mistakes but would human beings be human? No, machines. Is the prospect attractive? The proposed world would be more like a clockwork.

The freedom of man is not perfect because of limitations in heredity and environment but men have enough freedom to afford many choices of action. It naturally follows that many mistakes are made——even worse, wrong deeds are committed knowingly.

If God gave man no choice but to do right then man would not have an opportunity to be wrong. If God made man with power to choose but with no provision for repentance when he does wrong, man would be helpless indeed, for all of us have sinned. This need for a man to correct a broken life and rebuild the damaged places is one of the reasons for miracles. Jesus Christ is that man.

All must be reminded that, while law is used, the ultimate rule of the world is by a Person. The words are not vain when repeated, "I believe in God the Father Almighty!"

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ON METHODS OF TEACHING ORIGINS: A PROGRESS REPORT

JOHN N. MOORE *

If creation science becomes an integral part of curriculum in both public and parochial schools, then teachers must learn "how to do it". The author recounts aspects of his course at the university level, and indicates how he is aiding others to do similarly, even at the secondary level of learning.

Introduction

When I began teaching I was an evolutionist and taught evolutionary thinking for almost six years before I became a Christian in 1962. Most instructors in the scientific field are exclusive evolutionists, as that is the only point of view they have been taught regarding origins. Ever since Darwin's *Origin of Species* appeared in 1859, the philosophy of evolutionism has pervaded all the disciplines of human knowledge, so that even an English major is trained to think that way.

After 1962 I changed my teaching of general education science at Michigan State University to include more and more of a two-way presentation about origins. In my present teaching I make it clear that my students will experience a formative confrontation between the evolutionary explanation of the majority and the creation explanation of the minority. Students are encouraged to realize that today, in the 20th century, they still have a real, live option with regard to origins.

The scientist does not have it all "sewed up" when he proposes that the universe began by an explosion. He has no knowledge of such an event *as a scientist*. When he claims that life began by some transcombination of molecules he only expresses his imagination. When he says that humankind is a consequence of mutational mistakes–errors of reproduction or the failures of DNA replication that formed the blacks and yellows, and so on–this is sheer imagination, and he pushes his position at the expense of academic freedom, and good, solid scientific work.

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General Course Outline

At Michigan State University the natural science course I teach ("Science, Beliefs and Values") emphasizes discussion of "The Origin of the Universe", "The Origin of Life", and "The Origin of Humankind".

In the *fall term* the theme is, "What are men's ideas about the place of the earth in the solar system and in the universe?" This leads to the question, "Is it possible to study scientifically the origin of the universe?" And the answer is "no". Subject matter is drawn from astronomy with attention to "motion", good scientific theories, contrasts of cosmology and cosmogony; and my students examine carefully the two principal explanations of "evolution" and "creation" regarding the origin of the universe.

Classwork in the *winter term* centers on the question, "What are men's ideas regarding the origin and continuity of life? This leads to the question, "Is it possible to study scientifically the origin of life?" And the answer is "no". Subject matter is drawn from sexual and asexual reproduction and genetics and attention is given to two beliefs about origins: one is spontaneous generation, which is consistent with the philosophy of naturalism; and the other is created life order as coming from the Creator.

The *third term* is the capstone of the year with the question asked, "Is it possible to study scientifically the origin of humankind?" And again the answer is "no". Subject matter is drawn from geology regarding geological changes as basis for consideration of biological changes as to two degrees of change, that is, *within* kind and *across* kind. Application of circumstantial and conclusive evidence to an evolution model and creation model about origins of the variety of living things, including man, is stressed. My stu-

dents learn that only circumstantial support can be given the evolutionist position; and that the same data can be used to support conclusively predictions from the Genesis account.*

Team-Teaching Explained

In the current Spring Term I am engaged in a unique team-teaching arrangement with an evolutionist colleague, Dr. Donald Weinshank, Ph.D. We are both participating in three lecture sessions per week which are attended by over 250 students. Then we meet in an alternating pattern with these same students in eight separate recitation-discussion-laboratory sessions that are held twice each week. These smaller classroom sessions of about 32 students convene after each Monday and Wednesday lecture session, respectively. (All eight sessions were marked with an asterisk in the *Spring Term Schedule of Courses* with a footnote that the main subject area would be evolution versus creation.)

