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Creation, Evolution and Public Education

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CREATION, EVOLUTION AND PUBLIC EDUCATION*

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The Controversy

In Iowa and other states, "creationism" has recently been advanced as an alternative to the theory of evolution. Attempts have been made to mandate legislatively "equal time" for creationist concepts in science classrooms, materials and textbooks.

Interviews and surveys conducted by the Iowa Department of Public Instruction show that most Iowa religious leaders, science educators, scientists and philosophers contacted support the present patterns of teaching science in Iowa's schools. In addition, due to the nature of scientific and theological concepts, these authorities feel that the specifics of each discipline should be confined to their respective houses.

The National Academy of Science has stated that religion and science are "separate and mutually exclusive realms of human thought whose presentation in the same context leads to misunderstanding of both scientific theories and religious beliefs,"(1)

Creationism

In America, religion is usually defined as the expression of man's belief in, and reverence for, a metaphysical power governing all activities of the universe. Where there is not belief in metaphysical power, religion is a concern for that which is ultimate. Generally creationism is a religious concept. It proposes that all living things were created by a Creator. According to the creation model, "all living things originated from basic kinds of life, each of which was separately created."(2)

There are many versions of creation. Generally, creationists advocate that all permanent, basic life forms originated thousands of years ago through directive acts of a Creator – independent of the natural universe. Plants and animals were created separately with their full genetic potentiality provided by the Creator. Any variation, or speciation, which has occurred since creation has been within the original prescribed boundaries. Since each species contains its full potentiality, nature is viewed as static, reliable and predictable. Based on alleged gaps in the geologic record, creationists reject the theory of the descent of plants and animals from a single line of ancestors arising through random mutation and successively evolving over billions of years. It is further alleged that, through analysis of geologic strata, the earth has experienced at least one great flood or other natural global disasters accounting for the mass extinction of many biological organisms. Following such extinctions there followed sudden increases in the number, variety and complexity of organisms.

**A position paper by the Iowa Department of Public Instruction*

Having all Biblical accounts of creationism placed in comparative theology courses with other religious accounts of origins will not placate ardent creationists. They require that creationism be presented as a viable scientific alternative to evolution.[3] More zealous creationists argue that "it is only in the Bible that we can possibly obtain any information about the methods of creation, the order of creation, the duration of creation, or any other details of creation."[4]

Science

Science is an attempt to help explain the world of which we are a part. It is both an *investigatory process* and a *body of knowledge* readily subjected to investigation and verification. By a generally accepted definition, science is *not* an indoctrination process, but rather an objective method of problem solving. Science is an important part of the foundation upon which rest our technology, our agriculture, our economy, our intellectual life, our national defense, and our ventures into space.

The formulation of theories is a basic part of scientific method. Theories are generalizations, based on substantial evidence, which explain many diverse phenomena. A theory is always tentative. It is subject to test through the uncovering of new data, through new experiments, through repetition and refinements of old experiments, or through new interpretations. Should a significant body of contrary evidence appear, the theory is either revised or it is replaced by a new and better theory. The strength of a scientific theory lies in the fact that it is the most logical explanation of known facts, principles and concepts dealing with an idea which does not currently have a conclusive test.

Evolution

The *theory* of evolution meets the criteria of a scientific theory. It can explain much of the past and help predict many future scientific phenomena. Basically, the theory states that modern biologic organisms descended, with modification, from pre-existing forms which in turn had ancestors. Those organisms best adapted, through anatomical and physiological modification to their environment, left more offspring than did non-adapted organisms. The increased diversity of organisms enhanced their ability to survive in various environments and enabled them to leave more progeny.

The theory of evolution is designed to answer the "how" questions of science and biological development; it cannot deal effectively with the "who" or "why" of man's origin and development. It is however, an effective means of integrating and clarifying many otherwise isolated scientific facts, principles and concepts.

There have been alternatives proposed to the theory of evolution (i.e., creationism, exo-biology, spontaneous generation); however, none are supported by the amount of scientific evidence that presently supports the theory of evolution.

It is evident that the *process* of evolution occurs. Successful species of living organisms change with time when exposed to environmental pressures.

