

An Evolving Conversation

March 24, 2004, 7:30 – 9:00 P.M.

Harrington Center, Columbia Theological Seminary

Leaders: Chris Beck, Graham Walker, and Mark Douglas

What follows are brief outlines of the comments by biologist Christ Beck, theologian Graham Walker, and ethicist Mark Douglas. The outlines are followed by three lists of resources, one from each leader. These are followed by the position statement of the General Assembly of the Presbyterian Church (USA) taken in 2002.

Chris Beck: Outline

Lecturer in the department of biology

Emory University

1. What is evolution?
2. Natural selection as a mechanism for evolution.
3. Random (mutation) and non-random (natural selection) aspects of evolution.
4. What is a scientific “theory” and how does this relate to the “theory of evolution”?
5. What the theory of evolution by natural selection (does and) does not tell us about God?

Graham Walker: Outline

Associate professor of theology and philosophy

McAfee School of Theology, Mercer University

Points of challenge for Christian Theology from Evolutionary Biology are in the “areas” of:

1. Biblical literalism.
2. Design vs. Random organization of life.
3. Human uniqueness vs. continuity with the rest of creation.
4. The Misuse of Evolutionary Theory to support “Social Darwinism.”
5. Evolutionary theory poses a unique theodicy question.

Example Responses to the Relationships between Evolutionary Science and Theology:

1. Conflict
2. Independence
3. Dialogue
4. Integration.

More from Graham Walker is available at the end of this document.

Mark Douglas: Outline
Assistant professor of Christian ethics
Columbia Theological Seminary

1. A (very) brief overview of the history of church-state relations
2. Important Supreme Court cases in the history of teaching evolution and their implications:
 - a. Scopes (1925)
 - b. Epperson v. Arkansas (1968)
 - c. Edwards v. Aguillard (1987)

The role of religion (and religious language) in the public sphere.

An Evolving Conversation: Resources

Chris Beck: Resources

Books

Jones, Steve. *Darwin's Ghost—The Origin of Species Updated*, New York: Ballantine, 2000.

Mayr, Ernst. *What Evolution is*, New York: Basic Books, 2001.

Miller, Kenneth R. *Finding Darwin's God: A Scientist's Search for Common Ground Between God and Evolution*, New York: Cliff Street Books, 1999.

Weiner, Jonathon. *The Beak of the Finch—A Story of Evolution in Our Time*, New York: Knopf, 1994.

Zimmer, Carl. *Evolution—The Triumph of an Idea*, New York: HarperCollins, 2001.

Web sites

<http://www.pbs.org/wgbh/evolution/> -- web site associated with the *Evolution* series that aired on PBS. The videos are worth watching as well. Most are quite good.

<http://www.ncseweb.org/> -- web site for the National Center for Science Education, a non-profit group that works to defend teaching of evolution in the public schools.

<http://www.ncseweb.org/article.asp?category=11> -- a congregational study guide to accompany the *Evolution* series that aired on PBS.

http://www.ncseweb.org/resources/articles/5025_statements_from_religious_orga_12_19_2002.asp -- statements from religious organizations on teaching evolution.

<http://evolution.berkeley.edu/> -- *Understanding Evolution*, a teacher's resource on evolution developed by the University of California Museum of Paleontology.

<http://www.georgiascience.org/actions-local.htm#Miller> -- announcement about Ken Miller's speech at Georgia State University on April 2.

Graham Walker: Resources

Web sites for Theology and Science

<http://www.metanexus.net>

<http://www.Meta-Library.net>

<http://www.counterbalance.org>

<http://www.ctns.org>

<http://www.iras.org>

<http://www.aaas.org>

<http://www.templeton.org>

The Scopes "Monkey Trial"

http://www.law.umkc.edu/faculty/projects/ftrials/scopes/SCO_BIBL.HTM

<http://www.dimensional.com/~randl/scopes.htm>

Mark Douglas: Resources

Books

Alley, Robert S., *The Supreme Court on Church and State* (New York: Oxford, 1988).

Carter, Stephen L., *The Culture of Disbelief: How American Law and Politics Trivialize Religious Devotion* (San Francisco: Basic Books, 1993).

Greenawalt, Kent, *Religious Convictions and Political Choice* (New York: Oxford, 1988).

