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A Computer Model of the Pre-Flood Atmosphere

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SOME NECESSARY REMARKS ON SCIENTIFIC KNOWLEDGE

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ABSTRACT

Dealing with science, evolutionists create unallowable confusion between the validity of scientific data and the arbitrary interpretation they give to them as the only scientific one. So it is necessary to clarify some basic boundaries of scientific knowledge. This paper attempts to trace some aspects of this issue.

INTRODUCTION

The assertion by evolutionists that their explanation of the scientific findings and data are exclusively in favor of the evolutionary idea as being the only scientific conclusion, is an unallowable postulate. They create confusion between the validity of the objective scientific data in the domain of empirical sciences and their arbitrary interpretation, based upon metaphysical assumptions and indoctrination practiced by them.

This situation is posing once more a serious problem for the conditions required for scientific knowledge. Of course it is not possible, even briefly, in this paper to deal with this problem, one of the most fundamental in epistemology and philosophy of science. What is attempted is to trace some main aspects and to point out certain characteristics and present the existing difficulties for objective scientific knowledge. In this way it will be easy to evaluate with distinctness the contention of evolutionists about the validity and consistency of their explanations of the data, and to find out if they are indicative of evolution as a scientific fact or not.

In following such a course it is necessary to look into the fundamental background of empirical sciences; i.e., into the basic presuppositions on which they are erected.

NECESSARY PRESUPPOSITIONS IN SCIENCE

For the existence of science itself, as a human endeavor, it is absolutely necessary to adopt some basic fundamental assumptions. Without them empirical science is not possible.

Since science, beyond the various philosophical views and disputations, by its generally accepted definition and purposes is essentially a human systematic empirical attempt to investigate and learn as much as possible about the natural world, (1) we are obliged to accept some admissions which are fundamental necessities inherent to empirical science. Any questioning or refusal of these fundamental assumptions, which are empirical ascertainments independent of any philosophical attempt to explain or question them, entails the denial of any scientific activity and science itself. In such a case science is replaced by philosophical wanderings or metaphysical beliefs. We should point out that these basic assumptions have also the aspect of limitations in scientific knowledge along with some others to be mentioned afterward.

It is a fact that science, as any other human activity, is built upon several assumptions. We assume certain things which seem to require no proof and are recognized through common sense. These principles are taken for granted because it is not possible to become subject to a scientific test (verification or falsification).

The fundamental principles and assumptions in question are:
a) The self-consciousness of our real existence.
b) The external natural world is real and understandable at least in some extent.
c) Our natural senses give us a reasonable and reliable perception of the external world.

d) The natural world is orderly and reproducible and therefore subject to and worthy of systematic investigation.
e) The laws of logic are valid.
f) Observable effects underlie causes and hence the principle of causality governs the natural world (2).

As for the last premise, it is worthwhile to make some remarks. The idea of "cause" has its roots in our acting upon the world to change it. We all "know" that when we act we are the cause of the changes that ensue. When we act we assume we can make things happen and this assumption presupposes that there are regularities in nature (3).

Nevertheless, independent of the philosophical notion and debate about the Law of Universal Causality as a regularity in nature, or as a metaphysical way of stating a piece of methodological advice (4), it is an empirical conclusion with a logical consistency that the causal necessity is one of the main assumptions for the existence of empirical science (5). Things happen because other things happen and they in turn happen because of preceding events, and so on in a chain of cause and effect that ultimately encompasses the entire universe (6).

This principle is not yet a statement of the existence of causality in nature. Indeed, it is even more fundamental than is causality, for it is at the foundation of the possibility of our understanding nature in a rational way (6a).

LIMITATIONS IN RESEARCH AND UNDERSTANDING THE NATURAL WORLD

The possibility of knowledge and understanding of the natural world are not unlimited. Wideness and possible extension of scientific knowledge in empirical science is one of the most challenging problems in epistemology (the theory of scientific knowledge) and in philosophy of science as well.

This paper attempts to mention briefly some of the most significant restrictions existing in science. It must be emphasized that science, as a human empirical attempt, is not adequate to explain everything. It provides a continuously increasing number, but certainly not all the answers. Science has several fundamental limitations in trying to search and understand the natural world.

Unfortunately, there are many problems for which science has no answers at present and others for which it may never provide answers (7).

