

AWARD WINNER, SCIENCE & RELIGION COURSE PROGRAM
THE CENTER FOR THEOLOGY AND THE NATURAL SCIENCES
FUNDED BY THE JOHN TEMPLETON FOUNDATION

Origins: Chance or Design

University of Minnesota
Institute of Technology Freshman Seminar 1905
Fall 2001
Thursdays 2:30-4:10
1701 University Av, Room 218

Instructors

Christopher Macosko (macosko@umn.edu)
William Monsma (monsm001@umn.edu)

Teaching Assistant

Angela Bardales (IXOYEab@aol.com)

Course Description

How did we get here? What do we know about our origin and the origin of the universe? Is there any meaning to existence? Is there evidence for design and purpose in the universe? These are questions which humans have asked since the dawn of history.

This course is an interdisciplinary seminar looking at the interfaces between scientific, philosophical, and religious ways of looking at origins. Standard scientific accounts of the origin of the universe, life, species diversity, humankind, and culture will be explored together with their implications and limitations.

Syllabus

Class Meetings

The class will meet weekly for 1 hour and 40 minutes. The class period will consist of:

- An initial discussion on the readings using questions submitted by students
- A presentation by one of the instructors, a guest instructor, or a student
- Further discussion.

What will be Expected of Students

- Buy the reader at Alpha Print (on 4th St in Dinkytown)
- Do assigned readings before each class.
- Submit the following on the web site (www.geocities.com/elemeno123/life.htm) one day before the class:

- Where the authors of the readings agree and where disagree.
- An evaluation of the readings (e.g. “this one is very clear”; “cut out these pages”).
- One question for discussion.
- Participate in the class discussion.
- Write a paper about origins and make a 15-minute presentation. (Submit a topic by the fifth class meeting, and an outline with references by the tenth meeting. The paper should be about 10 pages in 12-point type double-spaced, including a title page with abstract—a summary of the paper—and a bibliography. Use section headings. Use only one staple. The presentation should have a visual, auditory, or participatory component.)
- There will be no final exam; the exam period will be used for a wrapup.

Course Schedule

1. Introduction (Sep 6)

Instructors.

Course plan and requirements.

Scientific & religious dimensions of “Origins: Chance or Design”.

Student introductions: What do you think about the beginning of the world?

Video “*The Question is...*,” BBC and the John Templeton Foundation.

2. Origin Stories (Sep 13)

Read:

K Crossley-Holland, *The Norse Myths*, Pantheon, 1980, pp. xxii, 3-6.

A Heidel, *The Babylonian Genesis*, 2nd ed, U Chicago, 1951, pp. 3-10.

Enuma Elish, tr Mircea Eliade, in D Leeming, *The World of Myth*, Oxford, 1990, pp. 18-24.

Genesis 1-3, in *The New Revised Standard Version Bible*, Oxford, 1989, pp 1-4.

N Smart & R Hecht eds, “The Universe Flows from the Tao: Tao Te Ching” and

“The Creation of the Universe: Huai-nan Tzu” in *Sacred Texts of the World*,

Crossroad, 1982, p 293.

The Scandinavian, Mesopotamian, biblical, Taoist, and scientific stories: what do they have in common, how do they differ? According to each, what is our place in the scheme of things?

3. Major Worldviews in History (Sep 20)

Read:

James Sire, *The Universe Next Door: A Basic Worldview Catalog*, Updated & Expanded ed, InterVarsity Press, 1988, pp 16-20.

Ian Barbour, “Nature and God in the Eighteenth Century,” in *Religion and Science*, HarperCollins, 1997, pp 33-48.

John Polkinghorne, *Science and Theology: An Introduction*, Fortress Press, 1998, pp. 4-9.

Animism, monotheism, Greek philosophy, monism, Confucianism. What is the most important feature of the world for each of these worldviews? According to each, why

does the sun rise every morning? What is attractive about each? How are these worldviews represented today?

The Copernican Revolution and the Enlightenment. How science can change its mind. The worldview shift from Christian theism to scientific naturalism, which we are still struggling with.

4. Evolution & The Scopes Trial (Sep 27)

Watch Video: Inherit the Wind.

Read:

Edward Larson, *The Summer for the Gods*, Basic Books 1997, pp 239-246.

Phillip E. Johnson, *Defeating Darwinism*, InterVarsity, 1997, ch 2, pp 24-36, 120-124.

Jon Tevlin, "Teacher Awaits Appeal on Evolution Education", *Star Tribune*, Aug. 14, 2000, pp. 1, 9.

What was the significance of the Scopes trial? How have things changed since then?

5. The Origin of the Universe (Oct 4)

Read:

Robert Jastrow, *God and the Astronomers*, 2nd ed, Norton, 1992, ch 1 & 9, pp 9-14, 103-107.

J-M Wersinger, "Genesis," in *Phi Kappa Phi Journal*, vol 76 no 1 (Winter 1996), pp 9-15.

