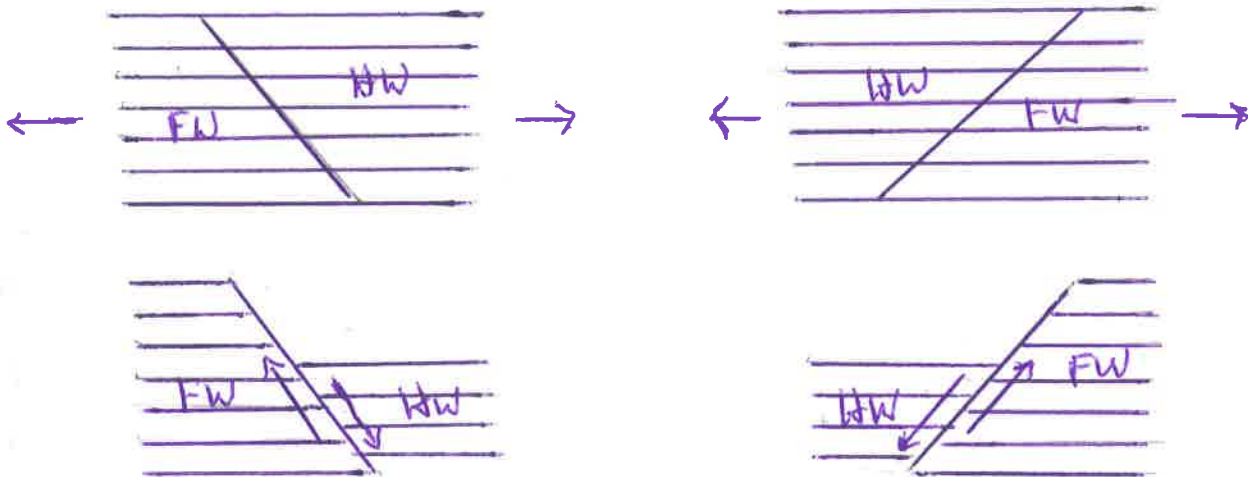


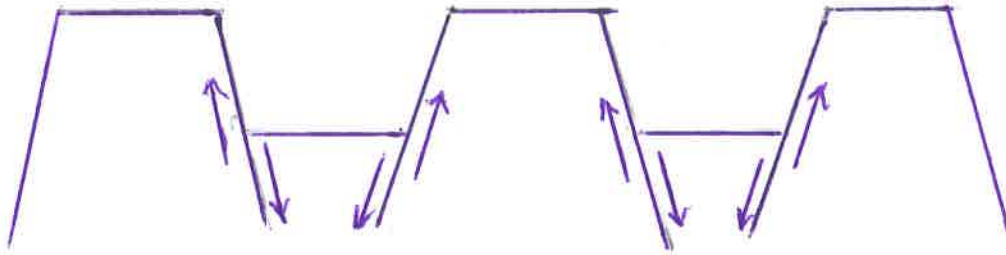
Classification of faults based upon relative movement of the sides:

1. Dip slip movement

a. Hanging wall moves down dip relative to the footwall, caused by tension, called a normal fault. Also when in sets of normal faults will generate features called grabens and horsts.

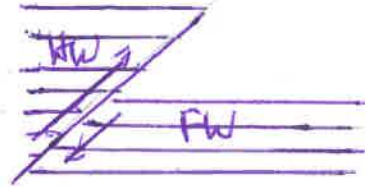
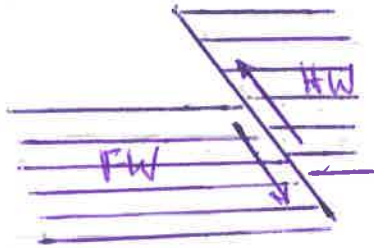
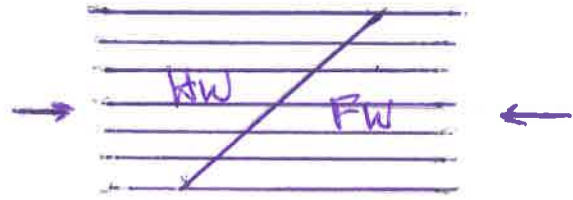
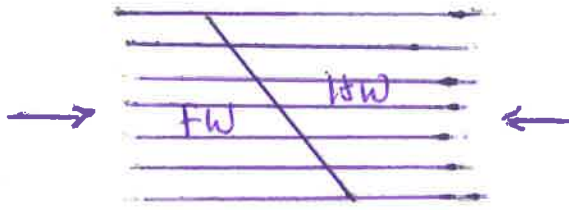


