

# San Antonio Bible-Based Science Association

# Communique'

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An independent nondenominational, nonprofit and volunteer, educational and evangelical outreach.  
We confess the Bible to be The Word of God, Jesus Christ as The Lord, and young-earth scientific creationism.

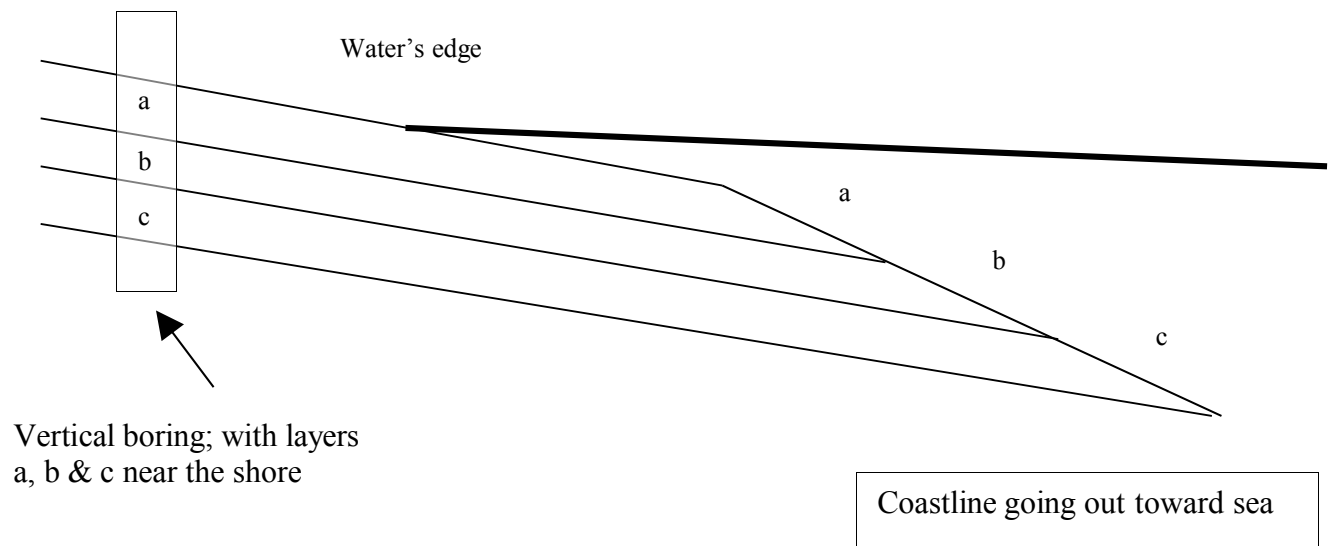
At our last meeting we view a video entitled "EVOLUTION Fact or Belief?". Distributed by American Portrait Films (800 736-4567), it contains interviews with various people in related science fields regarding evolution. One of these was an original work conducted by Guy Berthault (an independent French researcher) and Pierre Julien, PhD in Civil Engineering with the Colorado State University. Our article will give a summary of the fascinating work done by these men in the area of stratification.

First, let's remember the significance of strata in the geologic world. The overwhelming accepted assumption is that strata are formed successively in time. In other words, if we came across a cliff with 5 layers of rock, the going "wisdom" tells us that the bottom layer was laid 1<sup>st</sup>. Then sometime later, the 4<sup>th</sup> layer was deposited. Sometime after that, the 3<sup>rd</sup> layer and so on toward the top layer. Automatically, we "should" associate 5 time periods with the 5 layers - the oldest being the bottom and the youngest being the top layer. This is a simple explanation of the so-called Geologic Column. The column implies or is interpreted as 12 major rock layers with the bottom as oldest and the top as the youngest. You may recall that index fossils have been assigned to each of these layers - the most popular is the trilobite occurring in the Cambrian layer. The Cambrian is widely said to be approximately 600 million years old. From all this we get the very popular "fact" that the dinosaurs lived 65 million years ago (that was explained several times in the Jurassic Park movie series) because they lived in the Jurassic period which is between the Cambrian and current Quaternary layer in the Geologic Column.

What Berthault did was test the assumption (strata are formed successively in time) by experimentation - how novel? It strikes me as odd, that this 100+-year-old assumption had not been experimentally tested as of 1985! With hundreds of

doctorates in geology given out each year at universities, no one had thought to test a very basic fundamental of geology.

Berthault studied the work of Johannes Walther who studied the composition of borings he performed at the end of the 19<sup>th</sup> century in Naples, Italy. Walther discovered that vertical borings near the shore had the same sequence of components lying on the coasts going out to the sea. Clearly, the components in the coastline are all happening at the same time. Thus, he concluded that they all had the same age; that as the rocks, pebbles, sand and clay flow toward the bay from rivers, floods and such the layers are the results of the sediment sorting itself out due to size.

