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Ending the War Between Science and Religion By John H. Calvert, J.D., and William S. Harris, Ph.D. (1)

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In his excellent article, The Science and Religion Wars, (Phi Delta Kappan, 2000), Mano Singham,(2) has identified a number of the root causes of the "war" between science and religion. He ends the analysis with this observation: "As long as the debate continues in its present adversarial form, we are unlikely to make much progress. What is clear, however, is that a solution to this seeming incompatibility between the scientific and religious world views remains extremely elusive."

We would like to propose a solution to the dilemma, but let's first briefly review Dr. Singham's conclusions.

According to Dr. Singham, "to the casual observer" the battle is between science and religion over evolution. However, the real issue is not evolution and the opposing armies are not so easily labeled. Dr. Singham claims that the war actually involves a coalition of "Elite Science" and "Elite Religion" against "Popular Science" and "Popular Religion."

He describes Elite Science as consisting of those who control the universities, research institutes and journals. They hold that the "progress of knowledge rigidly requires that no non-physical postulate ever be admitted in connection with the study of physical phenomena." Elite Science has formed an alliance with Elite Religion. He describes Elite Religion as consisting of theologians of "mainstream" religions who hold that, "while a creator exists, the creator does not directly intervene (or intervenes only rarely) to change the course of everyday events, thus violating scientific laws." This portrays a creator that only operates in a "spiritual" or non physical realm. By adopting this view, and agreeing to stay out of each other's exclusive "realm," Elite Religion and Elite Science seemingly share no conflict and can form a powerful alliance against religious fundamentalism.

Dr. Singham suggests that casual observers of the conflict view those in Popular Science as adherents of "fringe beliefs" such as "superstitions, astrology, magic, witchcraft, psychokinesis, extrasensory perception, and the like." They appear(3) on the same side as Popular Religion, whose adherents "believe in a personal God, a creator who can and does intervene when and if the creator sees fit. The fundamentalist strains of most major religions fall into this category."

It is unclear how Dr. Singham would categorize scientists who reject both fringe beliefs and the irrebuttable naturalistic assumption of Elite Science. Most in the Intelligent Design movement would fall into this category. Indeed, as Dr. Singham's analysis shows, it is this group that is the real thorn in the side of Elite Science.

Dr. Singham explains that the war is superficially described as one in which the Populists argue that creation science(4) and evolution are unproven and that fairness requires the teaching of both. The Elites argue that creationscience is religion while evolution is science. Since the courts have outlawed

creation science and endorsed evolution, the former can not be taught while the latter can.

This characterization paints a picture of a few intellectual "elites," with the law on their side, dominating the masses of red-neck, bible thumping simpletons. However, Dr. Singham correctly points out that this is a very superficial and inaccurate view of the real controversy.

"The underlying issues involving science and religion are not really so simple" as they are portrayed. His article reveals that the real debate, which is poorly recognized by the public, is not over "evolution" per se. The conflict does not arise from a debate over whether natural selection can operate in a replicating population to produce variation. The conflict arises over the insistence of Elite Science to "rigidly require[s] that no non-physical postulate [such as the intervention of a mind or some form of intelligence] ever be admitted in connection with the study of physical phenomena." This "rigid" exclusion of "non-physical postulates" is technically labeled Methodological Naturalism.(5) Essentially, it is an irrebuttable philosophical assumption that rules out intervention by an intelligent agent as a cause of life and its diversity, without objective consideration of the relevant evidence. It is this exclusionary "Rule" that creates the conflict:

"To understand the creationist' argument, we must go beyond the superficialities that are frequently used in describing them. If there is one common thread that all creationists share, it is the view that the world as we know it now is too complex and subtle to have come about without the active and repeated intervention of an external agent or deity, acting outside the laws of science. It is this unifying belief [that] is the source of the fundamental conflict with science."

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"Creationism is not some narrow sectarian grouping, but incorporates major elements of mainstream Christianity, Judaism, Hinduism, Islam, and other theistic religions. They differ only in their beliefs about the extent and nature of this divine intervention."This description of "creationism" essentially describes the Design Hypothesis - that phenomena result from a combination of all of the three possible causes - chance, natural law (the laws of physics and chemistry) and design (by a mind or other form of intelligence).

