

**FEATURE: "The Mystery of Life's Origin"— Dean Kenyon  
(Last in SERIES of 3)**

PROF.: How did the first life originate? Scientists and philosophers have been asking that question for centuries.

VOICE: Some biochemists *thought they knew...*

PROF.: ...But a scholarly book has strongly *questioned* the answer biochemists theorized. In fact, the evidence presented in the book is *so strong* that a scientist who wrote a famous textbook *promoting* the idea that chemicals evolved into living cells, began writing *against it*.

FORMAT: THEME AND ANNOUNCEMENT

VOICE: On our previous program we talked about a professor in trouble. Dr. Dean Kenyon taught students what he believed was true.

PROF.: But it wasn't what university leaders wanted students to hear. His administrators didn't say he was teaching untruth. But they didn't think first-year university students were ready for that part of the truth.

VOICE: If I remember correctly, this professor had previously written a book that presented an innovative idea. His book had convinced much of the scientific world. But he began *doubting his own idea!*

PROF.: One reason for his international fame was his book entitled *Biochemical Predestination*. In it he provided a hypothesis of how he thought non-living chemicals might have combined spontaneously to produce living substances. But then Dr. Kenyon read the manuscript of a book entitled *The Mystery of Life's Origin: Reassessing Current Theories*.<sup>1</sup> It contradicted his theory and others like it. Prof. Kenyon changed his mind so completely that he wrote a foreword<sup>2</sup> for the book that opposed his own theory.

VOICE: I read one review that says Dr. Kenyon acknowledged in print that his earlier interpretation had been based on what he now calls "a fundamental flaw."

PROF.: Yes. Dr. Kenyon described the new book as, "...cogent, original, and compelling." He negated his earlier opinion in these words: "The authors...believe, and I NOW CONCUR,<sup>3</sup> that there is a *fundamental flaw* in all current theories of the chemical origins of life."

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1 Please say it first in English.

2 Preface, introduction.

3 Agree.

- VOICE: Was he saying that life *did not* originate from chemical substances?
- PROF.: Not quite. He was saying life did not originate from chemical substances COMBINING THEMSELVES RANDOMLY. Chemicals needed *intelligent guidance* to combine them into living substances. He acknowledged that fact, while recognizing that much of his professional fame rests on having previously written the exact opposite.
- VOICE: A person needs humility to admit that he was wrong. But when he learns something that casts serious doubt on his previous ideas, admitting it is the only honest thing to do.
- PROF.: Prof. Kenyon wrote that experimental study of the origin of the first life on Earth began with research by Dr. Stanley Miller [STAN-lee MIL-ur] in the early 1950s.
- VOICE: Didn't Stanley Miller take various inorganic compounds and pass electrical sparks through them?
- PROF.: Yes. He began with ammonia (NH<sub>3</sub>), methane (CH<sub>4</sub>), and other simple substances. He speculated that lightning might have made them combine into more complex compounds – including *organic* substances and protocells. In Kenyon's words, “The goal of the work is to find plausible uniformitarian mechanisms for the gradual spontaneous generation of living matter from relatively simple molecules thought to have been abundant on the surface of the primitive earth.”
- VOICE: I admire this man's vocabulary, but let's define a few of his words. What are “plausible uniformitarian mechanisms”?
- PROF.: The dictionary says “plausible” means “seeming likely to be true, but open to doubt. Superficially trustworthy.”
- VOICE: “Seeming likely to be true, but open to doubt. Superficially trustworthy.”
- PROF.: Right. A “plausible” idea is not necessarily true, but at least it wouldn't be completely ridiculous. It sounds *possibly true*.
- VOICE: Then what are “plausible *uniformitarian* mechanisms”?
- PROF.: Uniformitarianism is the belief that, if we observe the way nature behaves *today*, we can assume that it has *always* acted that same way. The FORCES and PHENOMENA of nature supposedly behave *in the same way*, and with the same intensity and speed today as they did *in the past*.
- VOICE: So things have always been uniformly as they are today.