To the best of my knowledge this is the first time such a team-teaching approach has been implemented at a major educational institution. Our project is typical of the innovative tradition at Michigan State University, the original land grant college in this nation–and the two-way approach taught by an evolutionist scientist *and* a creationist scientist is fully in keeping with the academic freedom encouraged at Michigan State University.

Evaluation of student participation is centered in two lecture examinations and a final examination. Just before the first lecture examination, the two instructors explicated their points of agreement and disagreement. See Table 1. Primary disagreement areas are indicated by asterisks. Dr. Weinshank maintained at the beginning of the course that theories are either "contemporary" or "historical", and both kinds were good examples of scientific theories. I disagreed and have continually emphasized the following:

	Evaluation criteria:
a. Scientific (Contemporary) Theories	a) Identifiable *prior* observations
Examples: Gene Theory Atomic Theory Nuclear Theory Kinetic-Molecular Theory	b) Predictions, *before the fact*, that are testable by repeatable experiences, directly or indirectly

Function: to explain "present" phenomena involving events in life experience of human beings

*A book by Zola Levitt, *Creation: A Scientist's Choice* (1976, Victor Books, Inc., Wheaton, Illinois 60187) presents a great deal of my thinking. Readers learn how the author, a "closet evolutionist" (one who accepts creation on Sundays, and seems to defer to evolutionary thinking during weekdays) gained an objective basis for coming out of his closet and knowing in an objective manner how he can support the creation account of origins scientifically, even in this "scientific age" of the 20th century.

TABLE 1–A LIMITED OUTLINE OF CREATIONIST POSITION

SCIENCE:	based on authority of repeated direct or indirect observations. First origins of necessity are in separate category from scientific theory of gene*
GENE THEORY:	excellent example of scientific theory, meets criteria as based on prior observations, is basis for testable predictions, and modifiable
VARIATION:	factual, observational, intersubjective, objective fact of changes of gene frequencies
Two degrees of change:	within or across kind
Species:	whatever a group of authorities say it is; some reproductively isolated breeding population of organisms
Kinds:	recognizable types, forms of organisms, which belong to some breeding popu. (Known amino acid sequences are specific for each kind–Dickerson article in *Scientific American*, April 1972.
EVOLUTION:	not mere change, or unfolding, or just changes of gene frequencies
MICRO-:	change *within* kind - genetic variation *within* kind
MACRO-(MEGA-):	change *across* kind proposed by evolutionists
NATURAL SELECTION:	essentially elimination of existing organisms which were of unknown origin; means for changes of gene frequencies *within* kind, no criteria really; analog to artificial selection of breeders using specific criteria. Involves selective pressures (agents, aspects of environment) which result in identification of existing variants–some live, some die. Examples given by evolutionists are all closed within same kind of organism as was studied at beginning of research. (That is, a researcher concludes research with same organism as at beginning of research–moths, bacteria, etc.)
CLASSIFICATION:	arbitrary grouping, ordering per agreed upon criteria
Similarities:	have been used over the centuries to place plants and animals in distinct, recognizable categories; hence, resulting in turn in emphasis upon *differences* detectable generation after generation, over thousands and thousands of years
GRAND CANYON EXPLANATION*:	reasoned, mental reconstruction, use of observation PLUS *imagined or proposed* origin of rocks, involving basically unnatural processes of mtn. bldg, complete erosion of mtn. ranges, continental glaciation, fossilization
"Historical" geology*:	*imaginative* stories, narratives, or proposed senarios of what *might have* occurred but which all know are uncheckable
SEARCH FOR EXTRA-TERRESTRIAL LIFE:	activity of the present, *extrapolative* basis for proposals about past. Any production of amino acids = procedures by careful, repeatable experiments
GEOLOGIC COLUMN*:	does not exist anywhere in total order; a reasoned, mental assembling, use of local observations PLUS *imagined or proposed* origin of rocks PLUS *imagined or proposed* origin of life forms
Circular reasoning:	rocks dated by fossils, fossils dated by rocks
CONTINENTAL DRIFT*:	*imagined, proposed extrapolation* into past using known changes of present, no known natural causes from testing
FLOOD MODEL*:	Canopy, Greenhouse climate, Moderate hilly terrain, Wide migrations, Continental break-up possibly

