

INTRODUCTION TO THE PHILOSOPHICAL PAPERS IN THIS ISSUE

[It refers not only to the article included herein, but to all the papers making up the corresponding issue of CRSQ.]

The special topic for this issue is philosophical questions about origins. Choice of this topic was made with the knowledge that often proposals to mention creation, as a possible origin, are opposed on the grounds that to do so would be to teach religion.

As can be seen, this topic has been developed in a variety of ways. one aspect that should be primary in any philosophical discussion should be consideration of the question: "What do we mean by what we are saying?" It is only too easy for people to be at cross-purposes because they are using the same words to mean different things. Thus Moore has provided a number of definitions.

There is a sense, of course, in which science, especially, is closely connected with religion, even to the point of being a branch of religion. For scientists, if they are not to leave their job half done, must consider things as effects of the First Cause, which, as St. Thomas Aquinas has written, all men call God. In this sense it is impossible to exclude religion from the schools, for instance; if anything is to be included The only question is: "What kind of religion—theism or pantheism?" Ingram has developed this viewpoint.

Since this matter arises partly at least in connection with schools, it is of interest to read how Williams and Mulfinger have dealt with it in an actual course in physical science.

Finally, Armstrong returns to definitions and differences. He proposes, in the narrow sense in which the word is used in discussing schools, to mention creation is not to teach religion; for to acknowledge creation is one thing, but to consider how to be in the right relation to God is another. As for evolution, by the definitions proposed, it is either no science at all or else a false science.

—EDITOR ARMSTRONG

SOME DEFINITIONAL FORMULATIONS

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Clear definitions of terms are required during any serious, rigorous discussion. This is particularly true in any discussion regarding origins; whether attention is given to origin of the universe, of matter therein, of the earth in the solar system, of plant and animal life on the earth, of mankind, or of man's culture.

In attempting to formulate answers to such questions of origin, evolutionists and creationists have derived totally different contentions during the past century to the present. Therefore, today, there is no real consensus between creationists and evolutionists on the meaning of such terms as "facts," "hypothesis," "theory," etc. Consequently discussions regarding whether creation is science or evolution is religion; or, vice versa, whether evolution is science or creation is religion, continue with participants usually at cross-purposes.

Of initial impact is the fact that many evolutionists do not realize that "science," as a profession today, developed from early beginnings set in motion primarily by Christians and other theists. Clearly, one can identify that the "scientific era" began when the accepted worldview was organized according to theistic beliefs, under the leadership of such theists as Bacon, Galileo, Kepler, Newton, and continued by such men as Steinmetz, Clerk-Maxwell, Einstein, and Von Braun of the present. This assertion is supported easily by quick reference to numerous authors, among the most recent of which is the work of R. Hooykaas, *Religion and the Rise of Modern Science*.

Actually theistically oriented men established the proper limiting principles of scientific work, as they inaugurated such fields as mechanics, astrophysics, and electricity. Early scientific "greats" recognized that science was properly limited as being, (1) empirical, or observational and based upon sense perception; (2) quantitative, or centered on measurements represented in numerical symbols; (3) mechanical (materialistic), or organized according to machine-like models; and (4) corrective, or designed so that all aspects, beyond basic presuppositions and postulates, are subject to re-test and examination.

Of course early scientific men offered various theories to "explain" natural phenomena. The early atomic theory, phlogiston theory, fluid theory of electricity, molecular theory, blending theory were all formulated on the basis of then current observations by sense perception, measurements, and conceptualized physical models. And, according to usefulness and fruitfulness for continued observation and experimentation, many theories were modified or discarded as tools, instruments, and other methods of analysis were improved.

Yet, today, leaders of the worldwide, intellectual community base their worldview on a basically a-theistic scheme of Total Evolutionism: a total continuum of grand scale or scope: Eternal Matter, out of which Cosmic (or Stellar) Evolution is imagined, from which came supposedly Molecular Evolution, from which came presumably Organic (or Biological) Evolution, from which Social (or Cultural) Evolution toward some kind of "utopia" is expected to "emerge."

Therefore, against these introductory propositions the following definitional formulations are offered. Possibly these statements may be catalytic commencement of a search for consensus on terminology used by creationists and evolutionists.

Basically, there is no need for new physical evidence regarding ideas pertinent to questions of origins of the universe, of life, or of mankind. And there are no private facts for scientists who follow a theistic worldview nor for scientists who follow the a-theistic worldview of total evolutionism.

Disagreements between creationists and evolutionists are conceptual and not factual in character. The same physical data of the geological record, animal breeding records, and plant breeding records are utilized by both creationists and evolutionists. The "real situation" could be phrased in terms of "conflict questions," as was done in the doctoral thesis, "Methodological Issues in Evolutionary Theory," by Wing Meng Ho for his 1965 degree at Oxford University.

Dr. Ho maintains that these conflict questions are no longer problems of science, but problems in philosophy. That is, there is no need for more physical evidence, as claimed by such as Sir Gavin de Beer, for discussion of conflict questions that center in such dichotomies as, (1) mechanism versus vitalism, (2) mechanistic versus organismic biology, (3) non-teleological versus teleological approaches, or (4) non-evolutionary versus evolutionary origin of matter and life.

Problems of origin are truly centered in discussions about the philosophy of science, the philosophy (worldview) of scientists. Foundational to the definitions that follow is the position that scientific theories are very limited, and cannot be devised or applied to questions of origin at all. This is quite counter to the usual interpretation taken by evolutionists. Nor is the common meaning of "law," as used by civil lawyers, involved.

