WAS THE ORIGIN OF LIFE INEVITABLE?

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Authors of one widely used textbook of physical science imply that life was an inevitable natural sequel to the physical and chemical conditions of the early earth. An overview of enzyme chemistry, photosynthesis, and mathematical probability leads to the opposite conclusion—life was the result of careful planning and direct supernatural creation.

Misleading Emphases

Young people are being told that life arose from the dead materials by physical processes apart from the infinite wisdom, divine skill, and direct action of God's life-giving Spirit. All widely used biology textbooks and many other science books provide "bridges" which are supposed to span the gaps between non-living substances and living protoplasm.

Many authors assert that man may soon close the gap by achieving more thorough knowledge of biochemistry and processes involved. Few or no statements are included in such books to show the complexity of protoplasmic substances and processes, or to show the distinctiveness of life reactions.

Physical Scientists Say "Life Inevitable"

For the benefit of students and science teachers, an example is taken directly from a science textbook currently in use throughout the nation at college level. The following statement by Konrad Krauskopf and Arthur Beiser in their basic text, *Fundamentals of Physical Science,* illustrates the kind of misrepresentation commonly seen in educational literature:

> Today the "mystery" of life no longer seems as impenetrable as it once did, and the transition from lifeless matter to living matter, though still hardly an open book, nevertheless seems more to be an inevitable sequel to the physical and chemical conditions that prevailed on the earth some billions of years ago than a supernatural event.[1]

Note their phrase ". . . an inevitable sequel. . ." as though life had to happen under these certain circumstances. These authors must realize the grossness of their words, for they later admit a gap between fatty acids and fats; and between nitrogen bases, amino acids, and proteins (which can only be bridged by very complex essential enzymes).

Yet in their analysis of DNA, Krauskopf and Beiser again claim that a wide gap has been surmounted:

> And given these latter compounds, most notably the nucleic acids which govern protein synthesis and are able to replicate themselves, the emergence of primitive cells, the basic biological units, becomes inevitable.[2]

Herein is the false implication that life should be defined in terms of nucleic acids and not much else.

The same authors attempt to bridge a gap and to supply mathematical acceptability in a statement which is both illogical and contradictory:

> But although pure chance must have dictated which molecules came together and reacted to form a more complex one, when the reaction occurred, and where it did, the ultimate outcome seems not to have been a matter of chance at all.[3]

Omitting hosts of questions surrounding the "time" and "place" of the theoretical reaction discussed by these authors, how is it possible for *random components* to come together and synthesize any complex compound, which would not also be a chance product? Neither protoplasm, nor the complex interactions of its components, could have been the results of chance products combining, as these authors have glibly asserted.

Were Enzymes Inevitable?

It has long been known that biochemical reactions in cells can take place at the proper rate only in the presence of enzymes. Further, it has been found that enzymes are proteins which are quite complex, frequently involving a non-protein portion. They are essential for combining smaller components to form larger molecules and vice versa. Because of their size and complexity, no enzyme molecules were fully understood or synthesized until very recent years.

As an example of enzyme complexity, mention could be made of ribonuclease, which has a molecular weight of about 14,000 and consists of 124 amino acid of about 19 different kinds.[4] How could this enzyme, which depolymerizes polynucleic acids of ribose type, have been synthesized with precision in the environment of the ancient "water pools" which evolutionists envision-static electricity, water, methane, and ammonia?

Like ribonuclease, most other enzymes are also highly specific for the chemical reactions they hasten and are quite numerous in a single cell. The structures and processes of one single cell are so intricate that they are claimed to be as complex as an entire oil refinery.[5] Even the supposedly self-duplicating deoxyribose nucleic acid (DNA) requires the enzyme polymerase to control its own self-duplication!

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Digestion of fats requires the complex enzyme lipase. If man has not been able to discover the chemical components of numerous biological compounds, and if he can synthesize them only with difficulty in favorable laboratory conditions, should students be told that it is probable for these same compounds to have been synthesized in a supposed ancient environment, where there was neither isolation of materials nor selectivity of substances present? How likely is it that a lipase molecule (along with polymerase and all the other enzymes necessary to the processes of life) arose by chance in an ancient ocean?