Gushee, David P., ed., *Christians and Politics Beyond the Culture Wars: an agenda for engagement* (Grand Rapids: Baker Books, 2000).

Miller, William Lee, *The First Liberty: Religion and the American Republic* (New York: Paragon, 1988).

Witte, John, Jr., *Religion and the American Constitutional Experiment* (Boulder: Westview, 2000).

Web sites

<http://www.law.umkc.edu/faculty/projects/ftrials/conlaw/evolution.htm> -- A very thorough web site on the history of the debate within the context of conflicts over the Constitution.

http://www.religioustolerance.org/ev_hist.htm -- The history of creationism with lots of links and attention given to church/state matters.

<http://arnica.csustan.edu/biol3020/courts/court.htm> -- A brief overview of significant Supreme Court Cases on evolution (with links) from a class at California State University.

<http://www.pbs.org/wnet/religionandethics/week504/feature.html> -- The website for the Religion and Ethics Newsweekly magazine on PBS.

General Assembly of the Presbyterian Church (USA), 2002

The 214th General Assembly of the Presbyterian Church (USA):

1. Reaffirms that God is Creator, in accordance with the witness of Scripture and The Reformed Confessions.
2. Reaffirms that there is no contradiction between an evolutionary theory of human origins and the doctrine of God as Creator.
3. Encourages State Boards of Education across the nation to establish standards for science education in public schools based on the most reliable content of scientific knowledge as determined by the scientific community.
4. Calls upon Presbyterian scientists and science educators to assist congregations, presbyteries, communities, and the public to understand what constitutes reliable scientific knowledge.

Summary of Comments by Graham Walker for *An “evolving” conversation*

The Rhetoric of the conflict between theology and evolutionary science:

Harvard University Professor Stephen Jay Gould writes:

“No scientific revolution can match Darwin’s discovery in degree of upset to our previous comforts and certainties. In the only conceivable challenge, Copernicus and Galileo moved our cosmic location from the center of the universe to a small and peripheral body circling a central sun. But this cosmic reorganization only fractured our concept of real estate; Darwinian evolution, on the other hand, revolutionized our view of our own meaning and essence (insofar as science can address such questions at all): Who are we? How did we get here? How are we related to other creatures, and in what manner? Evolution substituted a naturalistic explanation of cold comfort for our former conviction that a benevolent deity fashioned us directly in his own image, to have dominion over the entire earth and all its creatures---and that all but the first five days of earthly history have been graced by our ruling presence. In evolutionary terms, however, humans represent but one tiny twig on an enormous and luxuriantly branching tree of life, with all twigs interconnected by descent, and the entire tree growing (so far as science can tell) by a natural and law-like process. (Zimmer, xi).”

Yet, according to Philip Johnson, Darwinists “have adhered to the myth out of self interest and a zealous desire to put down God.” He is the most visible anti-evolutionist of the 1990s and is neither a scientist nor a theologian but a law professor at the University of California at Berkeley. After reading a popular polemic for atheistic evolution by Richard Dawkins’s The Blind Watchmaker (1986), Johnson became convinced that the case for evolution was more rhetorical than factual. In such books as Darwin on Trial (1991) and Reason in the Balance: The Case against Naturalism in Science, Law and Education (1995) Johnson evaluated the evidence and arguments for naturalistic evolution and concluded that evolutionists (like virtually all other scientists) had constructed a theory based on the unwarranted assumption that scientific explanations should bar any appeal to the supernatural. By the mid-1990s Johnson was collaborating with other critics of naturalistic evolution in forming the intelligent-design (ID) movement, which welcomed God back into the domain of science as the Master Designer of the physical world.

Johnson believes that in a fair hearing in which divine intervention could be considered as a possible explanation for life’s history, the creationists would win. Johnson maintains, like both older forms of creationism and Intelligent Design (now being promoted at the high school level in local communities), that Darwinism is actually an ideology. This ideology is spawned from a cult of naturalism, which claims that God has no role in the universe and events have only natural causes. (Zimmer, 332)

University of Chicago geneticist Jerry Coyne states, however, that science cannot simply cede the unknown in nature to the divine. If it did, there would be no science at all. “If the history of science shows us anything, it is that we get nowhere by labeling our ignorance ‘God’.” (Zimmer, 333). Supernatural forces are, by definition, above the laws of nature and thus beyond the scope

of science. Hence, creationism and Intelligent Design, cannot help the paleontologist assess the fossils that are discovered; nor the developmental biologists understand the Cambrian explosion; nor the virologist continue to discover strategies for fighting HIV. All of these fields depend on evolutionary biology for their progress.