According to Dr. Singham, the naturalistic exclusion of all non-physical postulates "undermines" both Popular Religion and traditional mainstream religions as well. "If there is to be no divine intervention at all, what is left for religion?" If there is no tangible evidence that a spiritual world also exists "what would be the point of believing in a deity if the spiritual and non-physical world occupied by the deity could have no influence whatsoever in the physical world we actually live in." Why pray? On the other hand, if there is tangible evidence that a spiritual world exists, then the naturalistic view is wrong. Tangible evidence for the existence of a spiritual or non-physical world would imply that the realms of science and religion overlap and cannot be separated.

Unfortunately, Dr. Singham's paper does not discuss the fact that there is indeed an extraordinary amount of tangible evidence that events may be ordered by design - a non-physical postulate.(6) Perhaps, the reason the evidence is not discussed is that the exclusionary Rule (Methodological Naturalism) used by Elite Science does not permit the discussion. This leads to another difficulty: so long as the Rule is used by "science" then we will never know the extent of the scientific evidence for a non-physical postulate.

The existence of non-physical phenomena and the need for its investigation has recently been discussed by a highly regarded theoretical physicist, Paul Davies(7):"Snowflakes contain syntactic information in the specific arrangement of their hexagonal shapes, but these patterns have no semantic content, no meaning for anything beyond the structure itself. By contrast, the distinctive feature of biological information is that it is replete with meaning. DNA stores the instructions needed to build a functioning organism; it is a blueprint or an algorithm for a specified, predetermined product. Snowflakes don't code for or symbolize anything, whereas genes most definitely do. To explain life fully, it is not enough simply to identify a source of free energy, or negative entropy, to provide biological information. We also have to understand how semantic information comes into being. It is the

quality, not the mere existence, of information that is the real mystery here." (emphasis added)Design theory has recently been billed by the New York Times and the Kansas City Star as a "New Theory of Origins." In truth it derives from antiquity and our intuition. It has been labeled "new" because only within the past 50 years has the true complexity of biochemical systems been discovered. These new findings draw us inexorably to a design inference. This was recently illustrated in a report in the San Francisco Chronicle in which one of the scientists working on the Human Genome Project was interviewed:"Now, with the pressure off, this former University of Arizona professor waxed philosophical on the code his team had cracked.

" 'What really astounds me is the architecture of life,' he said. 'The system is extremely complex. It's like it was designed."

" My ears perked up.

" Designed? Doesn't that imply a designer, an intelligence, something more than the fortuitous bumping together of chemicals in the primordial slime?

"Myers thought before he replied. 'There's a huge intelligence there. I don't see that as being unscientific. Others may, but not me."(8)According to Dr. Singham, the response by the Science establishment to the attack on its core value has been troublesome. It has been a "bitter and mean-spirited" counter attack that lacks much substance. Rather than articulate a valid counter argument regarding the conflict between science and religion, they merely contend that there is no incompatibility between science and religion because many scientists are religious. This is inadequate because many religious scientists may not complain about a conflict simply for the politics of keeping peace. Dr. Singham also points out that many ardent evolutionary biologists claim the alliance between Elite Science and Elite Religion is "a cowardly cop-out." Richard Dawkins thinks "it's an attempt to woo the sophisticated theological lobby and to get them into our camp and put the creationists into another camp. It's good politics. But it's intellectually disreputable."(9)

Dr. Singham concludes that both sides are guilty of "vitriolic tactics" that are alienating the public. This is rightly disconcerting to him because "the issues raised are deeply interesting and have profound implications."

He concludes with a plea for a "solution to this seeming incompatibility between the scientific and religious world views [,which] remains extremely elusive."

Let's End the Conflict

Key to an end to the conflict is the recognition that the conflict is confined only to "origins science," - a historical science that has a major impact on religion. Purely empirical sciences such as physics and chemistry which deal with what is happening "now" rather then what happened in the past, need not be affected. That being the case, the remedy to the problem need only concern itself with the narrow area of this historical science.

Origins science focuses on the investigation, analysis and explanation of past events - the origin of the universe, the origin of life and the origin of the diversity of life. The eminent evolutionary biologist Dr. Ernst Mayr explains that the distinction between this historical science and physics and chemistry is that the explanations provided by the historical scientist can not be validated by laws and experiments. They are essentially historical narratives constructed by subjective minds about unobservable past events based on an analysis of circumstantial evidence:" Evolutionary biology, in contrast with physics and chemistry, is a historical science -- the evolutionist attempts to explain events and processes that have already taken place. Laws and experiments are inappropriate techniques for the explication of such events and processes. Instead one constructs a historical narrative, consisting of a tentative reconstruction of the particular scenario that led to the events one is trying to explain." (emphasis added) [Ernst Mayr, "Darwin's Influence on Modern Thought," p. 80, (July 2000, Scientific American)]. Our suggestion for ending the conflict is to abandon in origins science the use of the Rule - the practice used by Elite Science that rigidly requires that no non-physical postulate ever be admitted.

