Other arguments against the idea of a mature creation are: (1) that one could equally well say that the universe was created last Thursday[6]; and (2) since the idea cannot be tested, it is useless.[7] The answer to (1) is that God has *told* us when he created the universe. The answer to (2) is that the usual scientific assumption, that the universe has been in existence for as long as it appears to have been so, is equally untestable.

To incorporate the idea of a mature creation into the interpretation of Genesis, allowance has to be made for the Fall. The design of the universe after the Fall was different from its design before the Fall (Gen. 3:14–19). Any apparent age of the universe relates to its *post*-Fall design (just as the apparent history of the wine Jesus made from water relates to the wine not the water). I discuss this fully in my book *Big Bang, Small Voice*.[8] I also consider other ways of reconciling Genesis and modern science.

Notes

[1]This idea goes back to François-Auguste Chateaubriand, *Génie du Christianisme* (Paris: Migneret, 1802), part 1, book 4, chap. 5; Granville Penn, *A Comparative Estimate of the Mineral and Mosaical Geologies* (London: Ogle, Duncan and Co., 1822); Philip Henry Gosse, *Omphalos: An Attempt to Untie the Geological Knot* (1857; reprint, Woodbridge, CT: Ox Bow Press, 1998).

[2]Dick Fischer, "Young-Earth Creationism: A Literal Mistake," *Perspectives on Science and Christian Faith* 55 (2003): 222–31.

[3]See John W. Burgeson's review of *Omphalos*, *Perspectives on Science and Christian Faith* 53 (2001): 127–8.

[4]See J. S. Bell, *Speakable and Unspeakable in Quantum Mechanics* (Cambridge: Cambridge University Press, 1987), paper 15. Interestingly, Bell cites Chateaubriand and Gosse.

[5]See John W. Burgeson, "Notes on *Omphalos*," www.burgy.50megs.com/gosse.htm

[6]See John W. Burgeson's review of *Omphalos*, *Perspectives on Science and Christian Faith* 53 (2001): 127–8.

[7]S. J. Gould, *The Flamingo's Smile* (London: Penguin, 1985), 110-1.

[8]P. G. Nelson, *Big Bang, Small Voice: Reconciling Genesis to Modern Science* (Latheronwheel, Caithness, Scotland: Whittles, 2003), chaps. 9–10. I can supply copies of this on request.

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Ultimate Proof or Ultimate Flood? Response to Paul Seely

Paul Seely gave an excellent summary of the GISP2 Greenland ice core and its relevance to theories of Noah's flood (*PSCF* 55, no. 4 [Dec. 2003]: 252–60). However, there are at least two reasons why Seely should not claim an "ultimate proof" against a global flood. First, if one demands a fully natural event, the possibility of a floating ice sheet has not been eliminated. Second, in regards to theology, Noah's flood remains a candidate for hand-of-God, interventionist-style, miraculous action. The universe is magnificently "robust" in "formational economy," but this natural endowment cannot claim all our conceptions—not if we believe that God raised Jesus Christ from the dead.

Apparently, no large, but otherwise ordinary, flood has occurred over Greenland in the past hundred thousand years or so. This finding is significant and challenging to global flood theory. However, our present knowledge cannot encompass the concept of an *exceptional and singular* flood. Science can only hope to: (1) demonstrate that a global flood *did* occur—thus far, a fruitless, but informative and fun, adventure; (2) *tentatively* show by negation that a global flood could not occur "naturally"; (3) evidentially support the idea of a regional flood fulfilling the requirements of the story; or (4) demonstrate that the story is probably fictitious. Seely is simply out of bounds in attempting to prove that a (possibly miraculous) global flood is beyond the power of our Creator. This is like proving that virgins cannot give birth to saviors.

Aside from the miraculous possibilities, the case against a natural flood is incomplete. Consider a remarkably unique (or amazingly coincidental, or fantastically robust) set of events that must nonetheless seamlessly mesh with ordinary earthly reality. For starters, there is the still-open question of a possible origin (and subsequent disappearance) of enough water for a global flood. Seely seems to focus on rain, and he seems to presume that Gen. 7:4, 12 requires extraordinary precipitation over all flooded regions. But this is not the case; the text only requires a forty-day rainy period (of unspecified severity) in the ark's region. More importantly, an ordered priority is given to "the fountains of the deep" (Gen. 7:11). The Quran goes further by referring to water that "gushed forth from the Oven" (11:40 and 23:27) and by specifying that the earth was subsequently commanded to "swallow up your waters" (11:44). Both Genesis and the Quran seem to point to water from beneath the lithosphere. Until science can constrain the earth with the presently unknown boundaries of plate tectonic dynamics, internal water cannot be eliminated as a possible source (and outsource).

Given the absence of a significant melt layer within the glacier, it seems Seely is correct in eliminating the possibility of flooded ice. This means we are left with the singular possibility of the Greenland ice sheet floating in the floodwaters. But, since the ice sheet may or may not have *come from Greenland*, we actually have two possibilities. If the ice sheet is foreign in origin, this would (backwardly) fulfill Seely's requirement that an ice sheet must "float away" due to ocean currents. If the ice is indigenous, it must be sitting (crudely or exactly?) where it used to be. This later case, in turn, presents two possibilities: either the ice sheet floated in a topological "circle" or the ice sheet "hovered" above the continent. Each of these possibilities moves further toward the exceptional, but none are presently proven to be "unnatural." If the ice sheet floated freely and then landed in position over Greenland, this outrageous detail merely requires one more "edge of the coin" toss to be added to the Creator's impressively long list.