John Polkinghorne, *Beyond Science: The Wider Human Context*, Cambridge University Press, 1996, pp. 75-93.

The big bang: where did it come from? How did the development of the universe proceed? What about "inflation"? The fine tuning of the universe?

6. The Origin of Life (Oct 11)

Read:

Gary Olsen, "Origins of Life," in *Phi Kappa Phi Journal*, vol 76 no 1 (winter 1996), pp 20-23, 27.

Walter Bradley and Charles B. Thaxton, "Information and the Origin of Life", in J.P. Moreland (ed.), *The Creation Hypothesis*, InterVarsity Press, 1994, pp. 173-210, 320-323.

What scientific explanations are there for the origin of life? Do non-scientific explanations have a place here?

Guest lecturer: Gary Nelsestuen, Biochemistry

7. Molecular Evolution (Oct 18)

Read:

Michael Behe, "Molecular Machines: Experimental Support for the Design Inference", http://www.arn.org/docs/behe/mb_mm92496.htm, Access Research Network, 1997.

Michael Behe, *Darwin's Black Box*, Free Press, 1996, pp. 69-75.

Jerry Coyne, "God in the Details", in *Nature* Vol. 383, pp. 227-228 (19 Sept. 1996).

William Dembski, "Signs of Intelligence", in *Touchstone*, July/Aug 1999, pp. 76-84.

What does Behe mean by “irreducible complexity”? What is Coyne’s objection? Does this have relevance for the existence of God?

8. The Fossil Record (Oct 25)

Read:

Richard Dawkins, *Climbing Mount Improbable*, Norton, 1996, pp. 73-107.

Stephen Jay Gould, “The Evolution of Life on the Earth” in *Scientific American*, Oct. 1994, pp. 85-91.

Robert DeHaan & John Wiester, “The Cambrian Explosion: The Fossil Record and Intelligent Design”, in *Touchstone*, July/Aug 1999, pp. 65-69.

George Johnson, “It’s a bird, it’s a dinosaur, it’s a birdosaur”, in *Star Tribune*, 5 July 2000, p. A6.

How does each of these readings deal with the gaps in the fossil record?

9. Human Evolution (Nov 1)

Read:

Michael Lemonick & Andrea Dorfman, “Up From the Apes”, *Time Magazine*, 23 Aug. 1999, pp. 50-58.

David Price, John Wiester, & Walter Hearn, “What is Known of the Earliest Hominid?” in *Teaching Science in a Climate of Controversy*, American Scientific Affiliation, 1993, pp 38-42.

What are the major stages envisioned? What is it to be human?

10. The Origin of Language (Nov 8)

Read:

Roger Lewin, “The Evolution of Language”, in *Human Evolution: An Illustrated Introduction*, Fourth Ed., Blackwell Science, 1999, pp. 195-200.

David Cogswell, *Chomsky for Beginners*, Writers and Readers Pub., 1996, pp. 51-67.

Steven Pinker, *The Language Instinct*, HarperCollins, pp. 332-369.

What fossil and archeological evidence is there for the origin of language?

What are the positions of Chomsky, the behaviorists, and Pinker on the origin of language?

11. The Origin of Morality (Nov 15)

Read:

Exodus 20:1-17 & Psalm 19, in *New Revised Standard Version Bible*, Oxford, 1989, pp. 73, 550.

Michael Ruse & Edward O. Wilson, “The Approach of Sociobiology: The Evolution of Ethics”, in James Huchingson, ed., *Religion and the Natural Sciences: The Range of Engagement*, Holt Rinehart & Winston, 1993, pp. 308-312.

Alex Rosenberg, “Sociobiology”, in Edward Craig (ed.) *Routledge Encyclopedia of Philosophy*, Routledge, 1998, pp. 892-896.

Francisco Ayala, “So Human an Animal: Evolution and Ethics”, in Ted Peters, Ed, *Science and Theology: The New Consonance*, HarperCollins, 1998, pp. 121-136.

What are ethical codes? Has sociobiology explained morality? Has it explained it away?

12. Science and Religion (Nov 29)

Read:

John Polkinghorne, *Science and Theology*, Fortress Press, 1998, pp. 9-24.

Ian Barbour, "The Structures of Science and Religion," in *Religion and Science*, HarperCollins, 1997, pp. 106-115.

Holly Lebowitz, "Science, religion must inhabit separate realms, writer says", *Star Tribune*, 3 April, 1999, p. B6.

George Ellis, "Are there Limitations to Science", in R. Stannard, *God for the 21st Century*, Templeton Foundation Press, 2000, pp. 163-165.

Ways of relating science and religion. Science and religion deal with different dimensions of experience; do they also deal with different dimensions of reality? Do they interact?

Knowing in Science and Religion. Both fields involve interaction between experience and beliefs.

13. Student presentations (Dec 6)

14. Student presentations (Dec 13)

Exam Period: Wrapup