

Chapter 2 : Investigating Geologic Questions

Things to look out for

- Observe the Mediterranean Sea, noting how it connects (or does not connect)
 - Human intervention
 - Plate tectonics allow for water to flow
- Draw what you see
- Different scales (perspectives) are different ways of viewing a scene
 - Earth from space vs microscope
- Compare this rock to deposits from two environments shown below
 - Which environment has deposits most similar to the rock
- uniformitarianism (rocks are being moved now and it can be assumed that they moved in the past)

Interpreting Evolution of Landscapes

- rain, wind, erosion etc

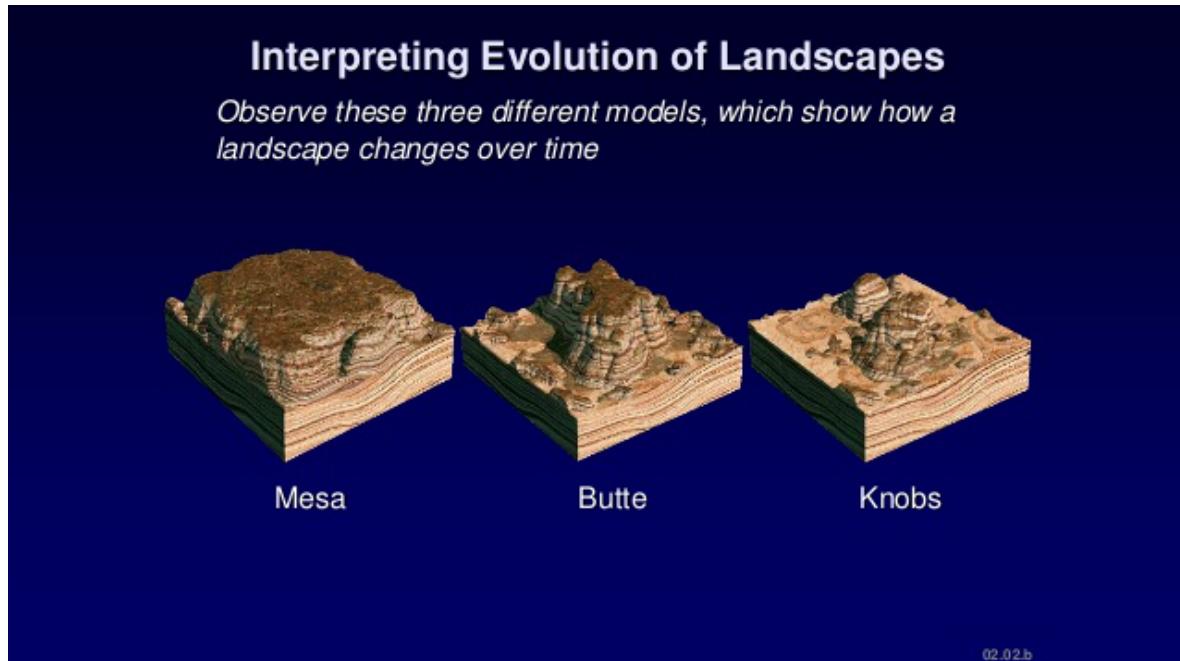


Figure 1: landscape transformation diagram

Determining Sequences of Events: Position of Layers

The bottom most layer is the oldest in the stack

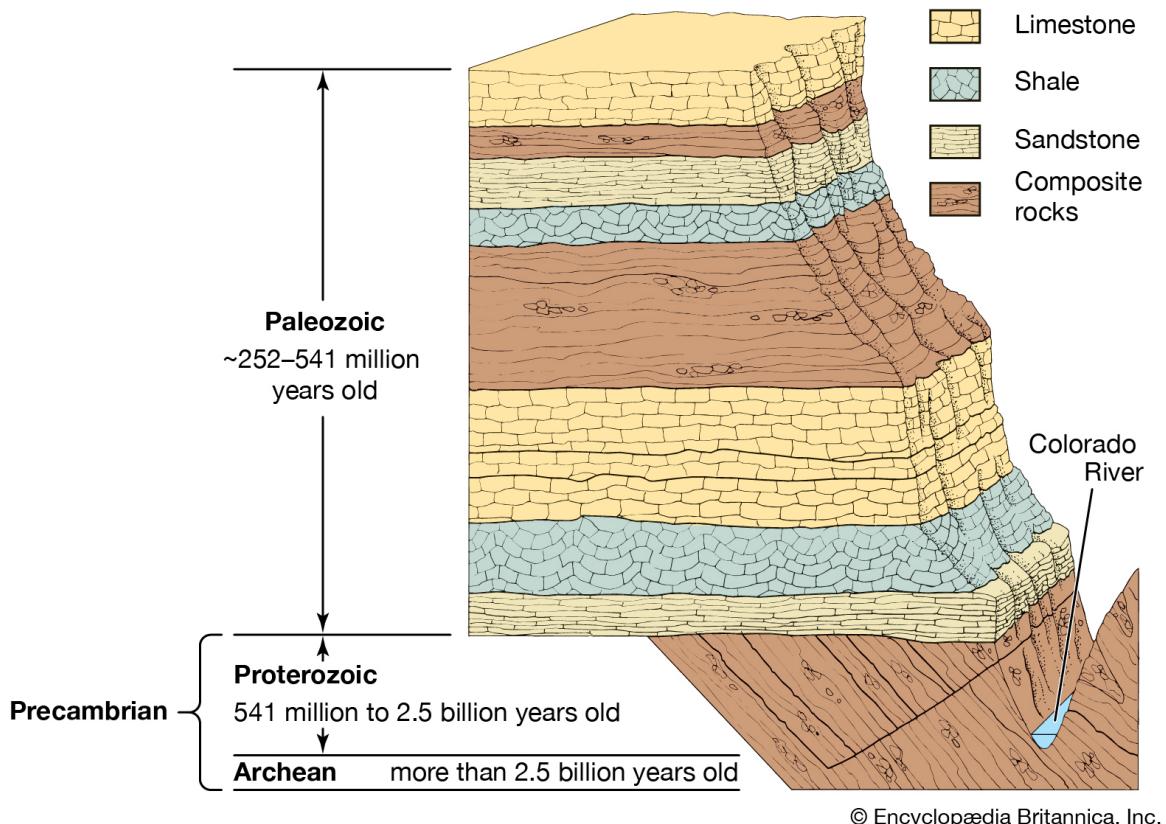


Figure 2: Positions of Layers

Cross-Cutting Relations

Faults, fractures and cracks can only occur if the layers existed first

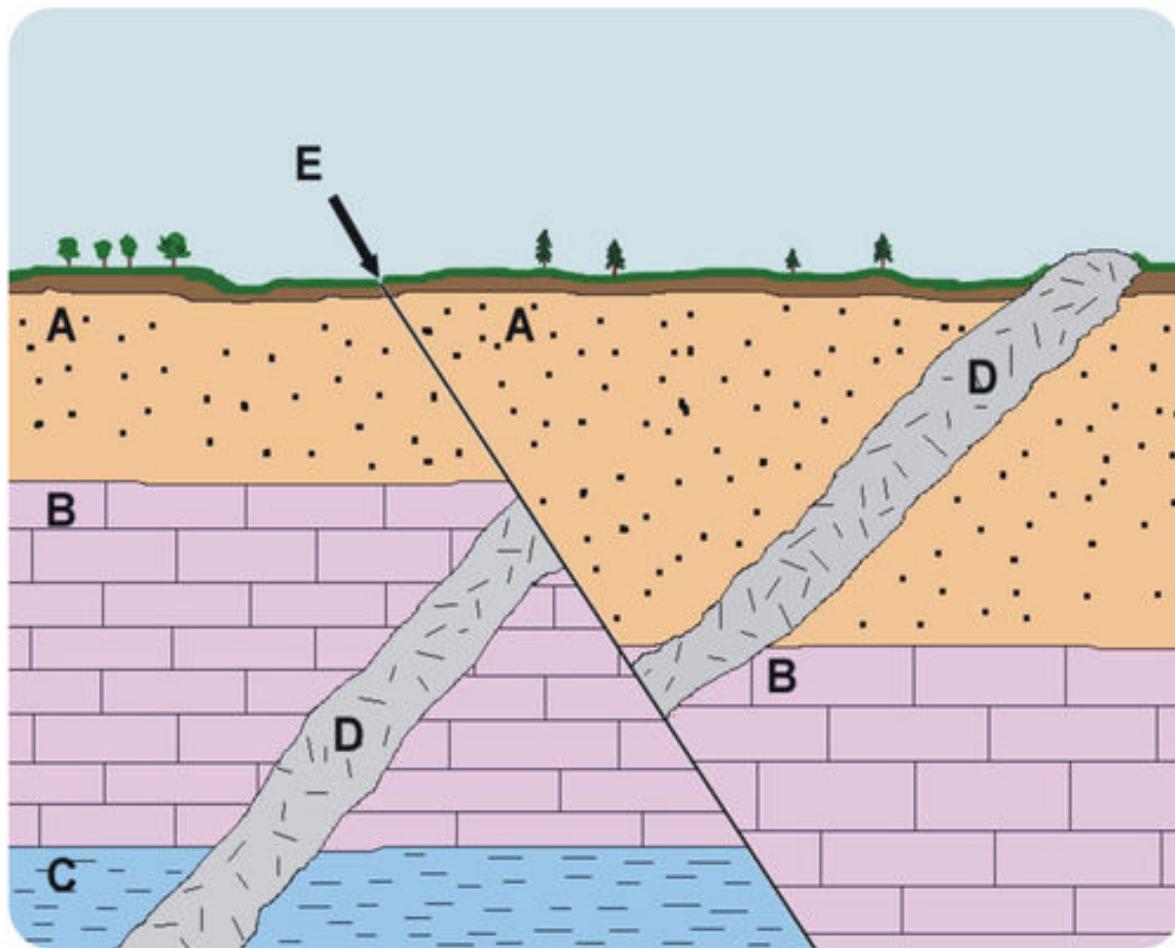


Figure 3: Cross-cutting relationship

Pieces of clast

Older rock that is trapped inside newer rock

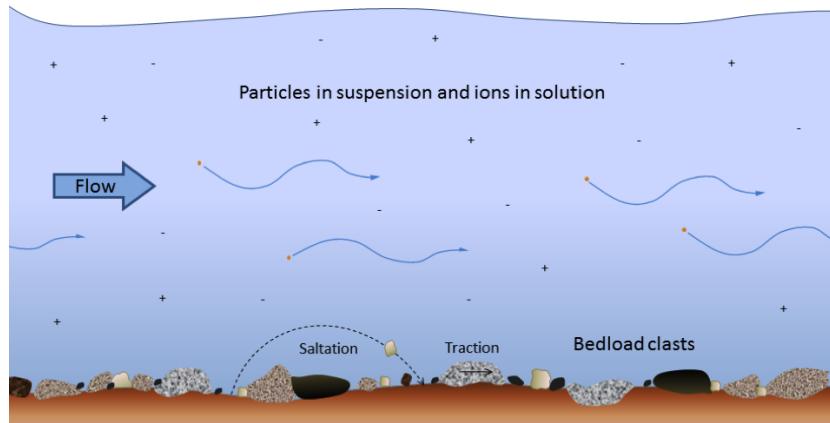


Figure 4: Clast found in an younger solution

