

Religious Studies and Physics 43
Origins: A Dialogue between Scientists and Humanists
Professors Treu, Tutino and Hecht

Lecture One

Hecht

Methodological Introduction

Goals of this lecture:

1. Methods of studying religions.
2. The contemporary contexts in which religion and science enter into [rancorous] debate and dialogue.
3. The historical period when science and theology or religion parted ways.
4. Scientists, philosophers and religious thinkers who have sought to overcome the conflicts between religion and science.

I. Methods of Studying Religion

What do we mean by religion? Professor Tutino provided us with the etymology of the term.

complexities of science and religion in history

1. Religion as “religious tradition” and “cultural expressions of religion”

Paul Tillich (1886-1965) – religion as “ultimate concern”

Quest for meaning – “religion is the substance of culture, culture is the form of religion”

“aesthetic function of the human spirit is the infinite desire to express ultimate meaning.”

2. Distinctions between the study of religion and theology.

theology is a normative discipline

the study of religion belongs to the “human sciences”

descriptive and interpretive



Vincent van Gogh's "Starry Night" (June, 1889)



Vincent van Gogh's "The Night Café" (August-September 1888)

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3. Theology and the study of religion in American history.

universities and seminaries

Yale University Divinity School, Harvard, Columbia (Union Theological Seminary), Yeshiva University, the Hebrew Union College, Jewish Theological Seminary and the American Jewish University, Fuller Theological Seminary, and many others.

Religion in the American Public University and in Public Education

The separation of Church and State

The First Amendment to the Constitution: Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

1963 -- Abington School District v. Schempp and Murray v. Curlett – School-sponsored prayer (the Lord’s prayer) and devotional Bible Reading (PA and Baltimore) – Unconstitutional (8-1)

Tom C. Clark, Hugo Black, William O. Douglas, John M. Harlan II, Porter Stewart, Byron White, Arthur Goldberg, and Earl Warren, Chief Justice

William J. Brennan Jr. (concurrency)

“It might well be said that one’s education is not complete without a study of comparative religion or the history of religion and its relationship to the advancement of civilization. It certainly may be said that the Bible is worthy of study for its literary and historic qualities. Nothing we have said here indicates that such study of the Bible or of religion, when presented objectively as part of a secular program of education, may not be effected consistently with the First Amendment.”

3. Can religion be studied “objectively”?

Descriptive phenomenology

antipathy, sympathy, and empathy

learning to practice *epochē*

4. Religious ideas versus deep contexts

5. Ninian Smart’s dimensional analysis of religion

authoritative narrative (the technical meaning of myth)

doctrine

ritual

institution

ethics

experience

material

6. The study of religion is a multi-perspectival discipline or “polymethodological doodling all the day long.” (Smart)

How old is the study of religion?

Thucydides' *History of the Peloponnesian War*

Herodotus' *Histories* [inquiry] into the causes of the Greek and Persian war

A very, very popular interpretation of religion.

Euhemerus' popular novel, *Hiera Anagraphe* or *Treatise on Sacred Matters* of the early third century B.C.E. -- Ouranos, Kronos and Zeus

The course of "euhemerization"

The Wisdom of Solomon (14:12-22)

Plutarch's *Peri Desidaimonia* or *De Superstitione*

Augustine of Hippo, *City of God* (8.26)

Snorri Sturluson's *Prose Edda* (10th century C.E.)

E.B. Tylor's *Primitive Civilization* (1873) and the theory of animism.

Sigmund Freud

[12] For the idea of making idols was the beginning of fornication, and the invention of them was the corruption of life,

[13] for neither have they existed from the beginning nor will they exist for ever.

[14] For through the vanity of men they entered the world, and therefore their speedy end has been planned.

[15] For a father, consumed with grief at an untimely bereavement, made an image of his child, who had been suddenly taken from him; and he now honored as a god what was once a dead human being, and handed on to his dependents secret rites and initiations.

[16] Then the ungodly custom, grown strong with time, was kept as a law, and at the command of monarchs graven images were worshiped.

[17] When men could not honor monarchs in their presence, since they lived at a distance, they imagined their appearance far away, and made a visible image of the king whom they honored, so that by their zeal they might flatter the absent one as though present.

[18] Then the ambition of the craftsman impelled even those who did not know the king to intensify their worship.

[19] For he, perhaps wishing to please his ruler, skillfully forced the likeness to take more beautiful form,

[20] and the multitude, attracted by the charm of his work, now regarded as an object of worship the one whom shortly before they had honored as a man.

