section of one of these great faults of Virginia, and the worn-off condition of the beds, is shown in Fig. 111. On one side of