Contact Effects

Hot molten rock burns cooler surrounding rock. This is called the “Baked Zone”



Figure 5: Baked Rock Vein

Rock layers can be different

Types of Maps

- Shaded-relief map
- Topographic map with elevation contours (change in gradient)

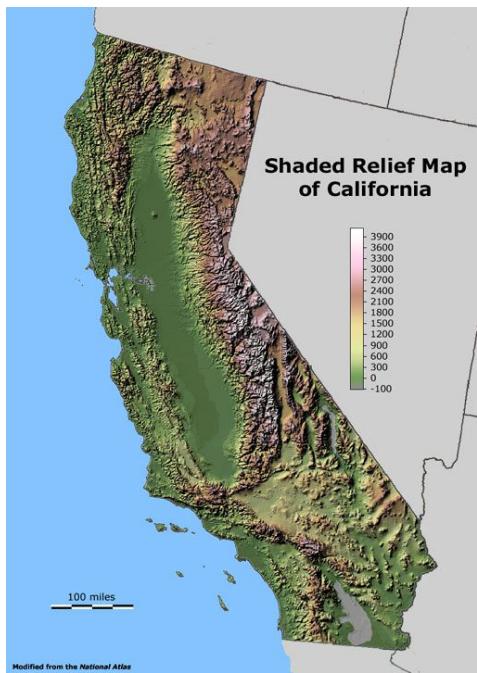


Figure 6: Shaded relief map of California



Figure 7: Topographic map of California

Qualitative vs Quantitative

- Qualitative : descriptions
- Quantitative : numeric measurements (conveyed with numbers)

Density

- Mass/Volume

Weight

- Downward force an object exerts via gravity