[21] And this became a hidden trap for mankind, because men, in bondage to misfortune or to royal authority, bestowed on objects of stone or wood the name that ought not to be shared.

[22] Afterward it was not enough for them to err about the knowledge of God, but they live in great strife due to ignorance, and they call such great evils peace.

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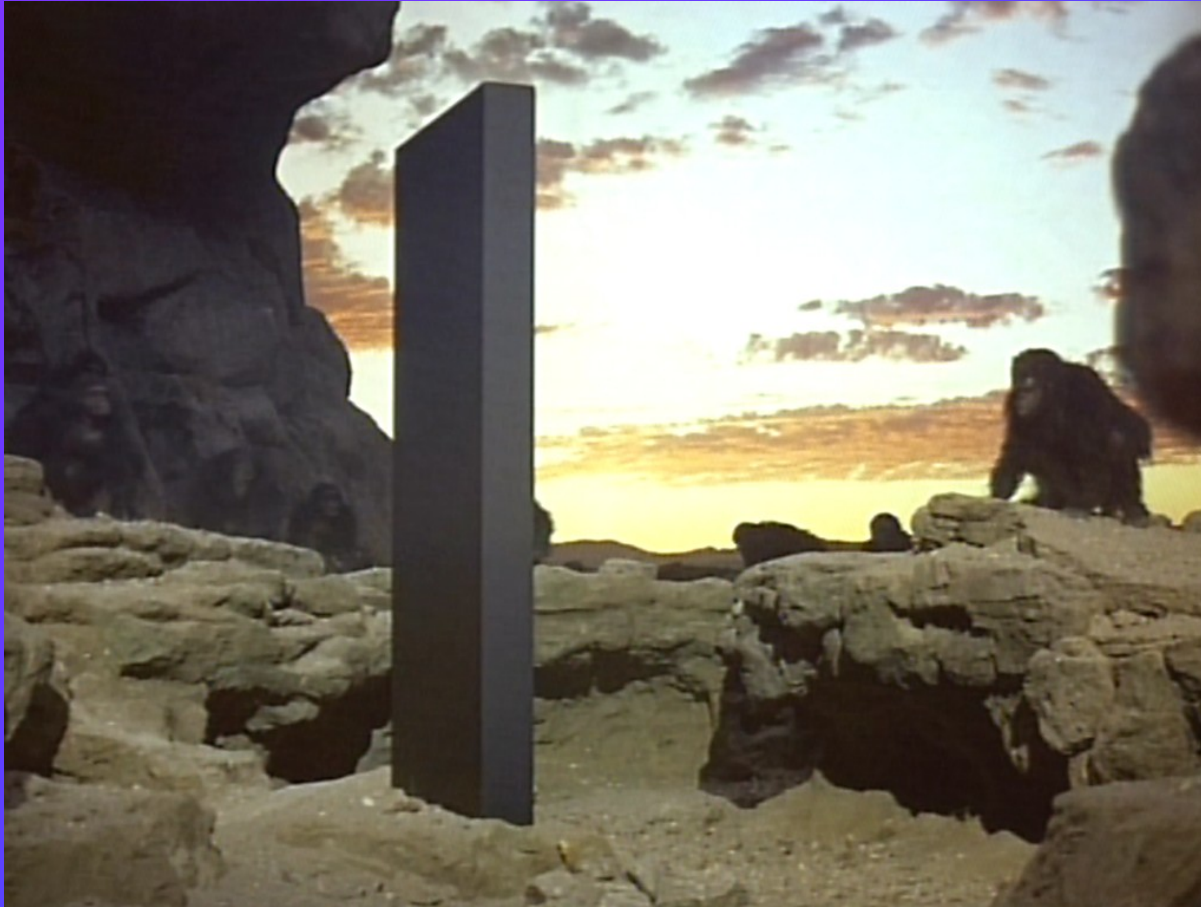
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***2001: A Space Odyssey* (1968) – written by Arthur C. Clark and Stanley Kubrick and directed by Stanley Kubrick.**





“The Dawn of Man”