Generally, few members of Popular Science or Religion complain about the use of the Rule in physics, chemistry and other purely empirical sciences that deal with the present rather than the past. Indeed, due to real time laboratory tests and experiments that are available to validate explanations, there is no need for an assumption against non-physical causes in physics and chemistry. Furthermore, the operation of the physical and chemical laws and the properties of matter and energy do not generally "touch" religious issues. Scientists doing basic research and applied science in creating new technologies and devising improved medical strategies are frequently heard to say that "evolution" never comes up - it is a non-issue in that arena.

In contrast, the use of an irrebuttable assumption that no "non-physical" causes are involved in our origins, as pointed out by Dr. Singham, is inherently problematic in this historical science. The answer to the question: where do we come from? is fundamental to all major theistic religions. We are designs or we are merely natural occurrences. An irrebuttable naturalistic assumption permits only one of the two possible answers - we are occurrences and not designs. Elite science dictates that we must irrebuttably assume we are not designed! This is inconsistent with logic, the scientific method and indeed - a significant body of relevant evidence!

The use of an irrebuttable assumption to craft "historical narratives" that cannot be tested by experiment makes it impossible for the explanation given to ever have any credibility. The only way to reach a satisfying explanation regarding the cause of a past event, where testing and experiment is not possible, is to base it on an objective and unbiased - a no-holds barred - investigation and analysis of the "best available" evidence.

The "semantic" characteristic of biological information discussed by Paul Davies is a "non-physical" phenomena. Although Dr. Davies pleads for an explanation for this non-physical phenomena, the use of the irrebuttable presumption that disallows any non-physical postulate, precludes any discussion or objective consideration of it. Use of an irrebuttable presumption against "non-physical postulates" would consign the evidence of a non-physical cause to an intellectual black hole.

These logical, scientific and evidentiary reasons would seem to dictate the abandonment of the irrebuttable assumption as to the conduct of origins science. In this area, scientists should be encouraged to entertain the possibility of both physical and non-physical causes, particularly in light of the extensive evidence for the existence of non-physical and purely intangible phenomena and the inability of science to explain the origin of that phenomena.

Finally, legal necessity also seems to dictate an abandonment of governmental use of the Rule (methodological naturalism) in the conduct and teaching of origins science. As pointed out by Dr. Singham's discussion of the subject, the practice of allowing "no-nonphysical postulate" is one that clearly "touches" religion. In the Supreme Court Case of Lemon v. Kurtzman, 403 U.S. 602 (1971), the Court ruled that a governmental "practice which touches upon religion " violates the establishment clause of the U.S. Constitution if the practice fails to satisfy any of the following three requirements:

- 1. The practice "must have a secular purpose;"
- 2. The practice "must neither advance nor inhibit religion in its principal or primary effect;" and

3. The practice "must not foster an excessive entanglement with religion." (emphasis added)The use of Methodological Naturalism to censor the evidence of design, which provides the foundation for all theistic religions, arguably violates each of the three prongs of the Lemon Test.

As discussed in Section 4.33 of Teaching Origins Science in Public Schools, there is no secular purpose for using the rule in origins science. The only stated purpose for its use is to keep the notion of God out of the scientific explanation of where we come from. That is not a secular purpose because it is a purpose that relates to religion.

The practice also denigrates theistic beliefs while promoting a belief in Naturalism - a "nonreligion."(10)

As a consequence, the practice destroys the requirement that government be neutral toward religion. A Supreme Court case directly in point is Epperson v. Arkansas 393 U.S. 96, 103-106 (1968) where the Court held that a state statute that censored the teaching of an alternative theory of origins (Darwinian evolution) violated the required neutrality of the Establishment Clause: In reaching its decision the Epperson Court said:

"Government in our democracy, state and nation, must be neutral in matters of religious theory, doctrine, and practice. It may not be hostile to any religion or to the advocacy of no-religion; and it may not aid, or foster or promote one religion or religious theory against another or even against the militant opposite. The First Amendment mandates government neutrality between religion and religion, and between religion and nonreligion.

