

Review: Answers in Genesis, *Grand Canyon* (ft . Dr. Andrew Snelling), 2009

Runtime: 72 min

The session is claimed as being not too heavy but the opposite is true. The amount of quantitative data is less but more than made up for by the many insights and descriptions requiring extra viewings over the other lectures. Material is often mentioned later on referring back to earlier topics causing a somewhat disjointed presentation.

His expertise and familiarity with the Grand Canyon (GC) comes across strongly. Viewers with prior knowledge of the GC would not find this to be the case.

The GC goes 277km through Northern Arizona (known as the GC state) and extends right across North America. Its depth reaches 1 mile and width ranges from 76 feet (the “Grand Narrows”) to 18 miles. It is the largest geologic formation on earth, one of few visible from the moon. The first geologist to go through the canyon was John Wesley Powell, in 1869.

For no small reason it is called a geological observatory and a geologic textbook.

Astonishingly, laid on top of the canyon is a further 10-12k feet of formation called the *Grand Staircase* (GS), named so as it is (eroded) stepped rock layers. It outcrops to the north above the canyon rims and has picturesque layers such as Bryce Canyon ('pink cliffs') and Checkerboard Mesa ('white cliffs'), in Zion National Park, Utah.

These layers are higher and therefore later in the Flood. Also, its sand grains correlate with the Appalachian mountains¹ in the N.E. of America indicating a N.E./E to S.W./W water run-off as the cause of their formation. Even secularists admit there may have been an 'ancestral river'

¹n.b. The Appalachians must have formed *early* in the flood, otherwise the water couldn't have run off from them after it to form the Grand Plateau!

that caused the formation.

Two main strata layers making up the GC are the Tapeats (bottom) and Coconino (top). The Coconino covers an area of 100k mi², is on average 300ft thick and contains more than 10k mi³ of sand by volume. All its layers as well as those of the GS are a sequential burial record of the Noahic Flood, under uniformitarian assumptions they represent millions of years (the 'geologic column'). Even the top layer (the Uinkaret Plateau) contains marine fossils! Collectively, the GS and GS are known as the *Grand Plateau*.

The basement of the GC is crystalline metamorphic rock, formed by God from day 3 uplift and having its surface thereby eroded in the process.

The river running through the GC is the Colorado, strangely it makes a 90⁰ turn to cut *through* a *higher* plateau which is 7k-8.5k above sea level, rather than circumventing it which would be the case in the uniformitarian model. On average the river itself is 2400 feet above sea level and reaches speeds of 25 mph. The abovementioned plateau has dammed a lake system (above the Kaibab Upwarp) of ~3k mi³ of water or three times Lake Michigan's capacity.

Exposed strata layers evidence detailed marine geology packed into one spot.

A digression is made re: Creation Week and the formation of the earth. Geologically there are good reasons why on Day 1 the earth would have been made with a core, mantle and crust from the beginning, the surface totally covered by water.

On day 3 sedimentary rocks would have been formed as the seas were gathered together. Some parts of the land rose up (eroding its original form and giving an 'appearance of age') while others sunk down. These are the 'Pre-Cambrian' rocks and *have no fossils*. In the ante-diluvian world there would still have been some sedimentation and fossilisation (however there are no 'megascopic'² fossils). Australia is thought to be made ~2/3 of pre-flood rocks and Canada also has a similar makeup.

With the flood came global devastation. Post-flood run-off along with the ice-age caused residual catastrophisms and fossilisations. For example,

kangaroo fossils are only found in Australia (in local cave deposits) meaning they must have died there. Australia only existed as a separate continent *after* the flood (as per CPT model).

The flood strata layers begin at the Tapeats Sandstone which has been violently laid down, horizontally on top of the *tilted² and eroded* 'pre-Cambrian' basement rocks. This is known as a Great Unconformity, conformity meaning *parallel* layers. Layers from the Tapeats and above are known collectively as 'Paleozoic'. Large boulders (up to 15 feet in diameter) requiring huge energy to move sit at the bottom covered by *storm beds* of sand above. The sand is similar to that found on the east coast of the U.S. after hurricanes.

Evidence of flood-created strata expected include:

*Deposition of marine fossils high up on the continents. Shallow dwelling marine creatures are found from the Tapeats to the Kaibab limestone – trilobites, brachiopods (clam shells), crinoids (sea lilies), bryozoans (lace corals) and sea urchin spines.

*Identical formations found across the globe ('transcontinental'). These include a Tapeats-equivalent in Egypt and Southern Israel (Nubian Sandstone), and Redwall³ limestone across Monte Cristo (Nevada), Madison (Montana/Wyoming), Tennessee/Pennsylvania, England, and the Himalayas. The redwall contains greater than two nautiloid fossils (squid-like creatures running on jet propulsion) per 10ft² indicating catastrophism, not a calm and placid sea.

**Rapid* deposition and burial of fossils. Rapid is crucial to knock out the evolutionary auxiliary hypothesis of millions of years of gaps between rapid sequential layers.

**Sequential* deposition of fossils: (i) shallow and ocean floor dwellers, (ii) fish (asphyxiated with mud), (iii) plants and *animal trackways*, (iv) animal bodies up in the GS. It is noted footprints are always found in *lower* layers

²i.e. *large* and *visible*.

³Named so as iron-oxide rich rock *above* seeps below. It is 7 feet thick and runs at least 180 mi.

than the creatures which created them. These gaps supposedly represent *billions* of years! The order is also representative of ecosystems of differing elevations.

Trilobite trails are in the Tapeats but fossils in the Bright Angel shale.

Interestingly, the Coconino layer contains *cross beds* within it. Secularists identify these as sand dunes which only form in a desert – or do they? In a desert sand dunes always have a base-angle of 33° - 34° but underwater flows produce dunes of $<30^{\circ}$, the same as the Coconino crossbeds! The measurements are taken from San Francisco as well as laboratory flows. As to formation, 60 foot-high waves at 3-5mph means only a few days transfer for the 100k mi^3 of material, not eons.

Crossbeds are also found in the Shingarup Conglomerate which covers 100k mi^2 , is on average 50ft thick and contains more than 2k mi^3 . These are *pebble* crossbeds, not sand indicating powerful *100ft* waves were required for its formation.

Evidence of rapid sediment deposition is found in the alternating thin shale/sandstone layers at the Hermit Shale and (lower) aptly named⁵ Esplanade Sandstone. Sand and mud supply would have been turned on/off to form these layers. Further evidence is found in the *bends* within all layers (lowest to highest): Tapeats Sandstone, Bright Angel Shale, Muav Limestone, and Kaibab Plateau.

In the uniformitarian paradigm the whole formation would have been soft for millions of years, stretching credulity.

Mention is made of pre-flood rocks again – stromatolite (blue-green algae) reefs form only in *calm* waters and these have been found fossilised.

An interesting Mars digression is made – its surface has larger geological formations than the GC accepted as being formed by water which is absent from the surface.

Finally, as to rock ages the 'Precambrian' Cardenas Basalt at the GC base is found via contemporary radiological dating methods to be *younger* than the erupted lava flows that ran down the canyon (which temporarily dammed it with basalt).