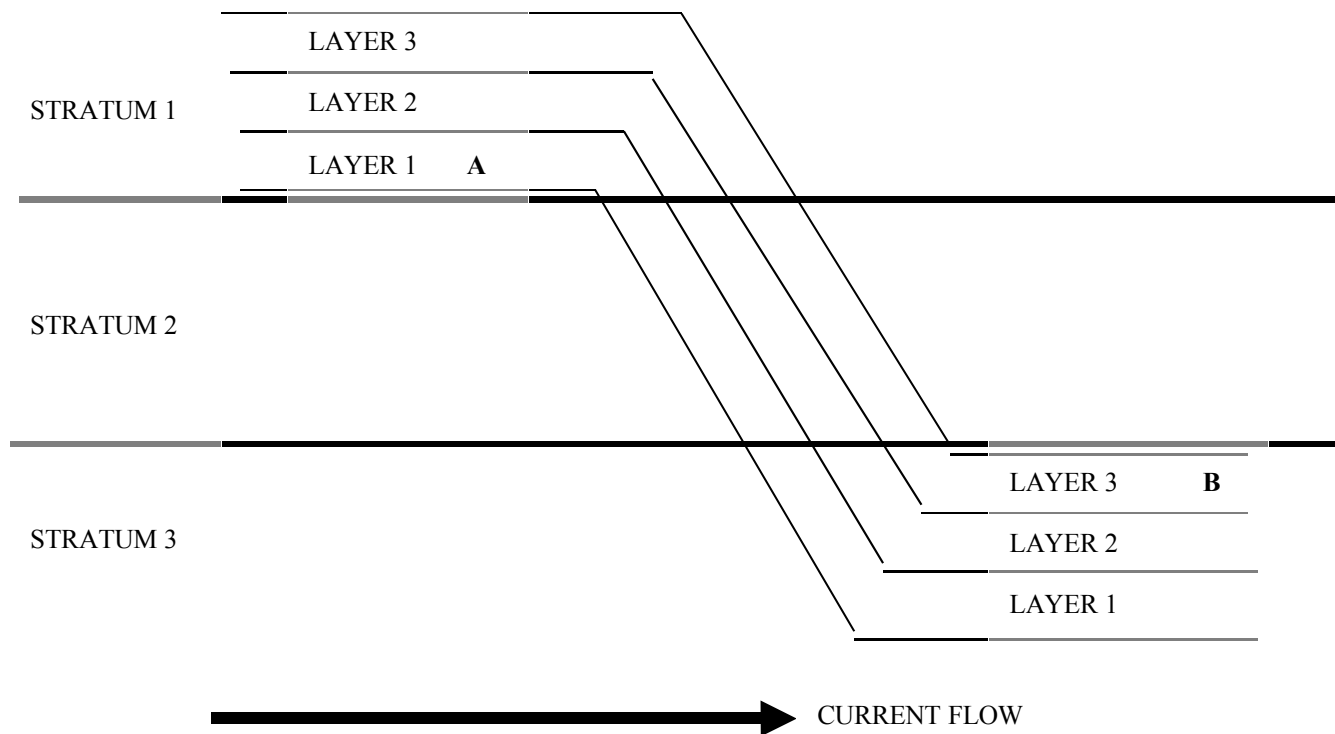


Berthault further reported that the borings of the *Glomar Challenger* in the 1970's and 80's showed Walther's discovery also applied to the sediments in the deep sea. Berthault describes his work:

“I started by examining how sedimentary particles are deposited in both dry and wet conditions. Sand particles of differing size produced micro-strata or laminae when poured into a flask. The micro-strata formed from the particles of sand sorting themselves out according to size, with the larger particles at the bottom grading up to the smaller ones at the top. The process repeated itself, producing multiple laminae.

This was fundamental because it showed that micro-strata or laminae formed from particle sorting, irrespective of the speed of sedimentation, and not by one layer forming first and then the next one forming on top of it. My results were published by the French Academy of Science which encouraged me to continue my experiments, but on a much larger scale.”

Encouraged, Berthault contacted Pierre Julien, a sedimentologist at the Colorado State University for a large-scale research project. Two videos show the work in some detail. One is the video we viewed. The other is DRAMA IN THE ROCKS by the Creation Science Foundation LTD of Australia - 1995. The work at CSU involved a channel with a transparent side so that the formation of the sediment deposit could be viewed and recorded real time. Eight tons of sediment of known diameters and mixed in known proportions were carried down the channel by water whose flow rate could be adjusted. The video actually shows strata forming. Two features stand out: (1) the sediment is deposited horizontally manifesting itself in an edge, which moves in the direction of the water current. (2) Vertical strata form as the edge is being formed.



Berthault and Julien experimentally demonstrated that LAYER 1 is deposited at the same time in all 3 strata. Later in time, LAYER 2 is deposited; followed by LAYER 3. The strata take form according to the mechanical interaction of the particles of different size, shapes and densities and the rate of current flow.

Assume that A and B are fossils which have been buried during the deposit of the sedimentation. Fossil B is in STRATUM 3 and clearly BELOW STRATUM 1, which contains Fossil A. However, it has been shown experimentally, that LAYER 1 occurred

1<sup>st</sup> in time before LAYER 3. The conclusion is that FOSSILS AT LOWER STRATA ARE NOT NECESSARILY OLDER THAN FOSSILS AT HIGHER STRATA.

Berthault summarizes:

“It was discovered that where there is a current:

1. Strata can form laterally and vertically at the same time;
2. Strata can form in the same way as sequences of facies [which Berthault defines as a recognizable series of superposed strata]
3. Strata are not always a measure of chronology.

These highlighted experimental facts show clearly:

- a. Superposed strata do not always result, according to Steno's beliefs, from successive layers of sediment; consequently the principle of superposition does not always apply to strata formed in a current;
- b. Stratification formed parallel to a slope exceeding an angle of 30°, can invalidate the principle of original horizontality. Inclined strata are not necessarily, therefore, the result of subsidence or uplift.”