

Some Things Are Simply Given

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Some things are simply given. Consider the planets, stars and galaxies, and the physical properties that make them possible. Whether our universe began in the finite past, or always existed, either way, it is unexplained by any prior natural cause. The existence of the physical world is simply given.

Now consider life. As we know, life comes from life. But we believe this series must have a beginning. Formerly we held that belief because there was no other way for life to arise on Earth. (Now we know there is another way, panspermia.) Still, we believe life must have originated at some time, because, by consensus, there was a big bang. If the whole universe began in a single, immeasurably hot explosion a finite time ago, logically, a subsequent origin of life from nonliving matter, somewhere in the universe, is required.

Interestingly, the big bang creation-story for the universe enjoys support from two opposing groups: advocates of the theory of evolution, and advocates of intelligent design (ID). By this powerful coalition, comprising at least 90% of interested, informed adults, the big bang theory is vigorously defended. We understand why IDers with religious leanings endorse this apparent miracle. But the reasoning from strict science eludes us. "Nothing comes from nothing."

Of course, the two groups diverge completely on the means for life's origin. IDers rely on unspecified supernatural agency (which also eludes us.) Evolutionists rely on chemical reactions which cannot be demonstrated, nor even described in plausible detail. As our understanding of molecular biology and genetics improves, the apparent difficulties for a natural origin of life only grow. This conundrum has finally permitted panspermia to become respectable, because if life may have originated anywhere in the perceivable universe, the odds improve by twenty or more orders of magnitude.

But even that improvement does not make the math work out. Is there another approach to the problem? Stepping back, we notice that the origin of life is an assumption, not an observed phenomenon. Given the mounting difficulties, the assumption is increasingly burdensome. Only the consensus big bang requires life to originate. Could the big bang theory be flawed?

Of course it could. The theory is too new and too fluid to claim absolute certainty. And major surprises are not rare. For example, until 1998, by all expectations, the expansion of the universe was decelerating, slowed by gravity. Then we learned the opposite: the expansion is

accelerating. In general, the cosmological data are loose, and are consistent with other scenarios that do not begin all at once from nothing. An informed minority of cosmologists actually do doubt the consensus big bang theory. The most highly honored living cosmologist, 2019 Nobel laureate James Peebles, is among them (2).

If the origin of life is not logically required, perhaps life has always existed. In other words, maybe life, also, is simply given. Once that door is opened, it is reasonable to ask afresh: What is the tangible, observable evidence for the origin of life? We see very little. It reminds us of alchemy before the adoption of the periodic table of the elements.

If life has always existed, now evolution invites new scrutiny. How does it work? The easy answer is to say that once we have prokaryotic life, neo-darwinism adequately explains everything that follows. But this ignores the actual evidence. The evidence supports neo-darwinism only for optimizing existing programs within narrow ranges by point mutations – microevolution. Macroevolution, by contrast, requires whole new programs or subroutines. These have not been shown to arise by neo-darwinian trial and error, in spite of hopeful, worldwide research. Instead, for macroevolution, exons, whole genes, and suites of genes must be acquired and properly activated. The final activation may require only a small mutation, but the original composing of these longer sequences remains unobserved and unexplained. Instead, new genetic programs seem to be *acquired*.

For just one example, in 2018, a team at Heinrich Heine University, Düsseldorf, wrote, *...we identify 3,323 phenotypic innovations in the history of the E. coli clade that arose through changes in accessory genome content. ...Strikingly, every observed innovation arose through the horizontal acquisition of a single DNA segment less than 30 kb long. ...we found no evidence for the contribution of selectively neutral processes....* (3). Horizontal gene transfer (HGT) is required.

If this is correct, we would expect to see evidence that genes exist before they are expressed. Indeed, in 2003, Harvard's Andrew Knoll remarked that the genes underlying animal development always look older, by "molecular clock" dating, than the fossil record says they should be (5). The genes do appear to come first.

If genes come first, and are acquired by HGT, another assumption begins to arouse notice: that genetic programs ever *originated*. The evidence indicates only that they are *acquired*. Now we can wonder, as before: Perhaps they always existed. So, when we suggest that life may have always existed, we mean all of it. If this possibility is accepted for consideration, we think the facts fit together much better. We understand that this view would represent a radical paradigm shift. But we think the time has come.

In fact, the suggestion is not new. A century ago, before the big bang was imagined, the President of the British Association for the Advancement of Science endorsed it. ... *We must begin seriously to consider whether the course of Evolution can at all reasonably be represented as an unpacking of an original complex which contained within itself the whole range of diversity which living things present.* (5)

Under this philosophy, science would be free to undertake to explain everything that happens in the physical world, as deeply into the past as the evidence reaches. Nothing miraculous, or astronomically unlikely, need be invoked. Religious thinkers, on the other hand, are free to hold that things simply given are given by God. No hard evidence could prove otherwise. Consequently, grounds for conflict between science and religion would vanish. We think this would be a happy outcome.

- “Top Cosmologist's Lonely Battle Against 'Big Bang' Theory,” by Ivan Couronne, Issam Ahmed, Agence France-Presse: <https://phys.org/news/2019-11-cosmologist-lonely-big-theory.html>
- “Each of 3,323 metabolic innovations in the evolution of E. coli arose through the horizontal transfer of a single DNA segment,” by Tin Yau Pang and Martin J. Lercher, doi:10.1073/pnas.1718997115, *PNAS*, online 18 Dec 2018.
- Andrew Knoll, *Life on a Young Planet: The First Three Billion Years of Evolution on Earth*, ISBN: 0-691-12029-3, Princeton University Press, 2003. (p 202)
- William Bateson, in the Presidential Address at the Australian meeting of the British Association for the Advancement of Science, 1914:
http://www.archive.org/stream/reportofbritisha15adva/reportofbritisha15adva_djvu.txt