Photosynthesis and Simple Sugars

It is well known to biologists that the only direct source of energy for cellular metabolism in protoplasm is derived from what is stored in simple sugar molecules such as d-glucose or d-fructose. Adenosine triphosphate (ATP) stores energy derived from the breakdown of such sugar molecules.

The source of. simple sugar is the process of photosynthesis in the green parts (leaves, stems, etc.) of most plants. Much has been discovered about the process of photosynthesis, but many of its most intricate details are still unknown. Some of the details are as follows:

(a) Light furnishes energy to activate the ejection of an electron from the central magnesium atom of the chlorophyll molecule. This electron is used in reactions which split a water molecule.

(b) An electron from the water molecule passes through a complex sequence of electron carriers such as the cytochrome pigments. While the electron jumps along this series of electron carriers, energy is harvested as chemical energy stored in ATP molecules.

(c) The ATP is then used in another set of reactions to convert the carbon atoms of carbon dioxide molecules to the carbon atoms of simple sugar molecules.

All of the above reactions and apparently many more take place in small but intricate sub-cellular bodies known as chloroplasts.

The reverse process involving breakdown of sugar for energy has many breakdown stages and requires about 100 enzymes for the many stepwise reactions.[6] Is there not evidence enough for an Intelligent Mind back of all this? Man has spent millions of dollars and many years trying to discover all details of the process of photosynthesis. Thus there is nothing particularly "inevitable" about the function of chloroplasts, or the origin of all these enzymes related to the synthesis and breakdown of simple sugars.

Certain chemosynthetic bacteria are able to obtain energy from oxidation of inorganic molecules or ions, and are thus not dependent on photosynthesis for their source of energy to build sugar. No "evolution" has been observed from any of these to higher forms of life, however, and their origin from anything supposedly simpler is not demonstrable. Furthermore, the complex schemes by which energy is removed from inorganic chemicals, and used to produce fuel in each of these chemosynthetic bacteria, is a testimony to the Creator's genius.

Mathematical Improbability

The likelihood that molecules or atoms would ever come together at random in the precise order and arrangement to form essential components found in protoplasm (without the usual enzymes) has been calculated on a probability basis by mathematicians. The Swiss mathematician, Charles E. Guye, has computed the chance that joining amino acids would yield proteins having the properties of life.[7] He found the odds were against such an occurrence by 10^{160} to 1. On the same basis, for spontaneous generation of life to occur on earth would require almost endless billions (10^{243}) of years. du Nouy has stated:

> If the probability of appearance of a living cell could be expressed mathematically, all figures expressed on such a probability figure would seem negligib1e.[8]

The odds against the formation of life, or even a protein molecule, by random process show it to be far from "inevitable" despite erroneous statements of educators to the contrary.

Other Examples of Complexity

Protoplasm of organisms consists of very highly complex organic chemical compounds and structural organization. For example the "jelly" of a slime mold will remain alive if allowed to pass gently through a cheese cloth, but it forced through quickly, it will die.

The high precision of the exact amino acids of protein molecules can be illustrated by the harmful effects of X-rays which cause mutations of the genes. Such mutations are usually harmful to the offspring from such individuals.

An example of delicacy of structure is seen in the hemoglobin protein molecule common in red blood cells. Sickle cell type of anemia in man has been demonstrated as caused by a change in only one of the 574 amino acids which constitute the giant hemoglobin molecule.[9]

Conclusion

Although basic organic substances, including fatty acids, amino acids, and others of biological importance, are synthesized by use of static electricity in a mixture of water, methane, and ammonia; some of the raw materials are toxic or unsuitable for most organisms. Ammonia, for example, is particularly toxic to protoplasm. Only the most simple compounds of a very stable nature will be synthesized to any extent in this manner.[10]

All protoplasmic components, complex organic compounds, and processes show much greater order and complexity. This is evidence for overall control, planning, and specificity of cellular structures. It is more logical and reasonable to accept the Biblical account of special planning and creation by the omniscient God, than it is to assume that the origin of life was inevitable.