horst graben horst graben horst



Horsts and grabens (German for grave) are characteristic of the Basin and Range Province of the western US (Nevada to Oregon).

b. Hanging wall moves up dip relative to footwall, caused by compression, called a reverse fault. Low dip angle reverse faults (<15 degrees) are called thrust faults. Erosion of thrust faults generate features called fensters (German for window, Cades Cove is a fenster) and klippe. Very typical in the Valley and Ridge Province of East Tennessee which were caused when North America and Africa collided.

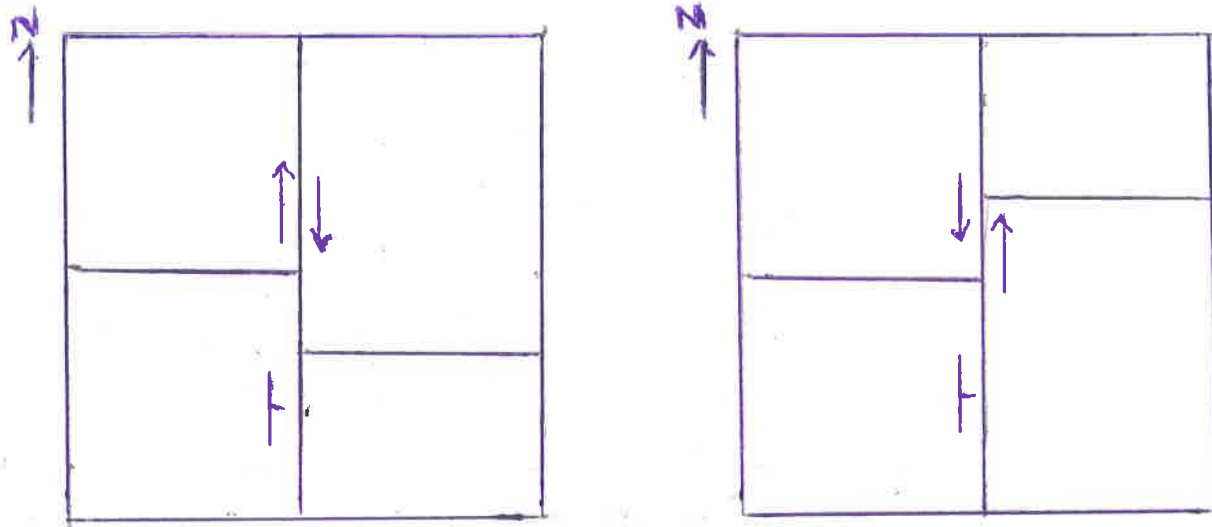


2. Strike-slip movement

Hanging wall and footwall move in the strike direction (sideways) but not down or up dip, caused by shear. Called a strike slip fault. Can't determine in a cross section but need to look at the aerial view. Look for a feature (road, fence line, stream, etc.) that one side has been displaced relative to the other side.

a. Stand on one side of the fault, look across the fault. Has the feature that was lined up, moved to your right. If so, it is called a right lateral strike-slip fault. The San Andres fault is a classic example of this type fault.

b. Stand on one side of the fault, look across the fault. Has the feature that was lined up, moved to your left. If so, it is called a left lateral strike-slip fault.



3. Oblique fault

Has movement in both the dip direction and the strike direction.

4. Hinge fault

Has rotational movement of one block such that part of the fault is locked and doesn't move while the remaining part rotates like a hinge displacing more as you move away from the locked part.

