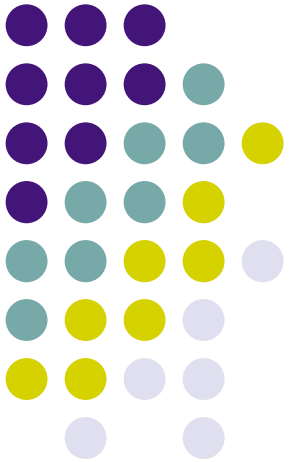
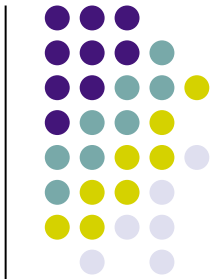
The Origin of Life

Accident or Design?

Robert C. Newman

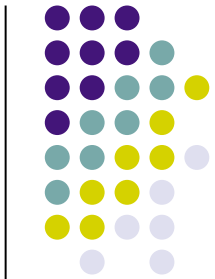


What Caused Life to Begin?



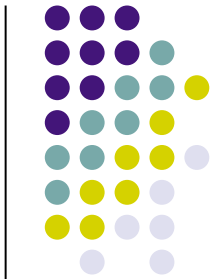
- Did it begin by chance?
  - By the right things just accidentally happening to get a self-replicating system going?
- Did it happen by design?
  - Was some sort of intelligent intervention needed to get the right things in the right places at the right times?
- Some suggest it is "unscientific" to postulate that life began by design.

What do we mean by "science"?



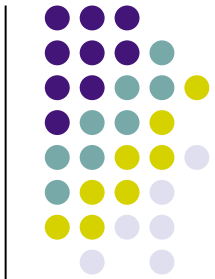
- What do we mean when we say something is "unscientific"?
- Is science…
  - …a method in which explanations that include supernatural causes are not allowed?
  - …a procedure which seeks to find out what really happened in history and/or what is currently happening now?

Science & Design



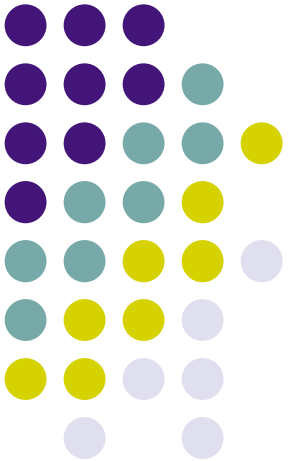
- Science already has methods for detecting design.
- Archaeology/anthropology:
  - Distinguishing an arrowhead from an accidentally chipped stone
- Astrophysics:
  - Distinguishing an intelligent radio signal from mere radio noise
- Ecology
  - Distinguishing natural pollutants from man-made

Science & Design

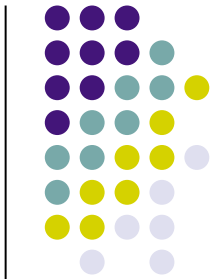


- Probably 10,000 bits of the right sort of information are more than sufficient to recognize design in any case.
- But Carl Sagan has estimated that the simplest sorts of bacteria have about 10^{12} bits (see his article "Life" in the *Encyclopaedia Britannica*) .
- What's wrong with the hypothesis that life arose by accident or chance?