*Indicates explicit points of disagreement between evolutionist professor and creationist professor.

	Evaluation criteria:
b. "Historical" (Imaginative Narratives) Theories (Arguments) Examples: Big Bang "Theory" Geological reconstructs Macro- (mega-) evolution Continental Drift "Theory" Hominid Macro- (mega-) evolution	a) Identifiable observations of events in "present" life experience of human beings b) Predictions, primarily *after the fact*, that are testable *only* by logical reasonableness, internal consistency regarding past events

Function: to explain unobservable *origins* of aspects of the "present" environment

Objective multiple-choice questions used in the first lecture examination were designed in such a manner that students indicated which statements were attributed to proponents of the evolution model and the creation model presented to them at the beginning of the course. Another set of questions called attention to the fact that classwork had been designed to maximize interaction between evolutionist and creationist points of view of the same facts. Students indicated which statements were consistent with the position of either the evolutionist scientist or the creationist scientist. A moderate approximation of a normal curve was characteristic of raw scores on the first examination.

My campus colleagues, in the last three years, have recognized the substantive scientific basis of the creation account of first origins. I have given guest lectures, strictly upon invitation, to graduate students in zoology, honors section students in botany and zoology, students in the special science college, and departmental colleagues have opened their own lecture classes for a total of 30 presentations of a guest lecture, "A Scientific Case Against Evolution", in the same three year period. They have wanted their students to hear a concise, pointed two-way presentation of evolution model versus creation model with regard to first origins. (Interesting point: Colleagues involved have regularly been the younger instructors, with and without tenure.)

Lectures to Science Methods Classes

This year two invitations to speak to education methods students were filled at Michigan State University and Ball State University (Muncie, IN) in which I used the following brief outline:

1. A series of transparencies were projected about the variety of living things and variety of fossils as well: dog genealogy, finches, pigeons, and fossilized skeletons of gopher, spider, and frog–as observables in "real world", and variety to be explained. Also projected: list of so-called "living fossils", and two charts showing duration of major kinds of plants and animals throughout most of accepted geologic time scale (based on English Geological Society publication); hence basis for concept of "fixity of kinds".

2. Transition from observations to explanation (models): Per basic assumption of scientists of cause and effect, what about origins of the great variety of living and dead things?, what about *first* origins?

MAJORITY MODEL:	
a. Explosion of dense particle b. Spontaneous generation c. Mutational changes (accumulated errors)	Origin of: UNIVERSE LIFE HUMANKIND

(Clarification re (b) as not the same as Macroscopic Spontaneous Generation of Greeks, disproved by experiment by Redi, nor same as Microscopic Spontaneous Generation of mid-19th century, disproved by Pasteur's experiments.)

	MINORITY MODEL
Origin of UNIVERSE (order)	a. Creator God (Orderer–pattern)
LIFE (order)	b. Creator God (Orderer–kind fixity)
HUMANKIND (order)	c. Created from dust (Orderer–uniqueness)

A single page was distributed containing brief itemization of more details of each model. (See Table 2).

3. Thus *both* MAJORITY and MINORITY MODELS involve *supra*-natural phenomena for which there are no observables at all; no one has observed such phenomena and none of the phenomena are subject to replication so important to strict scientific methodology!

Attention to transparencies of old, early 20th century diagrams of solid line connections between kinds of plants and kinds of animals, which was contrasted with modern dotted line connectors such that present variety is mostly "twigs" on supposed branches of main tree trunk; with specification that MAJORITY MODEL entails reliance upon the *assumption*: *the degree of relationship depends upon the degree of similarity*.

