

RELIGION 332: SCIENCE AND RELIGION – SPRING, 2001

PRELIMINARY CLASS INFORMATION (full syllabus to follow)

INSTRUCTOR: Hoyt Oliver. Office: Humanities 204: tel. 4-8369

TEXTS: Mitchell, ed., The Enlightened Heart (EH); Capra, The Web of Life (WOL);  
d'Aquili and Newberg, The Mystical Mind; various handouts and articles on reserve

REQUIREMENTS: 3 tests (45%); 1 major term paper (25%); 1 book report (15%);  
1 resource summary on an area of science (done in teams) (15%)

**Attendance is expected. Each unexcused absence over 2 deducts 2 points from average.**

COURSE AIMS: 1) To become acquainted with current scientific theories of subatomic physics, cosmology, evolution, earth science, and neuroscience;

2) to become acquainted with perspectives from a number of world religions on such topics as the nature of the Holy, the origins of the cosmos and life, the relationships of humans with world, other beings, and the Holy, and the search for salvation or spiritual awakening;

3) to reflect on the relationships of religious and scientific perspectives – in what ways are they in conflict, in what ways complementary, in what ways completely separate?

4) to develop skills in thinking and writing about issues of science and religion

5) to become familiar with printed and electronic resources in field of science and religion

6) to totally shake up whatever world views we think we have, coming into the course

7) to attain Nirvana

8) to discover the Grand Unified Theory of Everything

EMORY UNIVERSITY



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## RELIGION 332: SCIENCE AND RELIGION

spring, 2001: class schedule

**Texts:** The Enlightened Heart (EH); The Web of Life (WOL); The Mystical Mind (MM)

Date	Topic	Assignments
<b>I. OF MATH AND MYTH: Relationships of Science and Religion</b>		
Th, Jan 18	Introductory session	Film, "Mandelbrot Sets" – complexity theory
Tu, Jan 23	Source, methods, languages	Oliver, "Starting with Wonder"
Th, Jan 25	New paradigm in science	Oliver, "Starting with Wonder"
Tu, Jan 30	Myth: the truth of religion	Film, "The Message of the Myth"
		<b>Decide on science resource project</b>
<b>II. SCIENCE AIN'T WHAT IT USED TO BE: Evolving, Big Banging, Quantum Leaping</b>		
Th, Feb 1	Quarks and the Big Bang	Film, "Creation of the Universe"
Tu, Feb 6	Is the Universe designed?	Film, "Soul of the Universe"
Th, Feb 8	Discussion: quantum physics and cosmology	
Tu, Feb 13	<b>Ian Barbour session at Emory College on creation and evolution</b>	
Th, Feb 15	On life – origins & development	Film, "Evolving Soul"
Tu, Feb 20	<b>Test # 1</b>	
<b>III. THE EARTH IS THE LORD'S: Views from Judaism, Christianity, Islam</b>		
Th, Feb 22	God creates	Genesis 1-4; EH, pp. 6,8-10,43-44, 51,53, 119
		<b>Science resource project due</b>
Tu, Feb 27	God is present	Handouts; EH, 11,38,65,87,89,70,72,103
Th, Mar 1	God saves	EH, 1,68,69,55,56,63, 106
<b>IV. GET A LIFE! – Systems Theory, Autopoeisis, Deep Ecology</b>		
Tu, Mar 6	WOL, chs. 1,2,3,4	<b>Book Report due</b>
Th, Mar 8	WOL, chs. 5,6	
Tu, Mar 13 – Th, Mar 15	spring recess – no classes	
Tu, Mar 20	WOL, chs. 7,8,9	
Th, Mar 22	WOL, chs 10,11,12, Epilogue	<b>Term Paper proposal due</b>
<b>V. HOW TO LOSE YOUR MIND AND GET REAL: Views from Hinduism &amp; Buddhism</b>		
Tu, Mar 27	Hinduism	Film; EH, 3,4,18,73,76,77; handout on Hinduism
Th, Mar 29	Buddhism	Film; EH, 26-28,32,34,35,46,49,85,92,99,131; handout on Buddhism
Tu, Apr 3	<b>Test # 2</b>	
<b>VI. WHY GOD WON'T GO AWAY: Neuroscience and Religious Experience</b>		
Th, Apr 5	MM, chs. 1,2,3	
Tu, Apr 10	MM, chs. 4,5,6	<b>Draft of Term Paper due</b>
Th, Apr 12	MM, chs. 7,8,9	
Tu, Apr 17	MM, chs. 10,11, 12	
<b>VII. DOING WHAT COMES NATURALLY: Views from Taoism and Native Americans</b>		
Th, Apr 19	Deloria, "God Is Red"; EH, 12,13,15,16,17,123,124	<b>Term Paper Due</b>
<b>VIII. CONVERGING AND COALESCING: Sharing what we've learned</b>		
Tu, Apr 24	class reports	
Th, Apr 26	class reports	
Tu, May 1	class reports	
<b>Mon, May 7, 9-12 a.m. Test # 3</b>		

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Religion ~~332~~: Science and Religion, Starting with Wonder  
Oxford College of Emory University

**SUGGESTED READINGS**

This is a selected reading list. More suggested readings may be found in Notes and Bibliographies in books such as Gilkey, Nature, Reality, & the Sacred and Barbour, Religion and Science and on the Internet sites <http://www.science-spirit.com>; templeton.org; meta-list.org; beliefnet.com; etc. *www.counterbalance.org*  
And READ **ZYGON**, the Journal of Science and Religion.