The use of Methodological Naturalism to censor "non-physical postulate"s (the Design Hypothesis) is no different than the statute that was used by Arkansas to censor the teaching of evolution. Hence, its use by schools to indoctrinate students in Naturalism/"nonreligion" would appear to be a clear and fundamental violation of the Establishment clause.

The use of the rule would also seem to foster an excessive entanglement of the state in religion. Dr. Singham's description of the conflict between religion and state sponsored science as "war" merely is indicative of the existence of a real entanglement of the state in religion.

We suggest that a good solution that will resolve the conflict consistent with logic, good science, and the law is to eliminate the irrebuttable presumption against "non-physical postulates" in origins science. This will allow origins science to be conducted and taught as it should - with objectivity and without religious, philosophic or naturalistic bias. We predict that careful adherence to this standard should bring us closer to the truth about non-physical causes and enhance the effectiveness and credibility of science and science education.

NOTES

1. Mr. Calvert is a lawyer who has a degree in geology from the University of Missouri. He retired after 33 years of private practice to help organize and manage Intelligent Design network, inc., a non-profit organization focused on origins science. Dr. Harris, holds an endowed Chair in Metabolism and Vascular Biology and is a Professor of Medicine, University of Missouri - Kansas City. He is also Director of the Lipoprotein Research Laboratory at Saint Luke's Hospital and is a Managing Director of Intelligent Design network, inc. He has a PhD in Nutritional Biochemistry from the University of Minnesota, has been conducting scientific research for the last 20 years and has published over 70 scientific papers. Harris and Calvert are co-authors of Teaching Origins Science in Public Schools, (2001), which may be obtained at http://www.IntelligentDesignNetwork.org/legalopinion.htm.

2. Associate director of the University Center for Innovations in Teaching and Education, Case Western University.

3. Dr. Singham says: "Popular science and popular religion generally have no problems with each other." However, many traditional Christians would disagree with most of the beliefs attributed to "Popular Science" - astrology, magic, witchcraft, etc. Also, members of the Intelligent Design movement generally do not fit under the label of popular science or "creation science" as discussed in the following note.

4. Dr. Singham's paper fails to make a critical distinction between "creation science" and what he calls "creationism." Creation science has been defined by the courts to be science that seeks to validate the Genesis account contained in the Bible. It operates on the assumption that the Biblical description of origins is correct. "Creationism" described by Dr. Singham, essentially reflects the Design Hypothesis. That hypothesis holds that some combination of design, together with chance and natural law, are responsible for all phenomena. This hypothesis is not derived from the Bible or any religious text. It is based solely on the observation and analysis of patterns which occur in nature per the scientific method.

5. Naturalism is "the doctrine that cause-and-effect laws (as of physics and chemistry) are adequate to account for all phenomena and that teleological [design] conceptions of nature are invalid" (Webster's Third

New International Dictionary of the English Language, Unabridged, 1993). Naturalism is synonymous with scientific materialism. Naturalism is a philosophy and not a proven scientific theory or fact. Modern science claims that it uses naturalism merely as an assumption as a part of the "method" of doing science so as to enhance the objectivity of scientific explanation and sometimes refers to it as "Methodological Naturalism." Although Elite Science claims that it does not seek to imbue its audience with a belief in philosophical naturalism, the undisclosed use of the assumption in origins science destroys rather than enhances objective explanations and does amount to indoctrination in philosophical naturalism.

6. For a detailed discussion of some of the evidence of design, see: Teaching Origins Science In Public Schools, by John H. Calvert, J.D. and William S. Harris, Ph.D., p. 5-16 (Intelligent Design network, inc. 2001). The full text is shown at http://www.IntelligentDesignNetwork.org/legalopinion.htm.

7. Paul Davies, "The Fifth Miracle - The Search for the Origin and Meaning of Life," at page 60 (Simon & Schuster, 1999)

8. Tom Abate, "Human Genome Map Has Scientists Talking About the Divine. Surprisingly Low Number of Genes Raises Big Questions," [San Francisco Chronicle (February 19, 2001)].

9. Mano Singham, The Science and Religion Wars, p. 431 (Phi Delta Kappan, 2000).

10. See Section 4.41 of Teaching Origins Science in Public Schools.