

Letter to Origin of Lifers

Dear Origin-of-Lifers:

It is my pleasure to announce that we have published **HOW LIFE BEGAN** by William Day.

Since writing GENESIS ON PLANET EARTH (Yale University Press, 1984) the author has focused on the chemical processes that led to life's origin, and the order in which they appeared. In HOW LIFE BEGAN, Day presents his hypothesis on how organic chemistry got started, and offers a step by step formation of the metabolic and genetic systems that followed.

Day's presentation of the origin and evolution of cellular life is compelling. He postulates that the cell was founded and evolved on two principles: a) growth sustained by an input of energy, and b) systems based on autocatalysis. The cell became a network of interlinked autocatalytic systems in which the products of one system became reactants for a succeeding system, linking them in a product/ reactant dependence.

The first self-sustaining and reproductive cell consisted of an autocatalytic network of coenzymes. The genetic system then originated on the cell's metabolites of nucleotides and amino acids.

An RNA replicating system composed of catalytic RNA molecules formed, a translation mechanism evolved from its RNA products, and proteins produced by the system became enzymes that supplanted the catalysts of all the preceding systems.

The genetic system began, therefore, as a parasite, became a symbiont, and eventually merged with the metabolic cell into a fully integrated biological cell based on enzymes.

Perhaps this book's most important contribution is that it challenges the basic assumptions researchers have followed in the origin of life studies, and replaces them with two fundamental principles. The author contends that life originated on these principles and evolved consistently with them. This is a book that solves a chemistry problem. Some background in chemistry is helpful, therefore, but not necessary. Its specific descriptions make it an excellent text for origin of life studies.

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