The previously mentioned principles and basic assumptions, necessary for the existence of science itself, are also boundaries and restrictions in the scientific inquiry. Further, there are some other limitations, existing due to several reasons, as follows:

A. SCIENCE IS CONFINED BY THE METHODS NECESSARY IN USE TO INVESTIGATE THE NATURAL WORLD

These are: 1) Induction, in which, using particularity, we formulate generalizations, and 2) Deduction, in which, using inferential logic, we determine the necessary consequences of a generalization.

The problem with Induction is well known (8), that inductive generalizations cannot be proved to be immune from revision that more information (more experience) may lead to modify our scientific generalizations. (Induction cannot be shown to be immune from error). Inductive inferences cannot be shown to lead to conclusions which are certainly true, even though all the premises, that is, the descriptions of the particular events, are true. But we must make the best of what we have for inductive inference in the process by which we acquire knowledge from sense. Inductions support all our knowledge of the empirical world.

On the other hand, the classical form of inference is deduction inference. Here the process of inference is in accordance with accepted rules of logic and if the inference is valid, that is, if the rules are correctly followed, the conclusion cannot be false (if the premises are true) since the conclusion can contain no more information that what is found in the premises. However, the fact remains that deductive inference can never tell us more than is contained in the axioms; and since the axioms, or assumptions, are devised or accepted by us, deductive inference can only reveal the nature of our own constructed systems (9).

Here we must mention what Professor Sir Peter Medawar called the "Law of Conservation of Information," which tells us that there is an intrinsic, built-in limitation upon the growth of scientific understanding because no progress of logical reasoning can enlarge the information content of the axioms and premises or observational statements from which it proceeds. That is, from observational statements or descriptive laws having only empirical furniture, there is no process of reasoning by which we may derive theorems having to do with first and last causes (10). Thus, as Garvin McCain and Erwin Segal say: The game of science

never ends; all conclusions are tentative. No matter how much information scientists have, they can never be certain of any of their conclusions. Information about the real world ultimately has to be known by induction, and nothing that is known by induction is known for certain. There is no way one can gain certain knowledge about the real world (11).

B. SCIENCE IS LIMITED TO WHAT CAN BE OBSERVED WITH FIVE SENSES

The only way by which we can investigate the natural world is through observation and experimentation, both involving the human senses (in most cases aided by instruments). If something can be seen, heard, touched, smelled, or tested then science can deal with it. The well-known evolutionist Professor George Gaylord Simpson said: "It is inherent in any definition of science that statements that cannot be checked by observation are not really saying anything or at least they are not science (12).

C. SCIENCE AND ITS METHOD ARE LIMITED TO THE PRESENT

This is self-evident, an axiomatic statement that hardly needs annotation. Science is limited to the present because it is the only place and time in which the five senses operate. Science seeks to investigate observable natural phenomena and events and to treat by means of experiments. But observational and experimental requirements can be met only in the present time. The past and, especially, the beginning of things lies beyond the grasp of capabilities of science and so only speculations and conjectures are possible about past natural events and their origin, as well as about the origin of the natural world as a whole (10). So, it is obvious to any unprejudiced mind that true science must limit its scope to things properly observed and recorded. In this sense, for instance, geology, when trying to tell us about pre-human history of natural events, cannot deal with currently observable and reproducible events. It is manifestly impossible ever really to prove or disprove by the scientific method any hypothesis or theory related to such natural events of the past.

D. SCIENCE IS POWERLESS TO EXPLAIN ORIGINS

This is a certain and important limitation derived by the nature of science itself as an empirical attempt. It can define methods, qualities, and limits, but it can't determine origins. Science is concerned with and can deal with a given physical system already in operation. Everything in the empirical world which is not reproducible, at least in its main essential and typical characteristics and components, is excluded from scientific research. The only way to approach these unique events of the natural world, not reproducible at the time of investigation due to their inherent inaccessible character, is the formulation of various equally valid but tentative and speculative explanatory hypotheses or theories. But such theories, in turn, cannot give any scientific knowledge since they may be reasonable yet contradictory to each other due to their compulsory, dogmatic, metaphysical, or religious bases and a priori assumptions, which cannot be subject to any scientific test in order to prove or disprove their postulates (2).

E. SCIENTIFIC RESEARCH IS LIMITED TO TELLING US "HOW" A PROCESS WORKS, NOT "WHY"

Science can give us the "know-how" but cannot give us the "know-why" (13). Scientific research seeks to answer questions of "what" and "how," and sometimes "where" and "when," but it can never deal with "why" questions. The scientific method is incapable of dealing with the realm of purpose. It can deal with "why" when one uses the term "why" with reference to purpose. Science deals with mechanisms, not purpose. "Why" in regard to purpose is not a question that science is equipped to answer (14).

