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A Review on the Manuscript by
Dr. Lee M. Spetner
Entitled:
ON THE WATCHMAKER'S BLINDNESS

Dr. Spetner's training and background was in mathematics and physics and, indeed, he worked for some time at The Applied Physics Laboratory at Johns Hopkins. He had read Darwin's Origin of the Species back in 1949 and had an intuitive discomfort with much of the thinking that was expressed in this monumental volume. Fifteen years later, sitting in on a lecture by Professor Bentley Glass of Hopkins, his negative feelings about the Dwarwinian theory were further enhanced and over the subsequent years he has considered the theory in some detail and has indeed published a number of papers on what he feels are inconsistencies and mathematically improbable aspects of the theory. The present volume was particularly stimulated by the recent volume by Richard Dawkins entitled, The Blind Watchmaker. In preparation for the current opus he has clearly done a great deal of reading and thinking about the findings in genetics and molecular biology over the past years and the impact of these disciplines on the Darwinian hypothesis. Throughout the book there is a constant application of mathematical analysis about probabilities and the statistical likelihoods of some of the details of the evolutionary theory. The final conclusion is that there is simply not sufficient data to support the idea of evolution as it is generally visualized and taught, and that the constant race between creationism and evolution in the Darwinian sense is still proceeding without resolution.

Much of the support for the Darwinian theory of evolution has, of course, come from studies on mutation and selection of microorganisms and plants, the latter being the test objects of Mendel. There has also been a great deal of stress put on the fossil record. It has been assumed that fossils derivedfrom a particular form of life found in successive strata of geological formations can be interpreted as a record of a continuing change in form that outlines the mutation and selection that has occurred over a very long period of time. A classic example of this latter type of evidence is the layering of snail fossils in the cliffs of England along the Channel where the abundance of fossils changes little-by-little in form for a

particular species as the record is obtained from more and more recent rock formation. However, as Dr. Spetner points out, these changes are really more what is called "micro evolution" and do not give any idea of the kinds of macro evolutionary changes that are necessary to cause really large changes in form and in the direction of further change as, for example, in the complex development of a humming bird with its highly specialized feeding mechanism and flying pattern from some standard bird progenitor. It is Spetner's view that major changes in form and function yielding new species and phyla are simply not evident from the known fossil record.

Dr. Spetner makes the point that biologists have generally distingished between the theory of evolution and the fact of evolution. The term, fact of evolution, is meant to express the reality of our current world containing an enormous number of species presumably derived from an original living and self-reproducing organism. The theory of evolution refers basically to Darwin's concept: selection of the fittest.

The "fact" of evolution relies, as I mention abo , quite heavily on the fossil record. However, as the author points out, if two very different fossils are found separated vertically in the rock strata, one cannot conclude from the fossils alone that the upper descended from the lower. One needs, in addition, additional information that would support the view that the lower one might be the ancestor of the upper one.

One of the basic assumptions that must be made in evolutionary theory is that there was, at one point in time, an event which led to the origin of a living and self-reproducing organism. There is, of course, no such evidence available and many individuals fall back on what is termed "creationism," where everything we see in the way of living things was created by a superior being and has undergone relatively little change since that time. It seems very likely to this reviewer that, with the passage of time, and with the constant increase in our understanding of nature and its processes, we will ultimately understand the origin of life and perhaps even be able to create a living organism from the non-living components of the universe --

salts, water, gases, and the like. Furthermore, there may be some very important tricks in natural processes that we do not yet understand and may not for some time. For example, recently, some very interesting studies have been carried out which show that large portions of the genome of one microorganism can be transmitted to another one, thus preserving many genes that might have previously been modified or destroyed in the recipient organism. This is quoted not because of its obvious impact on the theory of evolution but rather to emphasize how a constant flow of new observations in biology and genetics might eventually lead us to an understanding of the origin problem.

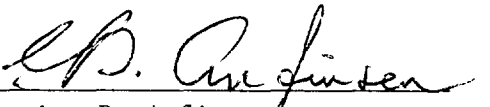
The origin of life from an original primitive form is, of course, a concept that is very unsatisfactory to those who feel that this would lead to a system of living things lacking any spiritual content. As I read this particular comment in this book, I recollected that the Catholic church, not too long ago, decided to accept the evolutionary idea but to reserve in its acceptance the concept of having a soul "breathed in" when man appeared on the scene from his predecessor. Dr. Spetner has summarized the pros and cons quite well in one paragraph that I would like to quote:

> Perhaps some mechanism of the spontaneous generation of life will one day be discovered. Perhaps, also, a valid evolutionistic explanation of the development of life from that first self-reproducing organism will also be discovered. Until such a time, one could accept on faith that such discoveries will be made. On the other hand, one could just as well accept on faith that life originated in some sort of Creation process. Although Creation is not a scientific explanation, it is nevertheless to many people a satisfying intellectual explanation. In the absence of scientific evidence one way or the other, either some kind of Creation explanation or some kind of evolutionistic explanation could be adopted, but only as a matter of faith or intuition and not as the result of scientific reasoning.

This paragraph pretty well summarizes the state of things at the present time, and this reviewer, as a scientist, can only feel that the day will indeed come when evidence will appear to support the spontaneous generation of a living form from inorganic materials and the development of such a form to yield other branches of

living things by mutation and some sort of complex selection with built-in safeguards that might bypass the forbiddingly negative statistical calculations that Dr. Spetner has presented to us.

This book is a scholarly and thoughtful contribution to the field of evolution and I would certainly recommend it to those interested in the pros and cons of this controversial area.



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