Problems with Accidental Origin



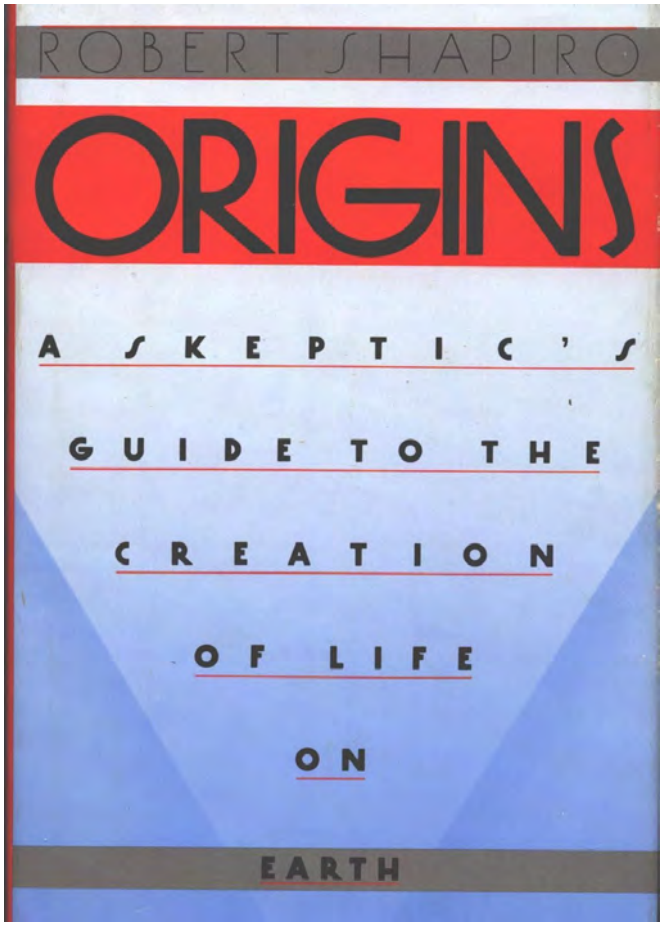
Problems with the Formation of Proteins



- The Miller-Urey experiment of 1953 is often viewed as having solved this problem.
- It has frequently been repeated under various conditions.
  - We have yet to produce two of the 20 needed amino acids in any such experiments.
  - We regularly produce lots of other amino acids not in the needed 20.
  - We regularly get lots of other stuff that would reactively interfere with the needed steps that must follow.
  - We need a reducing atmosphere (less than 1% oxygen), but photo dissociation seems a problem here.
  - Amino acids in life are all left-handed.

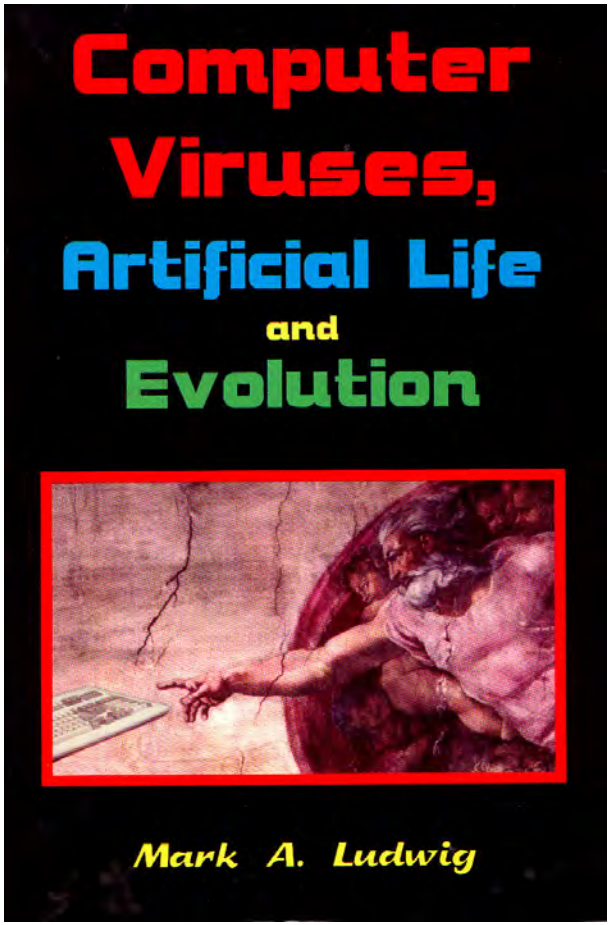
Problems with the Formation of Nucleic Acids

- See Robert Shapiro, *Origins*, and his article "Improbability of Prebiotic Nucleic Acid Synthesis":
  - We get low yields even with pure chemicals.
  - We need drastically different conditions for various steps re/ acidity, temperature, catalysts.
  - We encounter competing reactions.
  - How do these nucleotides find each other?