The author invites a thorough examination of the following meanings for basic terms. Refinement and "tightening up" will be logical consequences of careful study and reaction by creationist scientists and evolutionist scientists.

Assumption (Postulate): a statement taken for granted and not tested directly during particular scientific activity (explicated as basic assumptions, experimental assumptions, or theoretical assumptions). Terms with directly observable referents may or may not be used.

Basic assumption (Presupposition): a statement taken for granted as an untestable "given" upon which scientific activities (and intellectual discourse) are based such as:

1. Objectivity of study is possible.
2. Objects and/or events exist independent of observers.
3. Cause and effect relationships exist that may be identified.
4. Scientific ideas are testable, i.e., falsifiable, or not.
5. There is uniformity in the natural environment.

Fact₁: an object and/or event in space at sometime.

Description (Fact₂): a statement about some object and/or event in space-time. (*The lowest [basic] level of scientific explanation.*)

Observation: a perceptual experience of a fact, or a written or spoken record (as communication to self or another) of an awareness (perception) of an object and/or event in space-time.

Classification: the end result of ordering of objects and/or events according to stated criteria, or the process of ordering objects and/or events according to stated criteria.

Calculation: some arithmetic and/or mathematical manipulation of abstract and numerical symbols.

Problem: an interrogation or stated perplexity for which an answer is sought. (A problem is most properly expressed in question form.)

Hypothesis: a tentative (untested) answer to a problem. (A hypothesis is most properly expressed as an assertive statement in form suitable for testing.)

Analogy: an expression or comparison of like or similar aspects of known objects, events and/or ideas, concepts.

Generalization: a universal conditional statement of common aspects of similar objects and/or events; or an assertion that something is true about all members of a certain class of objects and/or events. For example, a scientific law.

Scientific law: a repeatedly tested and well supported or substantiated generalization of seemingly universal application regarding a certain set of facts. (*A level of scientific explanation between description and scientific theory.*)

Prediction (Expectation): that expected or projected state of affairs or relationship of objects and/or events based upon known or understood conditions; always found in an if . . . then expression.

Experiment: a specifically designed use of equipment, tools of measurement, and controlled variable components to gain observations and descriptions usually otherwise unobtainable.

Experimental assumption: a statement about that aspect(s) of experimentation (controlled or of trial and error category) that is taken for granted as "non-critical" and not measured in any way.

Cosmology: the study of the nature of the universe; use of tools and technology to describe aspects of the observable and physical universe.

Explanation: a set of meanings used to provide organization for particular facts. (Something has

been "explained" when the statement, "I understand," can be truthfully made in response to the explanation offered.)

Scientific theory (such as Molecular-Kinetic Theory, Modern Atomic Theory, Nuclear Theory, Gene Theory): a list of postulates or assumptions (theoretical) usually specifying existence, relationship, and events concerning an imaginary entity (such as an atom, gene or molecule) whereby a meaningful "explanatory system" for a range of rather diverse facts is made available. (Postulates are based upon prior observations of relevant objects and/or events; and, in turn, are bases of predictions testable by experience, directly or indirectly.) (*The highest level of scientific explanation.*)

Theorem: a statement derived from assumptions of scientific theory more or less in the form of testable predictions or expectations.

Model: a physical object designed to show analogical representation of some larger object(s) and/or event(s); or a conceptual pattern involving listed statements about imaginary objects and/or events and supposed relationships, especially associated with concepts of origination and generation.

Cosmogony: a list of ideas or formulations centered on origination and generation of the universe. (Such conceptual patterns or models (Do not qualify as scientific theories since no prior observations or testable predictions about origins are possible.)

Evolution model: an explanatory belief system based upon eternal existence of matter from which have come an ascending series of elements by nucleogenesis, changes by stellar evolution of "young" stars into "old" stars, galaxies, planets (especially the earth with life that appeared spontaneously through molecular evolution followed by organic evolution, including human evolution). (Ideas have to do with *origination* of order out of disorder and *integration* of more complex patterns out of least complex patterns.)

Creation model: an explanatory belief system based upon existence of an eternal Creator who established a completed, finished, and functional universe in all aspects regarding elements, galaxies, stars, planets (especially the earth with mutually exclusive groups of animals and plants.) (Ideas have to do with *conservation* of known conditions; yet, changes of *decay* and *degeneration* are evident and easily documented.)

Science: an interconnected series of concepts and conceptual schemes that have been developed as a result of experimentation and observation and are fruitful of further experimentation and observation. (Science is limited to the study of nature; that is, study of matter and energy, because of limiting principles of being empirical, quantitative, mechanical [materialistic], and corrective.)

Scientism: the belief that the only knowledge of repute and value is that obtained by means of scientific process; or the belief that science can be used to gain answers to all human problems.

Technology: applied science; or the totality of the means employed by human beings to provide material objects for human sustenance and comfort.

References

- Ho, Wing Meng. 1965. Methodological issues in evolutionary theory with special reference to Darwinism and Lamarckism. *Oxford*, Bodelian Library, Oxford. (Shelf-mark: Ms. D. Phil. d. 3591. Photographic order no. BPC 7442, Oxford University Press.)
- Hooykaas, R. 1972. Religion and the rise of modern science. William B. Eerdmans Publishing Company, Grand Rapids, Michigan.

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