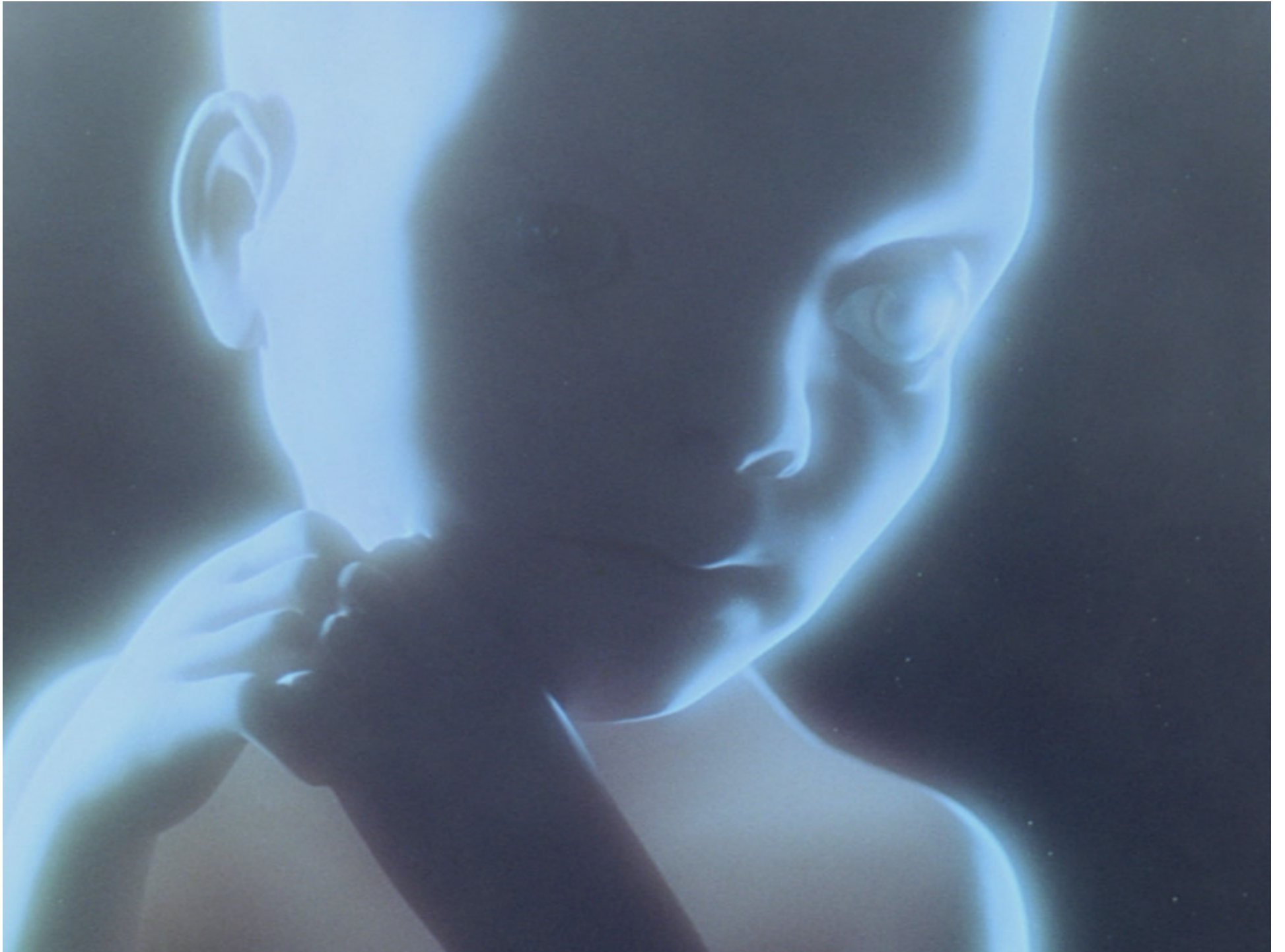
The first encounter with the monolith – the African savannah – primate ancestors are living in harmony with animals and one another. Things change when the monolith is touched.

The second encounter with the monolith – Tycho Crater on the moon

Journey to Jupiter on board Discovery 18 months after the discovery in Tycho Crater

