

Origins of Life: A Simple Approach

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Keywords

life, origin, molecule, reactions, naturalistic, biology, RNA, clay, complexity, bacteria, directed panspermia, theory, amino acids, proteins

“Somewhere on earth, close to 4 billion years ago, a set of molecular reactions flipped a switch and became life,” states Michael Schirber in a FOX News article this month.¹ His comment was made in response to an article in the *The Quarterly Review of Biology* (June issue) entitled “Small molecule interactions were central to the origin of life” by Robert Shapiro.²

Schirber summarizes Shapiro’s ideas further: “The first life forms were self-contained chemistry experiments that grew, reproduced and even evolved without needing the complicated molecules that define biology as we know it.” Sounds simple doesn’t it? But is the origin of life really that simple?

Ideas and Problems

The origin of life is very problematic to explain using naturalistic mechanisms. A textbook I have used to teach a college-level biology class devotes three full pages to the issue.³ After proposing several theories, all of which are explained using much conditional language such as “perhaps,” “may have,” and “could have,” the authors end the section with this statement: “Once the protocells [primitive cells] acquired genes that could replicate they became cells capable of reproducing, and evolution begins” (brackets added).⁴ The authors are basically saying that the origin of life is so extremely difficult to explain using naturalistic theories that we are going to gloss over it and get to the part we think we know something about.

There are many origin-of-life theories. Below are descriptions of some of the major ones.

- “RNA world”—RNA was the first molecule (even Shapiro has problems with this theory: “In the very beginning, you couldn’t have genetic material that could copy itself unless you had chemists back then doing it for you”)
- Clay theory—complex organic molecules (DNA, etc.) were formed on clay crystals
- Complexity theory—a computer model for self-organization of organic molecules
- Bacteria first theory—bacteria (such as in the Archaea domain) can live in extreme environments like that found on the proposed early earth, and are relatively “simple” organisms
- Directed panspermia—first organic molecules or living organisms were brought to earth by aliens from outer space

All of these theories have their own set of problems (see *Loopholes in the evolutionary theory of the origin of life: Summary*). What becomes obvious is that evolutionists are really exercising their imaginations rather than engaging in real research as they come up with their origin-of-life theories. In fact, a million-dollar prize (see *The Origin of Life Prize*) is being offered “for proposing a highly plausible mechanism for the spontaneous rise of genetic instructions in nature sufficient to give rise to life.”

“Garbage Bags” of Chemistry?

What mechanism does Shapiro propose for how life originated? Here’s how his story goes. Small molecules interact with each other in a cycle. This creates new products that incorporate themselves into the cycle. All of these molecules and products become enclosed in a membrane producing a primitive cell (something Freeman Dyson calls “garbage bags”).⁵ The primitive cell divides. The system continues to evolve to produce products that are larger and perform functions better than the original molecules. Thus, eventually we go from “molecules to man.” Really?

This is just another theory in a long line of failed ones attempting to explain the origin of life through purely naturalistic mechanisms. If this is so simple, then it seems there should be experimental evidence to support it. Life has never been created in the lab.⁶ In order for evolution to have something to tinker with, the first life-form would have had to have been astoundingly complex, not super simple (see *How low can you go?*). This is just another theory in a long line of failed ones attempting to explain the origin of life through purely naturalistic mechanisms. Not to be too harsh about it, but it is akin to some of the fairy tales I read to my daughter before

she goes to bed at night—fanciful and entertaining, but long on imagination and short on substance.

An additional problem that Shapiro faces is the need for energy for the interactions to take place, a so-called “driver reaction.” The formation of energy (in the form of ATP) in the cell is no simple process. It requires many complex molecules all interacting with one another in a stepwise fashion to produce the energy needed for life.

A possible driver reaction was suggested in the article. This reaction has been discovered in a type of bacteria, a member of the Archaea domain (bacteria usually found in extreme environments and believed to be ancient) called *Methanosarcina acetivorans*. This bacterium metabolizes carbon monoxide and produces methane and acetate. The acetate is then utilized in a reaction with mineral iron sulfide to produce ATP. This energy-producing reaction requires only “two very simple proteins.” James Ferry, the discoverer of this pathway, states (in the FOX News piece): “This cycle is where all evolution emanated from. It is the father of all life.” This is an extremely bold statement, and even Shapiro comments that something had to form the two proteins used in the reaction. And what of these “two very simple proteins”? They are proteins of approximately 300–400 amino acids with a very complex structure that is necessary for their proper function.⁷ Simple they are not! Without a way to produce and harness energy, the interactions proposed by Shapiro will not occur, and thus the origin of life from these small molecules could not happen.

The Creator and His Creation Are Linked

Schirber ends the article with a quote by Shapiro: “We have to let nature instruct us.” I largely agree with that statement, but it’s only half of the story. Romans 1:20 states that God can be known through His creation (general revelation). The Creator and His creation are inexorably linked and reflect on each other. Realizing the amazing complexity of DNA, RNA, proteins and cells helps us better understand the awesome intelligence and complexity of the Creator and the inadequacy of other origin-of-life explanations. However, it will not lead us to a saving knowledge of Jesus Christ. Only special revelation (Scripture) can help us understand our sin and the need to be saved. Both general and special revelation are important parts of our relationship to the Creator.

References

1. New research suggests simple approach to beginning of life. FOX News, June 12, 2006.
2. Shapiro, R., 2006. Small molecule interactions were central to the origin of life. *The Quarterly Review of Biology* 81(2): 105–126.
3. Mader, S., 2006. *Inquiry into life*, 11th ed., chap. 27, Evolution of life. McGraw-Hill, pp.545–570.
4. Mader, Ref.3.
5. Dyson, F. *Gravity is cool, or, why our universe is hospitable to life*.
6. Even if scientists could produce life in a laboratory, it would only show that a great deal of intelligence was involved to produce it.
7. Ferry, J. and C. House, 2006. The stepwise evolution of early life driven by energy conservation. *Molecular Biology and Evolution* 23(6):1286–1292.

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