Usually scientists not only offer us descriptions and classifications of things and materials and their actions and interactions, but also give us explanations. They can often explain why there are the things that there are. They can explain why things and materials behave the way they do. Such explanations are usually given by the formulation of a theory. Science is not natural history; it is not the accumulation of facts. It is the building of a picture of the world. It is an intellectual enterprise aimed at understanding the world. What makes it different from other such enterprises, say that of the makers of works of art, is that it is done under the discipline of the experimental method. A theory whose consequences cannot be born out by experiment and observation must be modified or some defect in the experiment demonstrated (15).

F. SCIENTIFIC RESEARCH IS LIMITED IN THAT IT CANNOT DEAL WITH THE UNIQUE

Scientific research deals with those things that are: a) timeless, b) universal, c) dependable, and d) repeatable at will. Those things which do not fit into these categories are outside the realm of science. One-time events on earth are outside of science. At the core of scientific method or methods is experimental repeatability or reproducibility. Singularities are excluded from the capabilities of scientific investigation.

G. SCIENTIFIC RESEARCH IS LIMITED BY MEASUREMENTS

Another limitation of science concerns the accuracy of measurements. We can't measure anything completely accurately and we never will be able to, if our current conceptions of physics are accurate. Heisenberg's Uncertainty Principle leads to the conclusion that there

are limits to the accuracy of our measurement. When sub-atomic particles are involved, there is no way to measure simultaneously both their velocity and their location. Thus one can't accurately predict a particle's future location and velocity. Furthermore, the apparatus used to measure sub-atomic particles affects their location and velocity.

H. SCIENCE AND REALITY

The last limit of science falls under the general heading of "metaphysics." There are questions about reality: What are electrons?

Of what is a table really made? Does magnetism exist? These questions can be most exasperating and they cannot be answered. Scientists start with a set of undefined terms. They may think that they are real, and they may give them some properties, but they cannot tell you what they really are (16).

Finally, we must emphasize that the last and ultimate formation and substance of the things that constitute the natural world will escape forever any attempt at empirical scientific knowledge, mainly due to the fact that such a quest is not scientific but exclusively a philosophical one. These are the main limitations existing in science and scientific questions about research.

Thus, in accordance with these limitations, the theory of evolution evidently does not meet the necessary requirements in order to be a pure scientific theory capable of furnishing scientific knowledge. In addition, the important issue of the explanation of data by the evolutionary theory reveals its real nature as a non-scientific theory.

EXPLANATIONS OF NATURAL PHENOMENA AND EVENTS

As has been mentioned, scientists not only offer descriptions and classifications of things and their interactions, but they also try to give explanations. They try to explain why things behave the way they do. Such explanations are usually given by the formulation of theories aimed at understanding the natural world. Any hypothesis or theory is a useful tool and opens new roads to knowledge. But because it is a tool, any theory also has limitations (17).

Scientific hypotheses and theories differ from dogma (philosophical or metaphysical assumptions) on the one hand and speculation on the other in that hypotheses and theories are tentative and falsifiable by the empirical, scientific ways of testing; i.e., observation and experimentation. So, if hypotheses and theories are proposed in such a way that they cannot possibly or practically be discredited, then they lie outside the domain of science. A theory unchallenged and consistently supported by facts is called a law of nature.

But the process of moving from generalizations (hypotheses and theories) to a law of nature does not necessarily mean the generalization has become fact; the likelihood of its being correct merely increases, or as it is commonly stated, it has a higher statistical probability of being right (17). Neither hypothesis nor theory-even a law-is in the same state as absolute truth. All these rest upon a perennially shaky foundation and all are vulnerable to uncomfortable facts. Scientific studies do not produce information which is absolutely certain. It might be argued that while we can be said to know those particular facts about the world which make up the evidence for laws, we can only properly be said to have a belief in a law.

Some people have thought that, strictly speaking, the content of scientific laws should be considered to be confined to the statistics of sets of numbers derived from the readings of instruments. Others have thought that the laws of nature are about the behavior of real things and materials that make up the world as we know it. Yet others have thought that they describe nothing but the ordered sequences of sensations that we experience (15). Anyway, laws of nature are only humanly constructed descriptions of humanly comprehensible phenomena.