The third encounter with the monolith – the Star Child and the return to earth



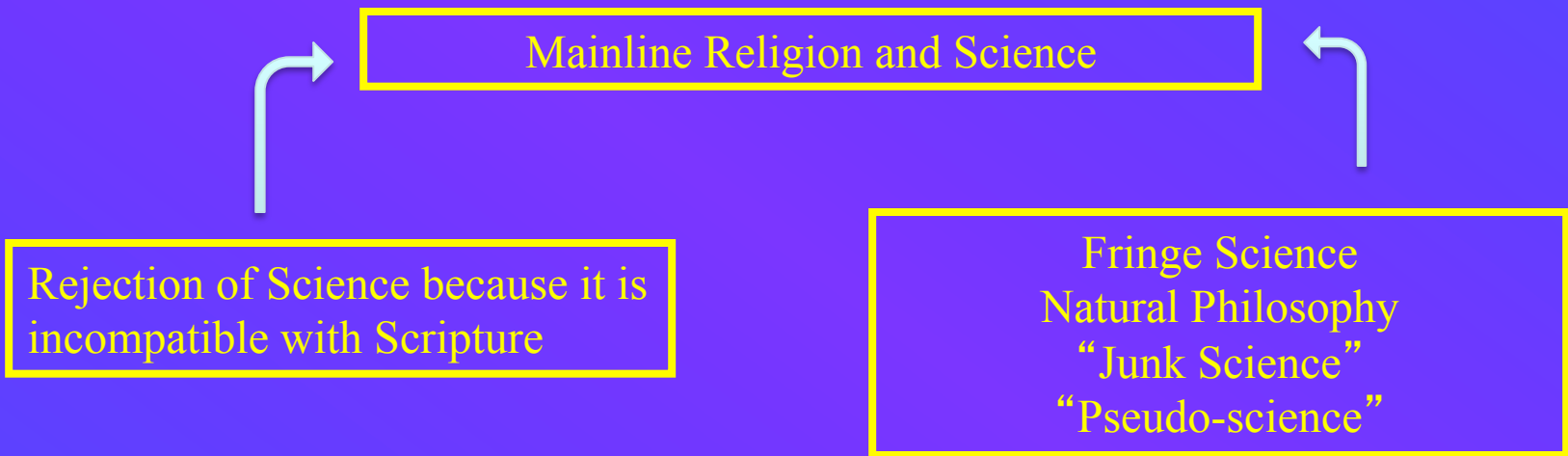




Prometheus (2012) – directed by Ridley Scott and written by Jon Spaihts and Damon Lindelof.



II. The Contemporary Contexts in which Religion and Science enter into [rancorous] debate and dialogue.



Fringe Science, Natural Philosophy, Junk Science, and Pseudo-science

Augustus de Morgan (1806-1871)

Professor of Mathematics and Law at
London University (University College
London)

“Paradoxers”

Letters published in *Athenaeum*

The Budget of Paradoxes (1872)



“If I had before me a fly and an elephant, having never seen more than one such magnitude of either kind; and if the fly were to endeavor to persuade me that he was larger than the elephant, I might by possibility be place in a difficulty. The apparently little creature might use such arguments about the effect of distances, and might appeal to such laws of sight and hearing as I, if unlearned in those things, might be unable wholly to reject. But if there were a thousand flies, all buzzing, to appearance, about the great creature; and, to a fly, declaring, each one for himself, that he was bigger than the quadruped; and all giving different and frequently contradictory reasons; and each one despising and opposing the reasons of the others – I should feel quite at ease. I should certainly say, My little friends, the case of each one of you is destroyed by the rest. I intend to show flies in the swarm, with a few larger animals, for reasons to be given.”

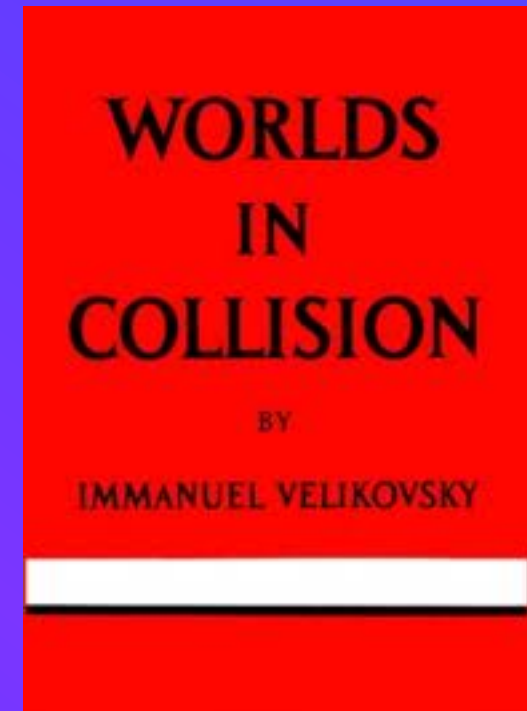


Immanuel Velikovsky (1895-1979)

Worlds in Collision (Macmillan, 1950)

Michael D. Gordin, *The Pseudo-Science Wars: Immanuel Velikovsky and the Birth of the Modern Fringe* (2012)

Ancient mythological, scriptural, and historical sources from a variety of cultures document a series of major catastrophes – rains of fire, immense earthquakes, tsunamis, dragons fighting in the heavens (which had long be interpreted by rationalists as metaphors or ecstatic visions) were evidence of real and massive global catastrophes. He examined two of these; one in approximately 1200 B.C.E. during the exodus of the Israelites from Egypt and the second during the 8th century B.C.E. which changed the length of the year from 360 days to its current 365 ¼ days and stunned the prophet Isaiah and was the depicted in Homer's Iliad as the battle between Athena and Ares.