Let us turn now from the flash point of the recent decade and examine specific **points of challenge and entanglement for Christian Theology and Evolutionary Biology:**

Biblical literalism: What is the source of truth--scientific method and the world observed or sacred text and revealed truth? Must the two corroborate each other or compete with each other? Does one have higher ontological status than the other?

Biblical literalism maintains that the Bible is a divine product. Such is the natural meaning of how the Bible has been spoken of for most Christians through the centuries. The Bible is thus not a human product (dictated by the Holy Spirit) and comes from God in a way no other book does. The authority of the Bible is grounded in its origin. The Bible is interpreted as historically and factually true. In a state of natural literalism, it is taken for granted that what the Bible says really happened. Theological positions used to justify this perspective:

1. "Fiat creationism" (A. A. Higley, Science and Truth, 1940) means that God creates instantaneously by his word. God speaks, it is done--immediately. Higley contends that time is an insult to the majesty of God. Time is necessary only after the intrusion of sin: creation instantaneous, redemption time-consuming.
2. "Scientific creationism" (Henry M. Morris, Biblical Cosmology and Modern Science, 1967; Scientific Creationism, 1974). Uses science in an attempt to argue for the biblical account of creation.

(the Ken Hamm example: if wrong in geology, astronomy, biology; what about morality and salvation? Wheaton College dilemma --- historic Adam and Eve)

Evolutionary biology tells a story of creation that forces theology to either reject the narrative of science or modify its understanding of scripture within the context of human evolution.

Design vs. Random organization of life: Science, in order to observe clearly what happens, chooses to bracket all questions of "design" or "purpose." Religion, seeking to affirm meaning and value in life, begins with a presupposition of order and purpose--with design. Science is forced to explain the appearance of order and thus leads to the border of faith by the question of "is there a design?" Religion, with its predilection for questions of origin, purpose and destiny picks up the discussion with the question "is there a designer?" It is at this point that science refuses to make additional comment.

Theology, however, has assumed order as the expression of a divine signature in the evolutionary outcomes that the scientific world explores (See William Paley, Natural Theology 1802). The Intelligent Design proponents seek to extend the argument from design first identified with Paley's 19th century work. The ID cause received a major boost in 1996, when the Free Press

brought out Michael J. Behe's Darwin's Black Box: The Bio-chemical Challenge to Evolution, which stirred up a storm of publicity, both positive and negative. Behe, a Catholic biochemist on the faculty of Lehigh University, argued that the "astonishing complexity of sub-cellular organic structure" testified to necessity of intelligent design. "The result is so unambiguous and so significant," he claimed, "that it must be ranked as one of the greatest achievements in the history of science."

The difficulty for religion comes when it is asked to explain the apparent randomness and chaos in the world as also part of divine initiative and order; the incredible waste of nature's trial and error. In this case, theology can evaluate the "character of the Designer" on the basis of the "observed design" in the world, but it cannot ignore the randomness and chaos in the world from this evaluation. For example, the intricate design of sub-cellular organic structure must be evaluated along side of genetic mutations that produce Alzheimer's disease. In this regard, theology will need to modify its classical understanding of how the Designer relates to the world or the character of the Designer.

Human uniqueness vs. continuity with the rest of creation: the Judeo-Christian tradition argues that humanity occupies a central position in the creation of the world. Human beings are made in the image of God and are living souls--these designations emphasize the uniqueness and difference of humanity from the rest of the created order. Science, on the other hand, emphasizes the continuity of creation with humanity identifying the commonality and shared genetic make-up of humanity with the rest of creation. Theology acknowledges similarity with creation as our composition from the dust of the earth, yet classical theologians struggle with the fragility of human dependency within creation. Science acknowledges the uniqueness of humanity in the world as the most self-reflexive of current species and thus capable of the most constructive or irresponsible relationship to the rest of the world.

