Unconformity

Unconformity

- **It is one of the most common geological feature found in rocks or in succession.**
- **It is different then all other geological structures viz. the fold, joints and faults**
- **Unconformities are resulted due to tectonic activity in form of uplift or subsidence of land**
- **It is referred to a period of non-deposition**

- **The fundamental "laws" of stratigraphy, formulated in the 17th Century by Nicolas Steno, is the law of Original Horizontality, which is known as *Conformity***

- **That is, any deposition when takes place is totally in horizontal fashion**

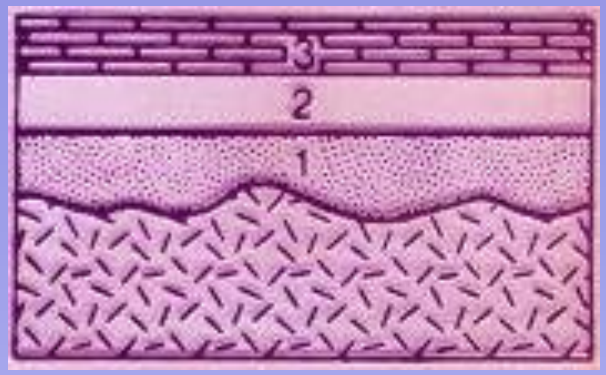
- **Later due to tectonic movement the layers or beds are tilted** *(except in case of cross-bedding- which are formed under fluvial (riverine) or aeolian (wind) environment.*

Reasons for Unconformities

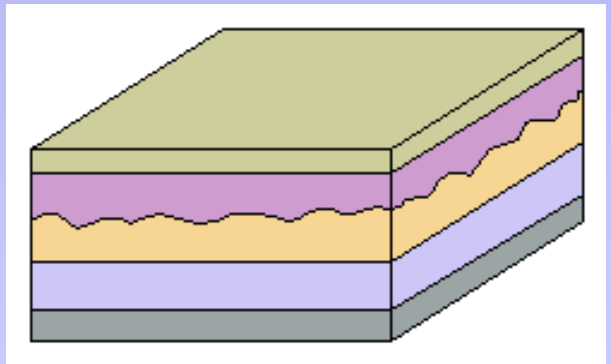
- Formation of unconformity involves:
- Horizontal or conformable strata or beds are formed
- Break in sedimentation or deposition
- Happens due to tectonic movements, that causes uplift or subsidence of land surface
- Next phase of Deposition or sedimentation cycle, where new sedimentation produce another set of conformable beds

Types of Unconformities

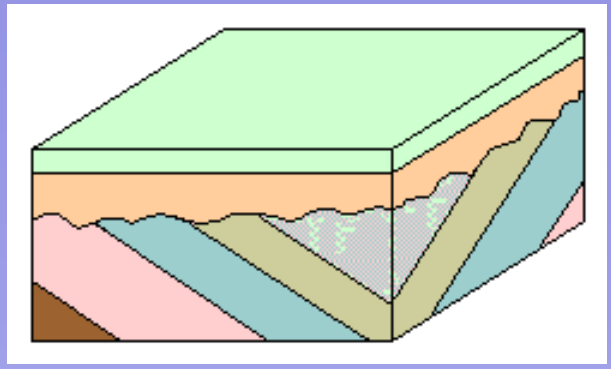
- Non-conformity
- **When the underlying rocks are Igneous or Metamorphic (i.e. unstratified) and the overlying younger rocks are sedimentary (stratified) = Non-conformity**