The first catastrophe – during the time of the exodus. Caused by a comet ejected from Jupiter and almost collided with earth and remained trapped in gravitational and electromagnetic interaction with earth on two separate incidents 52 years apart.

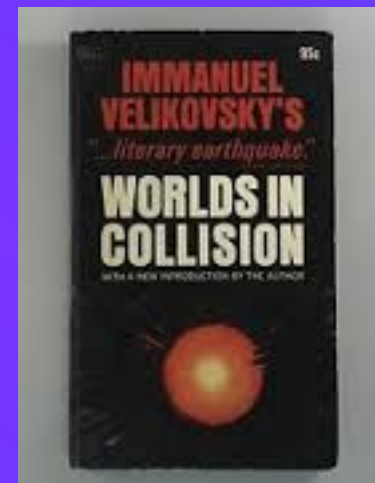
Raining petroleum from its tail; ignited the heavens; tilted the earth's axis.

The comet stabilized and became the planet Venus – earth's closest neighbor was a comet born in historical time.

The second catastrophe – Venus's movements displaced Mars and threatened earth with a second series of catastrophes.

Velikovsky's arguments presupposed a reformulation of geology, paleontology, archaeology, celestial mechanics, and ancient history.

* Naturalizing miracles – the mana (*man*) in the desert.



Pseudo-science – The Oxford English Dictionary – “a spurious or pretended science” first used in 1786 to refer to “alchemy.”

Bad science or substandard science

The three gurus of pseudo-science – Velikovsky, Charles Fort (1874-1932)

<http://www.fortean.org> and L. Ron Hubbard (1911-1986)

Margaret Wertheim, *Physics on the Fringe: Smoke Rings, Circlons, and Alternative Theories of Everything* (2011).

“Scientists themselves increasingly point to this cosmological function of their work. One of science’s aims, it is often now said, is to help us feel ‘at home in the universe.’”

Stuart Kauffman’s *At Home in the Universe* (1995) is intended to counter the idea that science alienates humans from the rest of the cosmic scheme. The more we learn through science, the more we are able to feel at home in a universe whose beauty and complexity enrich and nourish us.

Wertheim's book is about Jim Carter and his concept of "Circlon Synchronicity" which is a complete reconstruction of physics, which he believes, if accepted would be the greatest upheaval in science since the Copernican revolution and solve among other problems, the origin of the moon, the nature of gravity, the structure of matter, and the relationship between space and time.

"The Circlon Model of Nuclear Structure"



The periodic table, showing the circlon-based structure of each element. (Jim Carter)




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graph TD; A[Mainline Religion and Science] <--> B[Rejection of Science because it is incompatible with Scripture]; A <--> C[Fringe Science  
Natural Philosophy  
"Junk Science"  
"Pseudoscience"]
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Mainline Religion and Science

Rejection of Science because it is incompatible with Scripture

Fringe Science
Natural Philosophy
"Junk Science"
"Pseudoscience"

Religion and Science on the National Stage – 2012 Presidential Election

Michele Bachman – intelligent design

Newt Gingrich – “evolution should be taught in schools as science, while intelligent design should be taught as philosophy.”

Herman Cain – no opinion

Jon Huntsman – “I believe in evolution and trust scientists on global warming. Call me crazy.” Republican party as the anti-science party.

Ron Paul – “I don’ t accept a theory of evolution.”

Rick Perry – “we teach evolution and creationism in Texas and you’ re smart enough to figure out the truth.”

Mitt Romney – “True science and true religion are on exactly the same page.”

