EDITORIAL

THE SEARCH FOR AN EVOLUTIONARY MECHANISM

Evolution as a plausible explanation for the origin of all living organisms has received serious consideration for at least two centuries. During this period there has been an intensive search for a mechanism that could create the complex from the simple. Changes in nature usually tend towards randomness and not towards making special structures and systems as needed for evolutionary advancement. This process of increasing complexity in design mandates some kind of unusual mechanism. Evolutionists have proposed many. A brief review of the dominant ideas is instructive.

1. Lamarckism

At the beginning of the 19th century the French biologist Lamarck advanced what is usually considered to be the first serious proposal for an evolutionary mechanism. He suggested that use of an organ would cause it to improve, and this improvement would be passed on to the next generation. Thus, a deer-like animal could eventually evolve into a giraffe by persistent stretching of the neck. His ideas are not given serious credence at present, except for a few special cases.

2. Darwinism

About half a century later, Charles Darwin and Alfred Russel Wallace in England suggested that evolution advanced by a combination of variation and survival of the fittest. Continual natural selection of the fittest produced advanced forms. Darwin stressed the importance of small changes. He put forward a new mechanism for the inheritance of newly acquired characteristics. His model of reproductive cells contained "gemmules" which came from all over the body and passed on the new characteristics to the next generation. Darwin's idea of survival of the fittest, while severely challenged, is still given serious consideration. His idea of gemmules is not.

3. Mutations

Prominent among the detractors of Darwin was Hugo de Vries in Holland who, around the turn of the century, suggested larger evolutionary changes called mutations. He considered these to be the significant evolutionary process, in contrast to Darwin's smaller changes. While the interpretation of his experiments turned out to be largely erroneous, real mutations were discovered later by F. H. Morgan. Unfortunately for the evolutionary viewpoint, these changes turned out to be overwhelmingly

detrimental. Some evolutionists still stake their hopes on the potential of a few beneficial mutations.

4. Population Evolution

Early this century, R. A. Fisher in England and Sewall Wright in the United States developed sophisticated mathematical models of evolution that helped shift the emphasis of an evolutionary mechanism from individual organisms to populations. Fisher emphasized small changes in large populations. Wright wanted smaller populations to facilitate the manifestations of new mutations, but not so small as to engender the deleterious effects of inbreeding. The question of proper population sizes for progressive evolution is still debated.

5. Modern Synthesis

The modern synthesis is a vague combination of the mutation concept and Darwin's idea of survival of the fittest. It has been championed by many leading evolutionists during the middle of this century, including Julian Huxley, the grandson of Darwin's promoter Thomas Huxley. The modern synthesis did not remain long as a synthesis, although it still has many adherents. Numerous problems developed, including questions about population sizes and especially how random mutational changes could produce the large changes necessary for new organs and systems. These changes seemed to require a very complex correlation of mutations or some kind of survival value through awkward intermediate stages. For instance, in the evolution of the forelimb of a reptile into the wing of a bird — assuming birds evolved from reptiles —, one must postulate either all kinds of correlated changes occurring simultaneously to produce a wing, or intermediates which were neither good limbs nor good wings but would be able to survive. Both postulates seem quite unworkable.

6. Diversity Period

After the modern synthesis, the plot for evolution has thickened considerably due to new information and a number of disputes that persist to the present. The current status of evolutionary mechanisms can best be characterized as both diversified and controversial.

Among the current debates are: (a) the traditionalist-cladistic debate over what kind of characteristics are significant in determining evolutionary relationships (the cladists appear to be winning), (b) the gradualist-punctuationalist debate over whether to expect evolution to proceed by smooth gradual changes or small jumps, (c) the neutralist-selectionist debate over neutral versus meaningful mutation and the consequent significance of natural selection acting on these.

Adding to the diversity of the present discussion are new discoveries in molecular biology that make the older idea of simple random mutations in a genetic system inadequate as a workable theory of origins. For instance: (a) How could the process of protein synthesis evolve when DNA is needed to produce proteins, and proteins are needed to produce DNA? (b) How does one originate a transfer of information through the genetic code by random changes? In this system three of four different kinds of molecules (nucleotides) are coded in a specific order for each of 20 different amino acids. It is difficult to imagine how a meaningful coded system could originate by random process. (c) How could the efficient antibody-producing system arise by random changes? In this system a few hundred genes can produce many millions of different kinds of antibodies. (d) How could the accuracy needed for DNA replication occur before the evolution of the correcting processes? Without enzymes, around 1% error occurs in DNA synthesis, spelling disaster for maintaining complex biochemical systems. With complex correcting systems in operation, the duplication of DNA is millions of times more accurate. How did these correcting systems evolve without correcting systems to maintain their consistencies?

Much more could be added, and various scenarios have been proposed by evolutionists, but it now appears that we are dealing with complex systems that represent information processing and reprogramming functions that can purposefully relocate genes or parts thereof. Because of this the requirements for an evolutionary mechanism are much more complicated than was conceived earlier. According to our present understanding, progressive evolution is more comparable to a mechanism that would spontaneously generate a working computer. However, this would not be an ordinary computer; to match reproduction in living organisms this computer would have to reproduce more computers like itself and then evolve into more and more advanced computers.

Two centuries of search for a naturalistic mechanism for evolution have not provided a workable model. In fact, recent findings indicate that the goal seems more elusive than ever. Is it not time for evolutionists to give serious consideration to other alternatives — such as creation?

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