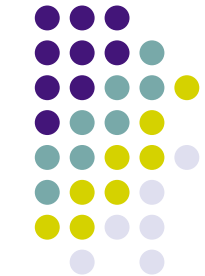


The Problem of Self-Replication

- Computer simulations indicate that the simplest self-replicators are beyond the probabilistic resources of the universe.
- The chance of something like this happening since the big-bang is on the order of 1 chance in 10^{70}.

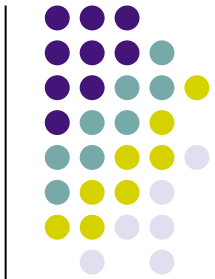


The Problem of Bootstrapping



- Evolutionists typically assume that life can get from the simplest possible forms to all the diversity we see today by mutation & natural selection.
- But there is no evidence that this process will produce complex mechanisms from simple ones.
- Consider the analogy of generating meaningful text by randomly adding & changing letters, even with natural selection.

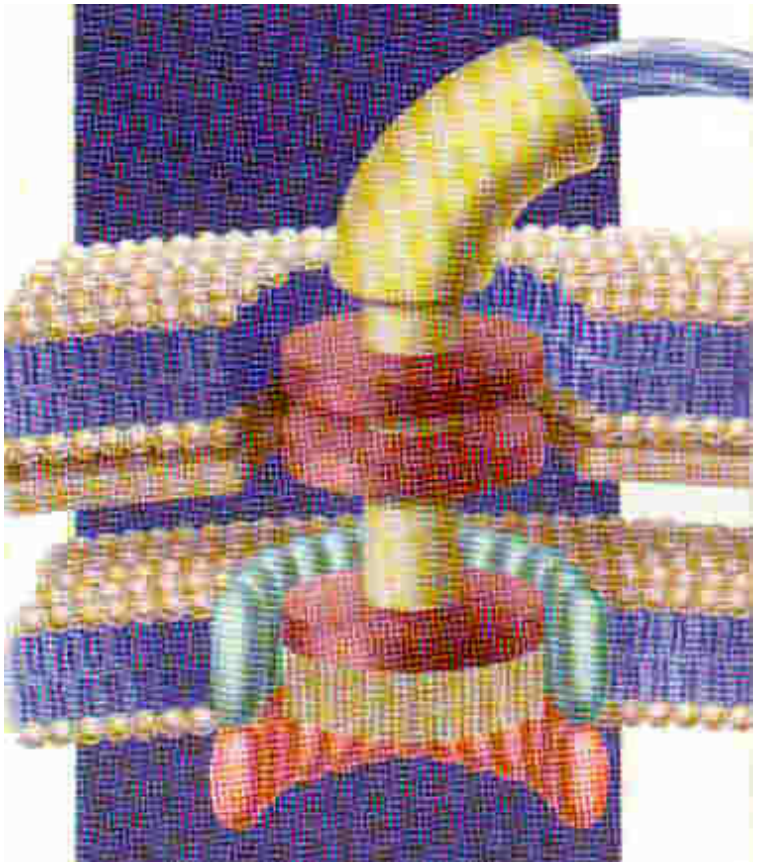
The Problem of Information



- The information content of even simple life forms is staggering.
- It is easy to solve this with a mind behind the universe; it seems impossible without one.
- "*The Christian is quite free to believe that there is a considerable amount of settled order and inevitable development in the universe. But the materialist is not allowed to admit into his spotless machine the slightest speck of spiritualism or miracle.*" GK Chesterton, *Orthodoxy*, 41.

Problems with Accidental Origin

- Formation of Proteins
- Formation of Nucleic Acids
- Self-Replication
- Bootstrapping to Organized Complexity
- Information



The End

Where Did Life Come From?