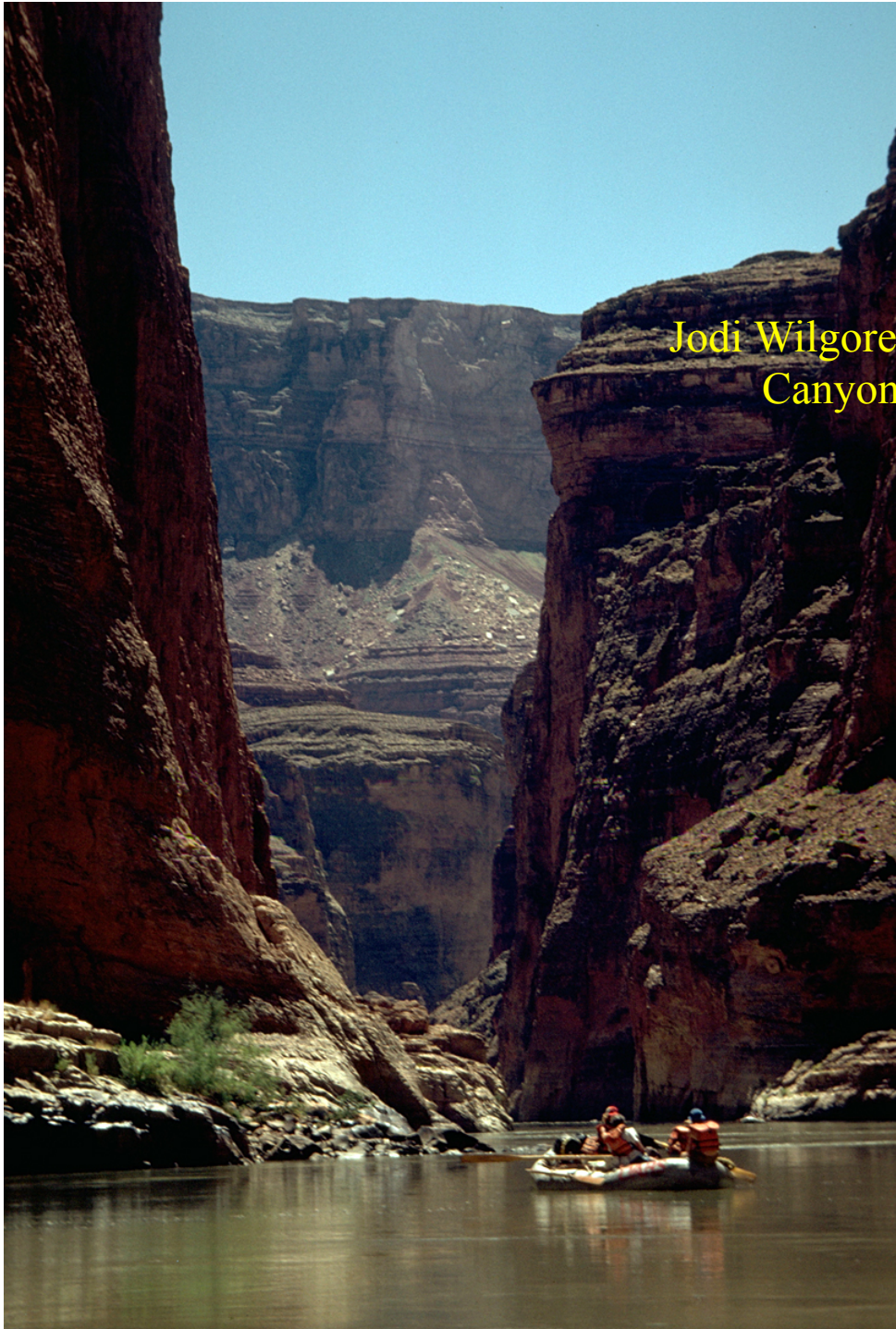
Rick Santorum – all the way with Genesis 1:1

Congressman Paul Broun (R Georgia): "God's word is true. I've come to understand that. All that stuff I was taught about evolution and embryology and the big bang theory, all that is lies straight from the pit of Hell. It's lies to try to keep me and all the folks who were taught that from understanding that they need a savior. You see, there are a lot of scientific data that I've found out as a scientist that actually show that this is really a young Earth. I don't believe that the earth's but about 9,000 years old. I believe it was created in six days as we know them. That's what the Bible says."

White Water Rafting in the Grand Canyon.....

to find the origins of the earth.....





Jodi Wilgoren, "Seeing Creation and Evolution in Grand Canyon," *Los Angeles Times*, 6 October, 2005

Two rafting trips down the Colorado River.

Tom Vail, 23 years leading Canyon Ministries, using the geography of the canyon to demonstrate that the Grand Canyon was carved 4,500 years ago by the great flood described in Genesis.

Eugenie Scott, director of the National Center for Science Education.

"Two groups examining the same evidence. Traveling nearly identical itineraries... Yet standing at opposite ends of growing creation-evolution debate, they seem to speak in different languages."