- PROF.: Uniformitarianism is one popular idea, but it is not the unanimous opinion of all scientists.
- VOICE: I think I see where “plausible uniformitarian mechanisms” would fit into theories about the origin of living organisms. I suppose these mechanisms would be the forces of nature that could possibly have made the first living organism.
- PROF.: You suppose correctly. Referring to research by Miller and others, the sentence said, “The goal of the work is to find plausible uniformitarian mechanisms for the gradual *spontaneous generation of living matter...*”
- VOICE: But back in the 19<sup>th</sup> century, French biochemist Louis Pasteur demonstrated that chemicals don't spontaneously develop into living substances. Didn't Pasteur disprove the idea of spontaneous generation once and for all? How could anyone make spontaneous generation sound plausible in the 21<sup>st</sup> century?
- PROF.: Pasteur demonstrated by repeated experiments that life does not originate spontaneously from non-life *in today's atmosphere*. That's why Miller and others hypothesized that Earth once had a *different atmosphere*.  
They structure their experiments to simulate what they called a “primordial atmosphere” – an atmosphere that hypothetically could have existed in the very distant past. They speculated about what gases could have surrounded the earth during its early ages. And they speculated that lightning and other natural forces could have combined these gases first into organic compounds, and that these substances then developed into “protocells” and then the first living cell.
- VOICE: What is a “protocell”?
- PROF.: It's a hypothetical object that I'm not sure ever existed. Supposedly it was an organized system of non-living materials, which some scientists speculate could be an evolutionary step leading toward the first living cell.  
Prof. Kenyon wrote, “Anyone familiar with the...structural and biochemical complexity of the genus *Mycoplasma* [MY-koh-plas-muh], for example, should have serious doubts about the relevance of any of the various laboratory ‘protocells’ to the actual historical relevance of cells.”
- VOICE: Is that “plausible”?

PROF.: No, for two reasons. Firstly, recent discoveries cast doubt on the idea that Earth ever had that kind of atmosphere – containing methane, ammonia, and other simple compounds. Complicating the idea further, if that atmosphere had any significant amount of oxygen, it would have decomposed any organic compounds that formed.

Secondly, experiments have never demonstrated that that atmosphere would have produced LIFE in even its simplest, one-celled form.

VOICE: That information isn't in my textbooks. Let me make sure I understand correctly. First, no one has proven that the earth ever had the kind of atmosphere that Miller simulated in his experiments. And if that atmosphere contained much oxygen, the oxygen would have broken up any organic compounds that formed.

PROF.: Yes. In fact, several recent discoveries create serious doubts that Earth's atmosphere had much resemblance to what Miller hypothesized.

VOICE: And second, experiments have never demonstrated that even that kind of ideal atmosphere would spontaneously generate anything that can accurately be called life.

PROF.: Right. So Dr. Kenyon pointed out that the whole concept never was more than an hypothesis.

He continued, "...there are significant reasons for doubt. In the years since the publication of *Biochemical Predestination* I have been increasingly struck by a peculiar feature of many of the published experiments in the field. ...In most cases the experimental conditions...have been so artificially simplified as to have virtually no bearing on any actual processes that might have taken place on the primitive earth."

VOICE: In other words, the laboratory conditions of the experiments are so simplified that no primitive ocean would have been that uncomplicated?

PROF.: Correct. Dr. Kenyon adds, "Other aspects of origin-of-life research have contributed to my growing uneasiness about the theory of chemical evolution. One of these is the enormous GAP between the most complex 'protocell' model systems produced in the laboratory and the simplest living cells."

VOICE: Did Prof. Kenyon say that he no longer believed life created itself?

PROF.: Yes. He said it's extremely unlikely that non-living chemicals combined themselves complexly enough to become living matter...

VOICE: (INTERRUPTING) ...just as two programs ago Prof. Polanyi expressed doubts that ink splashed itself onto pages to form books worth reading!

PROF.: Exactly! Non-living objects without intelligence simply don't put themselves together in intelligent combinations. That's a right reserved for beings with BRAINS.

VOICE: I like that: "Non-living objects without intelligence simply don't put themselves together in intelligent combinations. That's a right reserved for beings with BRAINS."

PROF.: Researchers keep discovering deeper and deeper *complexity* at the biochemical and genetic levels of every living organism. Each new discovery makes it more difficult to believe that atmospheric chemicals and lightning spontaneously generated that complexity. And it becomes easier to believe that Infinite Wisdom created it.

VOICE: The idea of an all-wise creator-God is making more sense than ever.

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