Yet no genetic lineage connections can be demonstrated by any known research; hence MINORITY MODEL involves "fixity of kinds" as shown on transparency of contrast between mono-phyletic tree of modern evolutionism (based on explosion and spontaneous generation) and modern creationism as a forest of trees of variability *within* kind (based on created kinds). Comment on parsimony that one beginning of evolutionary tree is not more simple than multiple created kinds of trees of creation model, since former includes many, many supposed DNA errors and presumed positive outcomes of prey-predator relationships.

These are typical questions and answers that followed the condensed presentation:

Q. What about customary links?

A. Typical reference is made to *Archaeopteryx*, which is basically recognized as a bird by ornithologists, with some unique or peculiar features, such as long tail, teeth, and claws on wings. The Hoactzin bird in South America has claws on wings; is it evolving? Essentially there are missing chains, and not just missing links.

Specifically the MAJORITY MODEL involves the basic assumption mentioned of relationship being a function of similarities, and hence *Archaeopteryx*, *Seymouria* and others are just forms that are similar to other forms, yet without any known or detectable genetic connection.

Q. What do you mean by the term "model"?

A. Explicitly a scientific theory may be thought of as synonymous with the term "conceptual scheme", and each entails a listing of postulates, which are basically assumptions that are taken for granted. Model refers to a particular thought construct that is properly applicable to first origins.

Q. Can you give an example of involvement of other subject areas than science?

A. Projection of transparency of all major areas of human knowledge along the lines of the MAJORITY MODEL leading then to a type of selected indoctrination. Attention was given to Carl Becker and Charles Beard as examples. The latter did not even do the research for the position he wrote of in following thinking of Marx who, in turn, was significantly influenced by Charles Darwin's *The Origin of Species.* (Chart used is available in booklet, "Should Evolution Be Taught?" (p. 26) from Creation-Life Publishers, Box 15666, San Diego, CA 92115 for 30 cents.)

Q. What about some bill on creation teaching in the Michigan Legislature?

A. Such is now in the Education Committee of the Senate I understand and I do NOT favor this approach at all. I hold that it is legal to teach about various people's beliefs about first origins. I should mention a two-column coverage of "Creationists say–, Evolutionists say–" in Stanley Weinberg's, *Biology: An Inquiry into the Nature of Life*. Boston: Allyn and Bacon, Inc., 1974, p.467.

Q. What is your motivation?

A. I am interested in contributing to re-vitalization of science teaching, especially regarding first origins. I am not here to "win", but to communicate, as is the intent of leaders of national organizations, at the "cutting edge" of the creation-evolution controversy, such as the Creation Research Society, an organization of qualified scientists, which publishes the *Creation Research Society Quarterly*

TABLE 2

Statements of Evolutionary Uniformitarianism Model of Origins (based upon world-view of naturalism)	Statements of Catastrophism and Creationism Model of Origins (based upon world-view of theism)
1. Matter has existed eternally (No cause)	1. Universe was created essentially in present state. (Cause: Eternal Creator)
a. Matter continually appears (from energy?)	a. Matter, planets, stars created complete.
b. Matter exploded and continues to expand.	b. Light rays created directly.
2. A whole series of elements was generated (evolved); and stars, planets have evolved by accretion.	2. Universe was created complete and basically stable.
3. Apparent land features resulted from specific causes of vulcanism, diastrophism, gradation (the present is the key to the past).	3. Causes seen in present were not causes of land features (the present is only the key to the present).
4. Forces of origination and integration exist.	4. Catastrophism, decay and conservational activities prevail in antagonism.
5. Geologic column is evidence of vast "history" of the earth.	5. Only local sedimentary columns exist and world-wide destruction is evidenced by world-wide distribution of sedimentary rocks.
6. Because of innate propensity of matter, organic matter came from inorganic matter by spontaneous generation.	6. Since spontaneous generation of life is contradictory to Second Law of Thermodynamics, only special creation of life could be cause of life.
7. Changes in evolutionary sequence of life forms are due to random mutational changes in genes.	7. Mutations are evidence of increased disorder (entropy) and only changes *within* limits of kinds, group, or species result from mutations/recombination of genes.
8. Changes of complex forms or kinds from less complex kinds are the result of accumulation of random variations.	8. Conservative processes are involved in operation of genetic code resulting in essential stability (fixity) of basic kinds, groups, species, with no accumulation of random variations.
9. Mankind is related to the ape through an unknown common ancestor.	9. Mankind is a special creation.
10. Fossils of genus *Homo* are immediate ancestors of modern man.	10. "Ape-like" features of pre-historic man may be due to disease and degeneration.
11. Races of man resulted from mutations and segregation in early man-like forms.	11. Human beings all belong to one race and languages are merely tribal differences.
12. Evolutionary humanism can be a guiding faith.	12. Alienation, identity, and relevance can be answered in context of relation to Creator God.