A Darwinian account of humanity can find no place for the notion that the species suddenly acquired a property called "the image and likeness of God." Human distinctiveness evolved gradually. Thus, in order to accommodate the insights of evolutionary biology, theology must reframe its understanding of the imago Dei in such a way as to take account of this perception. Can the image of God be understood as "the capacity for authentic relationship"? Will this allow for the further "evolution" of the human species in the "image of God"?

The Misuse of Evolutionary Theory to support "Social Darwinism":

First, Darwin's understanding of natural selection has been used to justify violent competition that was linked at the time with unbridled capitalism. In the laissez faire "social evolutionism" advanced by William Graham Sumner, a political scientist at Yale who propagated Darwinism in the social sciences, market forces determine the "survival of the fittest." Second, Darwin himself wrote in The Descent of Man, that "at some future period, not very distant as measured by centuries, the civilised races of man will almost certainly exterminate and replace the savage races." German biologist Ernst Haeckel tried to justify the violence of World War I with an evolutionary argument. He maintained that "some humans" were more progressive than others. He divided humanity into 12 species and ranked them from lowest to highest. Haeckel stated "It is the Germanic race in North-western Europe and North America, which above all others, is in

the present age spreading the network of its civilization over the whole globe, and laying the foundations for a new era of higher mental culture.” (Zimmer, 316).

Social Darwinism is scientifically baseless, however, the cross-over application of biological theory to social theory in the works of German biologist Ernst Haeckel, British philosopher Herbert Spencer, and Industrial capitalist Andrew Carnegie should warrant serious caution to overstating the evolutionary theory as a value of for human adoption.

Evolutionary theory poses a unique theodicy (defined as the problem of apparent inordinate suffering and evil) question for those theologians who argue that theology and evolutionary theory can be unified. If the assumption is design and therefore a Designer, then why does the design include what appears to be random groping and seeming waste? The theodicy questions of why evil exists and why there is "inordinate" suffering necessary for free choice become central for the theologian. Evolution demonstrates an incredible waste of life and if so what does that say about the character of God, the Designer, who uses evolution to create? What accommodations in the nature of God must be made in order to adjust the apparent absence of God with a God worthy of worship?

I will continue to discuss the interface between evolutionary biology and theology using the **Four Example Responses to the Relationships between Evolutionary Science and Theology defined by Ian Barbour.**

Conflict: This view claims that science and religion have one common thing in common; they both are speaking for what is “True” albeit from radically different assumptions and hail from extremely different bases of authority. Religion usually appeals to deductive truth from a revelatory source. Science utilizes an inductive approach to truth through experimentation and the production of theories, hypotheses, principles and laws. The extreme positions within this view are scientific materialists and Biblical literalists. The scientific materialists have promoted a particular philosophical commitment (value statement) as a scientific conclusion, and the biblical literalists have promoted a pre-scientific cosmology as if it were an essential part of religious faith.

Independence: This view claims that science and religion are talking about two completely different things. Science is talking about "what" the world is and religion is talking about " values, purpose and ethics." One cannot be derived from the other. You don't want your theologians teaching the scientific questions of “how the world operates” and you don't want your scientists teaching the questions of “value, purpose, or ethics.” Because the two groups are speaking two different languages about the world they really have nothing to say to each other and should be kept separate. In this view the Bible is taken seriously but not literally. The locus of God's activity was not the dictation of a sacred text, but the influence of the divine in the lives of persons and communities (the history of Israel, the prophets, the person of Jesus Christ, and the early church). The biblical writings reflect diverse interpretations of these events and their opinions of scientific questions reflect the pre-scientific speculations of ancient peoples.

That God created the world is essentially a religious and not a scientific affirmation. While scientific hypotheses attempt to explain “How” the world came to be, that is, the process of how it developed to what it is, the Judeo-Christian tradition affirms its faith in the Origin and Source of the world process as the Lord God. We see the realities of creation but not God creating.

The definitive claim of the Bible is that God created the world. Note esp. Hebrews 11:3 and retrospectively Genesis 1:1. The truth of the biblical claim lies in its God-shaped world-view (Weltanschauung), not in its pre-scientific and primitive world-picture (Weltbild). Modern knowledge of an expanding universe *and* the evolutionary process and contemporary psychology are not to be found in the Bible.

a. The distinction between world-picture and world-view

World-view refers to the conception of the world in relation to the Divine, one’s philosophy of nature, whether atheistic, pantheistic, theistic, deistic, etc. The Biblical world-view is theistic.