Such changes in species have been documented in the past, and it can be confidently predicted that they will continue to change in the future. Evolution helps explain many other scientific phenomena: variations in disease, drug resistance in microbes, anatomical anomalies which appear in surgery, and successful methods for breeding better crops and farm animals. Modern biological science and its applications on the farm, in medicine and elsewhere are not completely understandable without many of the basic concepts of evolution.

There are many things that evolution is not. It is not dogma. Although there is intense dispute among scientists concerning the details of evolution, most scientists accepts it validity on the ground of its strong supporting evidence.

Department of Public Instruction Decision

Teaching religious doctrine is not the science teacher's responsibility. Teachers should recognize the personal validity of alternative beliefs, but should then direct student inquiries to the appropriate institution for counseling and/or further explanation. Giving equal emphasis in science classes to non-scientific theories that are presented as alternatives to evolution would be in direct opposition to understanding the nature and purpose of science.

Each group is fully entitled to its point of view with respect to the Bible and evolution; but the American doctrine of religious freedom and the Establishment Clause in the First Amendment to the United States Constitution forbid either group--or any other religious group--from pressing its point of view on the public schools. An Indiana court decision declared: "The prospect of biology teachers and students alike forced to answer and respond to continued demand for 'correct' Fundamentalist Christian doctrines has no place in public schools."(5)

The science curriculum should emphasize the theory of evolution as a well-supported scientific theory--not a fact--that is taught as such by certificated science teachers. Students should be advised that it is their responsibility, as informed citizens, to have creationism explained to them by theological experts. They must then decide for themselves the merits of each discipline and its relevance to their lives.

The Iowa Department of Public Instruction feels that public schools cannot be surrogate family, church and all other necessary social institutions for students and for them to attempt to do so would be a great disservice to citizens and appropriate institutions.

Literature Cited

1. Resolutions adopted by the National Academy of Science and the Commission of Science Education of the American Academy for the Advancement of Science (Washingtin, D.C.: October 17, 1972).

2. Bliss, R. B. 1976. *Origins: Two models; Evolution, Creation.* Creation Life Publishers, San Diego: p. 31.

3. Morris, H. M. 1972. *The remarkable birth of the planet earth.* Creation Life Publishers, San Diego.

4. National Association of Biology Teachers. 1977. *A compendium of information on the theory of evolution and the evolution-creationism controversy.*

5. *Hendren vs. Campbell.* 1977. Supreme Court No. 5, Marion County, Indiana, p. 20.

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The Creation Model

Teachers wishing to incorporate information concerning the Creation Model of evolution into their classroom instruction should write to Mr. H. B. Wagoner, 3701–E Street Court, Des Moines, Iowa 50317.

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". . . . science can only ascertain what is, but not what should be, and outside its domain, value judgments of all kinds remain necessary."

Albert Einstein in *Out of My Later Years.*

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Lab Safety

It has been argued that contact lenses offer a great deal of protection from damage by particles and chemicals in the science laboratory. According to NIOSH nothing could be further from the truth. An eye that has received a chemical splash should be irrigated with water until the material has been completely removed. The recommended time for this is fifteen minutes as a minimum. If a contact lens is present, the chemical may be drawn under the lens by capillary action where it is not reached during normal irrigation with water.

Therefore, the lens must be removed to permit effective washing. Under the traumatic conditions of pain and possibly fear, it may prove almost impossible to remove a lens from the victim's eyes. Thus, contact lenses should be discouraged or if possible, prohibited in school laboratories. In the case where a contact lens is the only possible medical solution, it is suggested that the teacher get a written statement from the student's doctor and parents. This at least allows the teacher to easily identify the problem in case of accident.

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Getting Music from Trees

From clear-grained hardwood, cut eight sticks about 3 cm wide and 0.5 cm thick. Cut the sticks to the following lengths: 22.0, 22.8, 24.2, 25.8, 27.2, 28.3, 29.5 and 30.5 cm. String them up and play them like a xylophone. *Xylo* is the Greek word for *wood* and *phone* is the Greek word for *voice*.

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