2717 Cranbrook Rd., Ann Arbor, MI 48104); the Institute for Creation Research, which publishes a monthly *Acts and Facts*, (2716 Madison Avenue, San Diego, CA 92116); and the Bible-Science Association, which publishes a monthly newsletter for parents and non-scientists (Box 1016, Caldwell, Idaho 83605).

In the pluralistic society of the United States of America indoctrination in the MAJORITY MODEL is no longer necessary and many materials are available to the classroom teacher, such as a Two Model Minicourse by Richard Bliss (Creation-Life Publishers, Box 15666, San Diego, CA 92115), and the excellent 1976 book, *The Creation-Evolution Controversy* by R. L. Wysong, Inquiry Press, Box 1766, East Lansing, MI 48823 ($7.95, paperback).

During the current month of May I am teaching a four-week module for two night lectures of two hours each, elected by over 30 senior education majors who have completed their student teaching, prior to graduation in June, 1976. In the eight sessions I will cover use of overhead transparencies to show these teachers-to-be how they also may present an objective, two-way approach to first origins in a science course—or in social studies and/or humanities or history at the secondary level. Description of the elective model was published as:

> This module will provide diagrams and charts to help K-14 pupils "explore" creation-evolution interpretations of first origins (i.e., origin of the universe, life, mankind, and man's cultural patterns), and to stimulate individual expressions. Only basic principles of science will be utilized in systematic examination of classes of scientific data used in current confrontations between evolutionist and creationist scientists. With these classroom problem solvers students can give positive assistance on teaching strategies to other teachers and local school boards in policy making with respect to teaching about first origins.

Conclusion

Selected indoctrination of young people at various levels of education in the United States regarding first origins of life and of humankind need not continue. Because the magaevolution model and the creation model are put forth as conceptual frameworks to explain origins, science teachers are properly exercising their academic freedom and responsibility to present BOTH the megaevolution model and the creation model to their students. On the grounds of constitutional and civil rights of students and science teachers alike, there are no significant reasons why other science teachers in this United States, or in other countries, cannot learn to do likewise for their students.

(Added Note: Numerous other academic pursuits on teaching scientific creationism have been reported in the past, especially in the *Bible-Science Newsletter*. Several current, very successful efforts known to this author are: (1) a course on evolution/creation at Glassboro Community College in New Jersey; (2) "Creationism and Scientific Data" at Lansing (MI) Community College; and (3) Seminar, "Creation: A Scientific Alternative to the Problem of Origins", at Iowa State University. Also a non-credit mini-course ("Creation as a Scientific Alternative to Evolution") has been presented successfully at Watertown (WI) High School. In addition to the Weinberg High School biology textbook mention of two points of view (cited in answer to the fourth question above), reader attention should be given to page 415 of Chapter 17 ("The Origin of Living Systems") in *The World of Biology*. 1974. P. W. Davis and E. P. Solomon. N. Y.: McGraw-Hill, Inc., wherein general arguments put forth by creationists are summarized.)