References

[1]Krauskopf, Konrad, and Arthur Beiser. 1966. Fundamentals of physical science. Fifth Edition. McGraw-Hill Book Co., New York, p. 568.
[2]*Ibid.*, p. 570.
[3]*Ibid.*, p. 570.
[4]Storer, Tracy I., and Robert L. Usinger. 1965. General zoology. Fourth Edition. McGraw-Hill Book Co., New York, p. 69.
[5]*Ibid.*, p. 46.
[6]Nelson, Gideon, Gerald Robinson, and Richard Boolootian. 1970. Fundamental concepts of biology. Second Edition. John Wiley and Sons, Inc., New York, p. 75.
[7]Guye, Charles, as quoted in Coffin, Harold G. 1969. Creation—accident or design? Review and Herald Publishing Association, Washington, D. C., p. 393.
[8]Zimmerman, Paul A. 1956. Darwin, evolution, and creation. Concordia Publishing House. St. Louis. Missouri, p. 96. as quoted from Lecomte duNouy. 1947. Human destiny. Longmans, Green & Co., New York, p. 34.
[9]Seb, Adrian, Ray Owen, and Robert Edgar. 1965. General genetics. Second Edition. W. H. Freeman and Co., San Francisco, California, p. 297.
[10]For additional papers regarding the unlikelihood of chemical abiogenesis, consult Creation Research Society publications: Gish, Duane T. 1970. The nature of speculations concerning the origin of life, *Creation Research Society Quarterly*, 7(1):42 ff. June; Parker, Gary E. 1970. The origin of life on earth, *Creation Research Society Quarterly*, 7(2):97-103. September; Zimmerman, Paul A. 1964. The spontaneous generation of life, *Creation Research Society Quarterly*. 1(1): 13-17. June. Also see Smith, A. E. Wilder. 1970. The creation of life. (A cybernetic approach to evolution.) Harold Shaw Publishers, Wheaton, Illinois 60187.

YOUTH'S DILEMMA WITH ANSWERS FROM MODERN BIOLOGY

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No thinking youth can fail to see that, man's mass behavior is most discouraging. A young person knows that man's history, according to ancient records up to the latest TV report, proves a general depravity that is replete with wars, sensuality, and plunder.

Many youths are faced with the stress of believing the generally expressed opinion that there is no guide and no truth for life; that we live under vicious competition which results in the survival of the fittest. Many youths thus have good reasons to put their hope in change alone, change for the better in the broadest and deepest sense.

As man's control over natural sources of energy increases—even to the point of tapping that potent source of energy used by the sun, the atom, the changes man can make become bigger and more pervasive. Thus young people learn that the most powerful nation of the world is forced to act not in obvious common law justice but in fear of the super bomb, the first release of which is now controlled by communistic sadists. They see that we, as individuals, must spend a large portion of our national and private resources of time and energy to protect ourselves against the negligence, the subversive cunning and the violence of man-even in our daily lives.

Youth Believe in "Try and Test"

In search of something new and better, youths turn to what they have been taught to be the source of all progress. They have been led to believe in the inexorable drive of "spontaneous evolution." "Try and test." That is the way they have been told that evolution works—without a plan, without direction, without rules of the road and without specific objectives. This theory of naturalistic evolution has been taught in their books from the nursery and on through college. Unfortunately, evolution theory permeates the literatures of a majority of their churches too.

But the current indoctrination of our youth has failed. In a day when many religionists teach that the old moralist precepts are obsolete, it is the teaching of evolutionary faith instead that has become obsolete as a result of new and a million times as precise biological data. Top scientists in their fields have shown the errors of current evolution theory and youth can see the facts by turning to the field of biology.

"Evolution" Refuted by New Data

One of the most potent of the top scientists who testify to this is Dr. George Gaylord Simpson—head paleontologist of Harvard and American Chairman of the Darwin Centennial celebration of Chicago, 1959. Dr. Simpson and many other scientists have studied data gathered by Nuclear Magnetic Resonance instruments that measure the exact forces and distances between individual atoms in the DNA and which identify precisely the specific atoms, the kinds of bonds, their locations, and their interrelations.

They have seen that the DNA code of man, which determines his inheritance, is so far removed from that of any other mammal, that if man's flesh could have been "evolved" from that of any other living organism, it would more likely

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