In 2004, a Gallop poll found a third of the public believes the Bible is the actual word of God that should be taken literally and that 45 percent think God created human beings “pretty much in their present form” with the last 10,000 years.

Mr. Vail's book, *The Grand Canyon: A Different View*, is ranked 17th among the 800 products sold last year in the canyon gift shop. It has sold 40,000 copies despite the science organizations' protests of its sales.

In 1997, he founded [Canyon Ministries](#) which brings some 200 Christians to the river each year.

One of the Vail's rafters is Diana Panes who was "gobsmacked" when her son came home from school and asked her whether Genesis was fable or history, and about dinosaurs dating back millions of years.

She is convinced that Jesus himself believed the global flood and genealogy of Genesis were true historical accounts, "the whole thing becomes his reputation at stake." That is why she came to the canyon to see for herself.

In Dr. Scott's raft there were six people who said they belonged to churches and synagogues. One rafter said, "I've always believed in evolution." And another immediately challenged her: "Accepted evolution. That's what Genie [Dr. Scott] wants us to say. Genie said anyone who said 'believed' would have to walk home."

Scientists like Dr. Scott cringe at the creationists' charge that Darwin's theories have become dogmatic faith, that creationism and evolution are just parallel belief systems, equally plausible and unprovable. A retired firefighter said, "We have faith in science, but its not a religion. It's a faith in a body of knowledge."

Dr. Scott taught her rafters a biologist's ditty about the amphioxus, a fishlike invertebrate in the human evolutionary line, to the tune of "It's a long way to [from] Tipperary."

It's a long way from amphioxus – it's a long way to us.

It's a long way from amphioxus to the meanest human cuss.

Goodbye fins and gill slits.

Hello lungs and hair!

It's a long, long way from amphioxus.

But we come from there.

A macro-history of one religious trend in American Christianity.

The Birth of Fundamentalism – Milton and Lyman Stewart's "Five Fundamentals" and Baptist minister Curtis Lee Laws (1920).

"science and modern [i.e., secular] society"

The “Fundamentals”

1. The inerrancy of Scripture or Bible as a result of inspiration from the Holy Spirit.
2. The virgin birth of Christ
3. The belief that Christ's death was and is the only mechanism for atonement of sin.
4. The bodily resurrection of Christ.
5. The historical reality of Christ's miracles.

The Moody Bible Institute in Chicago and other Bible Colleges.



State of Tennessee v Scopes (1925)

Clarence Darrow

William Jennings Bryan, former Secretary of State under President Wilson, central figure in the Democratic party and champion of the common person, and also a devout Presbyterian opponent of evolution.

Interpretations of the decline of fundamentalism.

Two major US Supreme Court Cases

Engel v Vitale (1962) prohibiting prayer in public schools.

Abington Township v Schempp (1963) prohibiting mandatory Bible reading in public schools.

The Presidency of Ronald Reagan (1980) and Conservative politics and religion.

Jerry Falwell's Moral Majority in 1980s.

Jeff Sharlet's *The Family: The Secret Fundamentalism at the Heart of American Power* (2008) – “The secular assumption since the Scopes trial has been that such beliefs are obsessions of the fringe. In their populist manifestations – prurient antipornography crusaders, rabid John Birchers, screaming foes of abortion wielding bloody fetuses like weapons – they often are. But there is another thread of American fundamentalism, invisible to secular observers, that ran through the post-Scopes politics of the twentieth century, concerned not so much with individual morality as with “Christian civilization,” Washington, D.C., as its shining capital...”

III. When theology and science parted ways.

Amos Funkenstein's *Theology and the Scientific Imagination* (1986)

“The de-theologizing of science”

The “secular theology” of the 17th century

“...in that century, of a peculiar idiom, or discourse, in which theological concerns were expressed in terms of secular knowledge and scientific concerns were expressed in theological concerns.”

Important “secular theologians”

Galileo Galilei (1564-1642)

Johannes Kepler (1571-1630)

Thomas Hobbes (1588-1679)

René Descartes (1596-1650)

Baruch Spinoza (1632-1677)

John Locke (1632-1704)

Isaac Newton (1642-1727)

Gottfried Leibniz (1646-1716)

Decline of this “secular theology” – self-sufficiency of the world and the autonomy of mankind.

Los Angeles Times Magazine

July 15, 2001

Is God All in Your Head?