World-picture refers to the understanding of the structures of the world. The world picture changes with the advances in science.

b. Summary observations on Biblical cosmology

- (1) Biblical references to nature and all life are grounded in a God-determined world-view, i.e., theistic perspective.
- (2) References to nature are popular, primitive, phenomenal, pre-scientific. The Bible is revelation within a historical context.
- (3) While the Biblical world-picture is not prophetic of modern science, it is free of much primitive superstition.
- (4) The biblical world-picture is incidental, i.e., form, and not substance. It is not binding on us today.

Dialogue: This view assumes that both fields are using the language of metaphor to describe experience. Proponents of this view reject all forms of divine intervention in the laws of nature. God’s role is seen as different from that of natural causes. This position, however, notes the influence of Homo sapiens, who won the edge over Neanderthal man, with the birth of language, rituals, and religious beliefs. In effect, this evolutionary moment has given rise to a species that is capable of overturning the evolutionary process by symbolic expression. A careful analysis of the way both scientists and theologians use language is extremely important in a time of rapid technological advancement. Four assumptions must be examined:

The first assumption is that scientific and religious discourse can be relatives within the same family because they both depend on ordinary language and they both use metaphor as a necessary way to suggest new meaning. Drawing on the work of Earl R. MacCormac our assumption is that science seeks to explore and explain the nature of the empirical world, while theology seeks to explain the nature of human experience especially in terms of its relation to value, purpose and meaning. Both disciplines employ language in a similar way by the use of

conceptual models that, although directed toward different ends, makes a dialogue not only possible but necessary. Both fields are empowered by the strengths of models as they are susceptible to the limitations of models. For example, is the phenomenon of light best perceived as "a wave" or as "a particle"? Both models, wave and particle, are helpful for describing light and neither model is ultimately adequate in and of itself. In theology, the model of "God as Father" and the model of "God as Friend" both have distinctive constellations of meaning with concomitant strengths and limitations.

The second assumption is that scientific descriptions are derived from a value-laden consciousness. Personal knowledge cannot be excluded from the construction of exploratory or explanatory models. These value-laden images are then put to work as theoretical models for thought that aims at making the world more intelligible within the framework of those values. For example, is it best to perceive of the world as "a machine," a closed system, as did the seventeenth and eighteenth century scientists? Or, is it better to envision the world as "an organism," an open, living and fragile ecological system? The choice of metaphorical models will impact the manner in which the subject matter is explored. In this case, religion, as understood as the activity of acknowledging a culture's compelling values, is foundational for scientific inquiry.

The third assumption addresses the use of scientific knowledge in terms of application and technology. Scientific models seldom end with explanation. Inevitably, these scientific explanatory models lead to discussions of ideals of the natural order which, in turn, have powerful implications for shaping or reinforcing basic values (religious world models). Therefore, science and religion are understood as mutually constitutive. For example, examine the historic influence of the "Creator and Designer" metaphorical references to God and how these metaphors influenced scientific research in the Enlightenment period. Likewise, examine the way contemporary scientific models of self-organization are influencing the emergence of process theology.

The fourth assumption builds on the previous three by identifying our ultimate value as that which shapes a global community. In this sense, our religious metaphors provide keys to our self-awareness and provide information as to why we have become as we are and clues as to where we may be headed. Hence, if humanity is to take up the metaphorical role of recognizing our responsibility it will be at that point where scientific metaphor and religious metaphor meet: such as "Co-Creators with God."

Integration: This view believes that science and religion mutually form and shape each other. It is important for religionists to listen to what scientists teach about the nature of the world and it is important for scientists to respect and acknowledge the values that shape their research. This view holds that theological doctrines can be consistent with scientific evidence. As an example, the biochemist and theologian Arthur Peacocke attempts to reformulate traditional beliefs in response to current science.