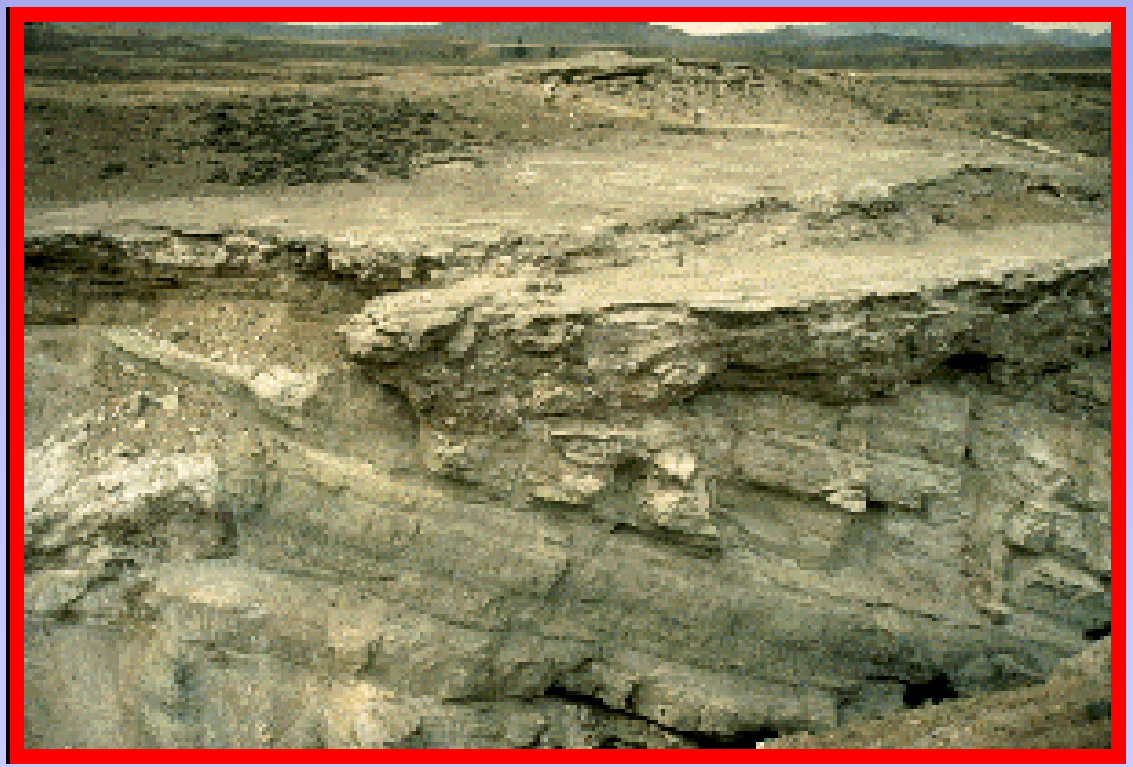


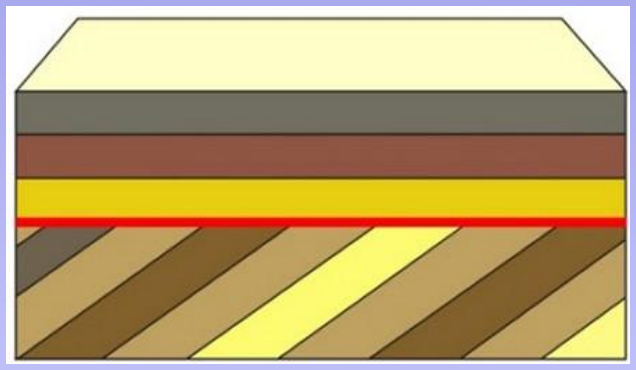
- Disconformity
- **When the underlying (older) and overlying (younger) sedimentary rock strata are parallel and the contact plane is an erosional surface= Disconformity**



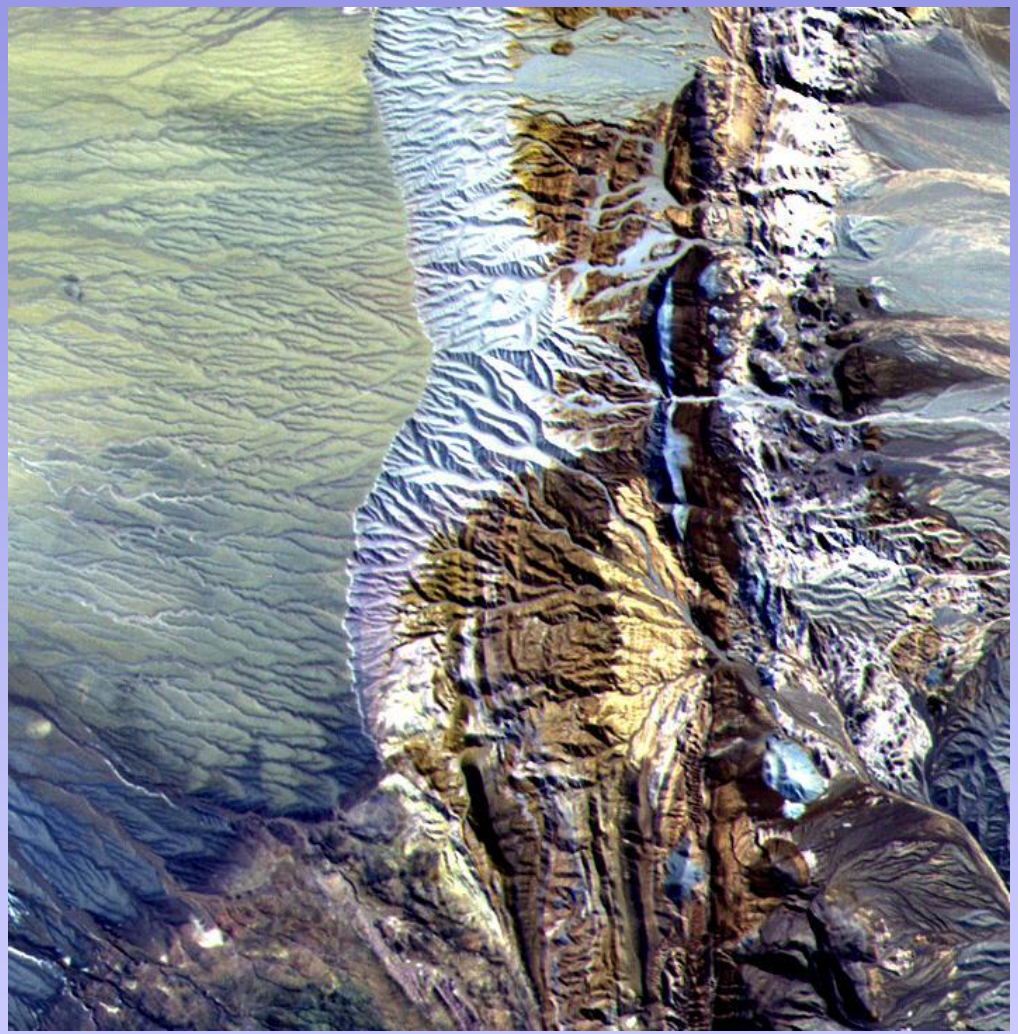
- Angular unconformity
- **When the underlying (older) rocks and overlying (younger) rock strata show some angle w.r.t one another=Angular unconformity**







Angular unconformity



- **This sub-area in northern Chile Showing a geological angular unconformity: a contact between layers of rock at different angles.**
- **On the right side of the image, Cretaceous sediments were tilted upward to an angle of about 50 degrees, then eroded. On this surface volcanic pyroclastic deposits were deposited as a flat sheet.**
- **The section of rocks has been eroding from the east, exposing the tilted and flat rock layers.**