With regard to the uniformity of nature, modern science often takes yet another leap of faith and extends the induction generalization process not just to all of cosmic time, but to all of space as well. This is the pure assumption of the universal uniformity of matter (uniformitarianism), an unstated assumption made by many individuals that deal with long term developing natural systems, such as astronomy, cosmology, micro- and macro-evolution, anthropology,and many others (18).

THE NATURE OF SCIENTIFIC EXPLANATIONS

To explain a phenomenon, we must be able to describe the causal mechanism which is responsible for it. But in each area scientists find themselves incapable of proceeding more deeply into a matter. And in each area scientists explain this temporary ending of scientific penetration

by a metaphysical theory in which what is basic for one time and one limited scientific culture is elevated to the status of the ultimate. So, both scientific and metaphysical theories enter into descriptions and into our understanding of them in several ways (19). Several competing explanations for the same phenomenon may be equally attractive and often none of them can be proved false.

In the case of the theory of evolution the raw data used by evolutionists can be interpreted just as satisfactorily within a creationist framework (20). The theory of evolution, like other theories, depends on the interpretation of data. The reliability of the data and how the data are interpreted depend upon the theory that is held by the investigator; i.e., the presuppositions and dogmatic assumptions on which the theory is based and founded. Reported data and human knowledge are not the same thing. The facts do not speak for themselves. They must be interpreted and they say what their interpreter makes them say. So, the data are always interpreted or explained from a given world view or presuppositional stance which underlies any hypothesis, theory, or model. Thus it should be no wonder that we can interpret the same data in different ways with an internal logical consistency and come to quite different conclusions (21).

The scientific issues are indisputably important, but they derive their importance from much deeper issues that touch upon humanity's highest aspirations and fundamental existential questions, like the quest for God. Although many people abstain from facing these questions, they demand answers and finally lend an understandable intensity to the scientific controversies. They also erect a very strong and subtle, but decisive, influence on the conduct of scientific studies and interpretation of scientific data (21).

Evolutionists are interpreting scientific data and findings in conformity with the naturalistic-materialistic presuppositional worldview, which is their metaphysical-religious, dogmatic preference and not, as they assert, a scientific theory, since it can't be subject to any test in a scientific, empirical way.

The same must be said for creationists who explain and interpret the same scientific data and findings in a different way, based upon the revealed biblical view of the natural world in terms of the existence and intervention of the God-Creator.

CONCLUSION

In conclusion, it has been demonstrated that: a) Scientific inquiry lies within certain limitations, both in attempting to investigate the natural events as well as to explain and understand them in a scientifically empirical way; b) These limitations lead usually to theories and models devised to understand and explain natural events, based on metaphysical assertions which are not possible to be verified or falsified in an empirical, scientific way; i.e., observation or experimentation. From this point of view, almost all the basic theoretical constructions of modern physics, based on assumptions or postulates which are not subject to any empirical tests, are philosophical and metaphysical assertions and not scientific ones. c) Consequently, the theory of evolution founded on the metaphysical naturalistic-materialistic assumption and world view, in trying to explain origins and understand and interpret the pertinent scientific data, is, evidently, not a scientific theory or model but a metaphysical-religious a priori postulate and doctrine unverifiable and unfalsifiable.

For the sake of validity and independence of science from interferences and scopes alien to its aims, I think it is necessary nowadays to reveal the fact that evolutionary theory monopolizes science in its favor unallowably and to demonstrate that evolution is a metaphysical-religious proposal which requires faith and faith only for its acceptance, being unable to furnish sound scientific knowledge.

SUMMARY

Science as a human, systematic, empirical attempt to study the natural world is not adequate to explain everything. Science has fundamental limitations because:
a) It is built upon some basic principles absolutely necessary for its existence.
b) It is confined by the methods of investigation (induction, deduction).
c) It is limited to observables with senses (observation-experimentation).
d) It is limited to the present in which the five senses operate.
e) It is limited to "how" a process works, not to "why." It is incapable of dealing with purpose.
f) It is limited by unique events. Singularities are outside the capabilities of scientific investigation.

In the face of such limitations, the hypotheses and theories of scientific operation function as useful tools, but also have certain limitations:

1) They should be tentative and falsifiable.
2) They should be able to make testable predictions.
3) Any explanation offered by them should be testable.

Theories offering explanations irrefutable by experience cease to be scientific. They become either analytic definitions or metaphysical dogmatic assumptions. The theory of evolution depends on an arbitrary interpretation of observations and data which is not empirically testable; therefore, evolution is not a scientific theory but exclusively a metaphysical or philosophical dogmatic postulate, being unable to offer scientific knowledge.

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