FROM NONLIFE TO NONLIFE

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How did life arise from nonliving chemicals? This is the most fundamental, yet sketchiest chapter of evolutionary theory.

One proposal is to start with seemingly lifelike chemicals. This is the approach taken by Julius Rebek and his coworkers (Hong, et al., 1992; Feng, et al., 1992). Like DNA, Rebek's chemicals can make copies of themselves (i.e., replicate). Further, Rebek can make more efficient replicators by subjecting them to ultraviolet radiation. These new varieties outproduce other forms, eventually dominating their test-tube world. Supposedly, then, these chemicals could provide the missing link between nonlife and life.

Yet the gap remains because Rebek's system contains little information (Hurst and Dawkins, 1992, 357:199). Life is defined by a set of elegant instructions recorded on the DNA molecule, and there is more to life than merely replication.

Another proposal tries to circumvent the famous chicken-and- egg problem of chemical evolution by starting with RNA. If we think of DNA as the "brain," then RNA is the "nervous system" that carries the message of protein formation to the rest of the cell. However, the whole process involves a battery of crucial enzymes (specialized proteins). So which came first, the protein or the DNA?

The answer, many evolutionists believe, lies in the discovery that a special part of RNA can act like an enzyme. This means that it can carry information **and** do various jobs within the cell. If this is the case, then perhaps evolution worked both ways, turning RNA into DNA for better information storage, and into specialized enzymes for more efficient copying. The proponents of this view received a boost from the work of Beaudry and Joyce (1992), who used selection and mutations to make a more efficient RNA enzyme.

Some journalists and scientists have made extraordinary claims about this research. First, they described the techniques and chemical processes in evolutionary terms such as "selection" and "mutation." One newspaper article hailed Beaudry and Joyce's work as the "first complete laboratory demonstration of evolution" (Graham, 1992). Second, they believe the experiments show that "Darwinian selection is universal for all lifes" (Hurst and Dawkins, 1992, 357:198), not just for "life as we know it." And third, because this research has a practical application in biotechnology, they wish to promote evolution as a fundamental tool of science, not a mere theory.

However, merely employing terms like selection, mutation, and evolution still does not **explain** the origin of life. These experiments entail a great deal of design and technical innovation. The human experimenters are forcing (or directing) "evolution" to achieve goals they have set (see Culotta, 1992). As Leslie Orgel observed, to really show how life could have evolved, we need to start with something that does not require the "intervention of organic chemists" (1992, 358:207).

Further, this research may come closer to Darwin's arguments than they would really like. By showing that man can use **artificial** selection to change species dramatically, even within recorded history, Darwin hoped to establish his case for long-term, large-scale evolution by **natural** selection (1859, pp. 133,153). But this analogy breaks down because artificial selection, by definition, involves human intelligence. The same is true for this recent research. We are seeing nothing more than high-tech horse breeding. Actually, we may be seeing even less, because the experiments do not deal with life at all. If anything, they resemble Thomas Edison's efforts to find a better filament for his electric light bulb.

What we must emphasize is that an evolutionist can invent any theory about the origin of life, no matter how implausible it may sound. He even might succeed in modeling that theory in the laboratory. However, a model is not necessarily the same as reality; he has not **proved** that life evolved in that way. Ultimately, all he would have displayed is his God-given intellectual and physical abilities.

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