Seely describes the ice sheet as being "exactly" in position. However, his assumption of rigidity appears excessive. He has not produced evidence that would adequately constrain the plastic behavior of a glacier or characterize a long-term stasis at the interface of ice and continent. Instead, Seely has acknowledged that "the ice below 2,850 meters may be disturbed."

With regard to the ice core's lack of a "marine" character at its (possibly disturbed) underside, Seely has not secured his extrapolation of ice shelf characterization into the realm of glaciers suspended for a few months in water of unknown composition and temperature and then

placed on top of terrestrial materials and subjected to several thousand years of physical and chemical dynamics at a glacial/terrestrial interface. Seely is stretching our present knowledge too far.

Geology has consistently shown us only one thing about Noah's flood: If it was global, it must have been unlike any other flood. If we have erred in looking for global flood evidence, this error relates to our tendency to look for what we expect: the usual suspects of deposition and erosion. This may turn out to be equivalent to looking for the medium that propagates light waves. The absence of *ordinary* evidence may ultimately prove to be a positive part of the demonstration of an *exceptional* flood.

There is a sublime interplay between faith and the evidences of our Creator. If we think we are ready to close the door on global flood conceptions, we must consider every possibility, especially the unexpected. Many fine scientists lived in a recent world where it would have been inconceivable to suggest that God made the Himalayas by slamming the Indian subcontinent into Asia.

The Genesis flood story has compelled us to look for easy and obvious evidence. In failing to find such evidence, we have become uncertain about the story. This is a necessary step in our evolution, and we cannot foresee the final outcome. The only mistake we can make is to base our faith on a demand that God's creation matches our tiny and temporary human conceptions. We do not have to decide that a global flood never occurred. The phrase "appears naturally improbable" suits both our science and our theology much better.

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On Del Ratzsch's article

I appreciated Del Ratzsch's article, "Design: What Scientific Difference Could It Make?" (*Perspectives on Science and Christian Faith* 56, no. 1 [March 2004]: 14).

Definitions make the difference when juxtaposing methodological naturalism and design. The fundamental question is: "Does methodological naturalism describe how the universe *usually* works or does it describe how the universe *exclusively* works?" To know that methodological naturalism describes how the universe exclusively works would require knowledge of the cause of every physical event for the history of the universe. Since such knowledge is lacking, methodological naturalism is merely a presupposition, which can never be proven. Further, it is disproved by a single miracle.

Methodological naturalism does remain a reasonable basis for scientific investigation and is probably the ultimate definition of science. If data fall within boundaries established by methodological naturalism, the enterprise can be labeled as scientific. If the data fall outside the boundaries of methodological naturalism, the enterprise is not scientific. Macroevolution and biological origins are singular events, which were not observed and cannot be experimentally reproduced. Does the probability of their occurrence fall within the boundaries established by methodological naturalism?

John Reidaar-Olson and Robert Sauer from MIT used amino acid substitutions to calculate the probability of the random assembly of a λ repressor in *E. coli* bacteria. They determined that the probability of the random assembly of a λ repressor is about one chance in 10^{63} for each new protein segment made up of 92 amino acid residues.[1] The expectation that every *E. coli* in any given collection would have a new segment of DNA coding for a new protein composed of 92 amino acid residues is an extreme improbability. A collection of 10^{50} *E. coli*, each with such a new segment of DNA, would have only one chance in 10 trillion of containing one *E. coli* with a λ repressor. A collection of 10^{50} *E. coli* has never existed. Such a collection could fill a hole that is 70% of the volume of planet Earth every day for more than 3.5 billion years. As a corollary of interest, a total of fewer than 10^{50} individual organisms from all species have existed on planet Earth over the past 3.5 billion years. The expectation that random assembly or naturalistic macroevolution would produce an *E. coli* with a λ repressor is a highly irrational scientific hypothesis. Time, matter, a suitable environment, food supply, and good luck are all insufficient for accomplishing this one step in macroevolution.

The amino acid, histidine, is produced by *E. coli* when it is in short supply.[2] When histidine is in short supply, a segment of DNA, which codes for nine unique enzymes, is copied. These nine enzymes are required for the assembly of the histidine molecule. Each of the nine enzymes involved in histidine production is a complex enzyme. The best probability for the naturalistic assembly of a complex enzyme is about one chance in 10^{65} per try.[3] The best probability for the naturalistic assembly of all nine enzymes is about one chance in $[[10^{65}]^9]/9!$ per try or about one chance in 10^{579} per try. With fewer than 10^{50} tries from every species, the best overall probability of ever assembling all nine enzymes is less than one chance in 10^{529}. If a wager were made of one hydrogen atom at the odds of one chance in 10^{529}, a win would net all of the atoms in over 10^{449} universes.

The probabilities of the naturalistic macroevolution of a λ repressor or of the nine enzymes needed for the assembly of histidine fall outside the boundaries of methodological naturalism. Naturalistic macroevolution is a highly irrational scientific hypothesis.

Methodological naturalism explains neither macroevolution nor biological origins. Such events are not scientific but are adequately explained by supernatural genetic engineering, supernatural biotechnology and/or progressive creation.

Notes

[1] J. F. Reidaar-Olson and R. T. Sauer, "Functionally Acceptable Substitutions in Two α–Helical Regions of λ Repressor," *Proteins: Structure, Function, and Genetics* 7, no. 4 (1990): 315.

[2] L. Gonick and M. Whellis, *The Cartoon Guide to Genetics* (New York: Harper Perennial, 1983), 172.

[3] H. P. Yockey, "A Calculation of the Probability of Spontaneous Biogenesis by Information Theory," *Journal of Theoretical Biology* 67 (1977): 387.

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