What science describes in terms of neo-Darwinian evolutionary biology is what theology sees as God's creative and providential action in the world. Evolution is thus the way God creates life, a broad position often called 'theistic evolution.' This view intends to provide a basis for viewing

the discoveries of science from a faith affirming perspective. Arthur Peacocke has been a strong advocate of this position. Starting in the 1970s, Peacocke developed a response to Jacques Monod's challenge that chance events in nature point to the fundamental irrationality and meaninglessness of the world. For Peacocke, chance events, from genetic variation and expression to changes in populations and the environment, do not mitigate against God's creative purposes. Instead, God is the ground and source of both chance and law (or necessity). Together they serve as God's means of continuously creating physical, chemical, and biological complexity, and thus a world characterized by continuity and emergence, temporality and open-endedness. Peacocke situates both the *ex nihilo* and the continuous creation tradition within a panentheistic doctrine of God, in which the world is within God even while God infinitely transcends the world.

He articulates his theology of creation through a variety of models: God is a composer and improviser of unsurpassed ingenuity; like a mother, God births the world within herself though the world is other than God. Following the direction Peacocke has taken, Philip Clayton has developed a richly nuanced version of panentheism throughout his writings, seeing it as the natural outgrowth of the theistic tradition as it is reconstructed in light of science. His panentheistic approach to divine action in nature agrees with Peacocke on seeing God at work in the emergence of new forms of life, though unlike Peacocke he finds quantum physics to be a fruitful avenue for exploring God's immanent action in nature.

Ian Barbour, too, adopts a panentheistic view of God and the world, though he develops it within a process perspective. God is a source of order and novelty, acting within the indeterminacies in each integrated physical and biological system as a top-down cause. Thus evolution is the product of law and chance within which God is continuously active, influencing events through persuasive love but not controlling them unilaterally. Following Charles Hartshorne, he embeds the panentheistic mind-body analogy for God's relation to the world within a social and ecological context, then adds to it an interpersonal perspective. God is "preeminent but not all-powerful," the creative participant within the evolutionary community of beings. Through tenderness, patience and responsiveness, God nurtures the world towards unchanging goals without coercing it through a ubiquitous, detailed plan.

The Evolution of Praise!

In a series of essays originally presented for Mercer University's Harry Vaughn Smith Lectures (1999), Barbara Brown Taylor admits to a nascent interest in the relationship between science and faith. She notes the tectonic forces in the fields of theology and science that are driving the fields closer together (the Vatican Observatory, the Center for Theology and Natural Sciences, and the Templeton Foundation).

She cuts to the chase immediately in her article on the "Evolution of Praise." It is the blindness and randomness of variation in the Darwinian theory of evolution that frightens the religious folk the most. The apparent denial of design in nature was an apparent denial of the divine. She articulates this tension through the voice of 93 year-old woman, "we are either here by design or we are here by chance." You can't have both.

Taylor then poses a series of questions to bring this dilemma of design and chance to a confrontation: Why do the laws of entropy and evolution oppose each other? Where does the requisite energy of new life come from? Where did the genes of life come from? Using the "anthropic principle" and the testimony of Sir Fred Hoyle, Taylor posing the possibility that the world we have is too precise to deem anything other than super-intelligent involvement. But have we arrived yet? Or is the evolutionary process continuing? Taylor suggests (Bennett Sims) the evolutionary process continues in the direction of "hetero pacificus" (peaceable humanity) as proleptically seen in Jesus.

Millions of years of purposeless evolution have produced a creature capable of overturning the process by symbolic design. Homo sapiens won the edge over Neanderthal man with the birth of a symbolic expression that appeared as language, rituals, and beliefs in the after-life. Taylor, in search for the testimony for the divine, turns to the self-organizing universe to locate the Designer behind the design. Invariably, Taylor is drawn to the interface between homo sapiens that "tell stories" and scientific facts that report "what is." I like the analogy, we are the chicken who examines the egg in order to ask which came first. In other words, we are the miracle of the universe made conscious. Language, our vehicle of consciousness, is also our voice of praise. But our praise is not for ourselves alone. We worship on behalf of the whole of creation (Genesis 2:7 and Romans 8:22). (See also, Terrence Deacon, The Symbolic Species: The Co-evolution of Language and the Human Brain. (London: Penguin Books, 1997); Philip Hefner, The Human Factor: Evolution, Culture, and Religion. (Minneapolis: Fortress Press, 1993); and Barbara Brown Taylor, The Luminous Web: Essays on Science And Religion. (Cambridge: Cowley Publications, 2000.)