Rational Science, Mystical
Reality and the First-Ever
Snapshot of the Creator.
By Vince Rause



Also In This Issue

- > The Loud Voice of Glenn Spencer
- > A Bird-Watcher Is Born
- > Lightning Up a 1920s Home

The individual who is most responsible for the end of this secular theology and the posture of anti-theology, a science that no longer sought to express itself in theological terms was Immanuel Kant (1724-1804)

The Critique of Pure Reason (1787)

The Critique of Practical Reason (1788)

The Critique of Judgment (1790)

In these works he created a completely immanent philosophy which begins with a very specific epistemology and how we can know anything.

Knowledge arises from the experience of the world and qualities of reason:

a priori and *a posteriori*

The *a prioris* of time, space, and number.

God is a mechanism which permits us to quantify qualities and to discriminate the real from the unreal.

God then becomes a regulative idea of reason – it is always an *a posteriori*

“complete determination”

Religion within the Limits of Reason Alone (1793)

Assertion of the “ethical commonwealth” – here he was drawing from the traditions of John Locke and Thomas Hobbes and the *status natura*.

Distinction between “religious faith” and “religious institutions”

There is nothing wrong with “faith” (although the use of this term reflects a confusion). Faith for Kant is a striving for an ethical commonwealth on earth and in the present.

“the church of pure reason” is the godly community which many religions have pursued, but have failed because they did not understand the real meaning of faith.

Salvation through knowledge alone:

Ancient world – true knowledge was esoteric – objectively and subjectively

Medieval world – true knowledge was a closed system

17th century and the Enlightenment – true knowledge was open; presented in the vernacular; in the Enlightenment, open knowledge became “a militant, missionary ideal.”

IV. Scientists, philosophers, and religious thinkers who have sought to overcome the conflict between science and religion.

Alfred North Whitehead (1861-1947) – British mathematician and philosopher who wrote extensively on mathematics, physics, philosophy of science, and metaphysics. Developed what he called “process philosophy” which was later adapted by religious thinkers as “process theology.” *Process and Reality: An Essay in Cosmology* (1929) and *Modes of Thought* (1938).

W.T. Stace (1886-1967) – British philosopher who in the last decades of his life was critical of language philosophy, analytical philosophy, and positivism which do not require the alienation of belief or a fundamental sense of mystery (= the divine). *Religion and the Modern Mind* (1952) and *Mysticism and Philosophy* (1960).

Francis Collins (1950-) – American physician and geneticist, major figure in the efforts to map the human genome, nominated and appointed as the director of National Institute of Health by President Obama (2009) known for his “theistic evolution” or “evolutionary theism” in his *The Language of God: A Scientist Presents the Evidence for Belief* (2006) and his Biologos Foundation

Pierre Teilhard de Chardin (1881-1955) – French Jesuit paleontologist and geologist who developed the idea of *Noosphere*, “christogenesis” and the “Omega Point” in his *The Phenomenon of Man* (French edition 1955; English trans. 1959).

Pierre Teilhard de Chardin (cont.)

Flannery O' Connor, the American novelist, wrote "It is doubtful if any Christian of this century can be fully aware of his religion until he has seen it in the cosmic light which Teilhard has cast upon it."

Influence of Henri Bergson (1859-1941) – *Creative Evolution* (1907)

He accepted the scientific idea of evolution, but argued against unguided evolution of Darwin's natural selection. There is a mysterious force which he called *élan vital* which guided evolution. He got this "vital impetus" from Aquinas. God creates and sets in motion, and then creation moves with this vital impetus towards its goal or end point or *telos*.

"trans-humanism"

"love" – not a sentiment or emotion but the affinity of one being for another. It is the unifying force of the cosmos. "Love binds molecules together on one level, and brings human personalities together in another."

Impact upon "spirituality"

Yeshayahu Leibowitz (1903-1994) – Israeli biochemist and neurologist at the Hebrew University of Jerusalem and Orthodox Jewish philosopher and polymath who concluded that the instrumental truths of science and the meaningful truths of human behavior [in religion]; the Bible is not intended to convey scientific information but only how to worship.

“There need not be any correlation between the instrumental truth of science and the truthfulness of a man’s behavior. The truth of Science is not a ‘value’ ; it is a datum within science. Values are not anchored in reality. They are what a man aspires to impose upon reality, including the reality of his self. That which is anchored in reality is value-free. It is simply that which is the case, not a model to which one seeks to make reality conform.” “Religion and Science in the Middle Ages and in the Modern Era” (1976); reprinted in *Judaism, Human Values, and the Jewish State* (1982).