**I. RELIGION AND SCIENCE AS WAYS OF UNDERSTANDING**

**A) SCIENCE AND THEOLOGY**

Barbour, Ian. **Religion and Science: Historical and Contemporary Issues**. HarperSanFrancisco, 1997.

Brown, Warren F., Murphy, Nancy, and Maloney, H. Newton, eds. **Whatever Happened to the Soul? Scientific and Theological Portraits of Human Nature**. Fortress, 1998.

Capra, Fritjof, and Steindl-Rast, David. **Belonging to the Universe: Explorations of the Frontiers of Science and Spirituality**. HarperSanFrancisco, 1991.

Dyson, Freeman. **From Eros to Gaia**. Pantheon, 1992.

\_\_\_\_\_. **Infinite in All Directions**. Harper & Row, 1988.

Gilkey, Langdon. **Nature, Reality, and the Sacred: The Nexus of Science and Religion**. Fortress, 1993.

Margenau, Henry, and Varghese, Roy A., eds. **Cosmos, Bios, Theos**. Open Court, 1992.

Nasr, Seyyid Hossein. **Knowledge and the Sacred**. SUNY, 1989.

\_\_\_\_\_. **Religion and the Order of Nature**. Oxford, 1996.

Polkinghorne, John. **Serious Talk: Science and Religion in Dialogue**. Trinity, 1995.

**B) HISTORICAL PERSPECTIVES ON SCIENCE AND RELIGION**

Lindberg, David, and Numbers, Ronald, eds. **God & Nature: Historical Essays on the Encounter between Christianity and Science**. University of California Press, 1986.

Richardson, W. Mark, and Wildman, Wesley J., eds. **Religion and Science: History, Method, Dialogue**. Routledge, 1996.

Whitehead, Alfred North. **Science and the Modern World**. New American Library, 1925.

**C) EPISTEMOLOGY AND SCIENTIFIC UNDERSTANDING**

Kuhn, Thomas. **The Structure of Scientific Revolutions**. University of Chicago Press, 1970.

Polanyi, Michael. **Personal Knowledge**. Harper, 1964.

Whitehead, Alfred North. **Process and Reality**. Free Press, 1978 (c. 1929)

D) RELIGIOUS EXPERIENCE AND UNDERSTANDING

- Buber, Martin, trans. Walter Kaufmann. **I and Thou**. Scribner's, 1970.
- Campbell, Joseph. **The Inner Reaches of Outer Space: Metaphor as Myth and as Religion**. Harper, 1982.
- \_\_\_\_\_, and Bill Moyers. **The Power of Myth**. Anchor, 1991.
- Cousineau, Phil. **Soul: An Archaeology**. HarperSanFrancisco, 1994.
- Eliade, Mircea. **The Sacred and the Profane**. Harcourt, Brace, 1959. (see also other Eliade writings)
- Hick, John. **God Has Many Names**. Westminster, 1982.
- James, William. **The Varieties of Religious Experience**. Random House, 1902.
- Niebuhr, Richard. **The Meaning of Revelation**. Macmillan, 1960.
- Otto, Rudolph. **The Idea of the Holy**. Oxford, 1958.
- Soskice, Janet M. **Metaphor and Religious Language**. Clarendon, 1985.
- Tillich, Paul. **Dynamics of Faith**. Harper, 1957.

E) FAR-OUT, PHILOSOPHICAL ATTEMPT AT A BIG PICTURE

- Wilbur, Ken. **A Brief History of Everything**. Shambhala, 1996. (see also other Wilbur writings)

II. THEOLOGY: PROPOSALS FOR THEOLOGY THAT WORKS WITH SCIENCE

A) PROCESS, IMAGINATIVE, AND OTHER THEOLOGICAL ATTEMPTS

- Cobb, John B., Jr., and Griffin, David Ray. **Process Theology: An Introductory Exposition**. Westminster, 1976.
- Hefner, Philip. **The Human Factor: Evolution, Culture, and Religion**. Fortress, 1993.
- Kaufman, Gordon. **In Face of Mystery**. Harvard University Press, 1993.
- McFague, Sallie. **Models of God**. Fortress, 1987.
- Peacocke, Arthur. **Theology for a Scientific Age: Being and Becoming – Natural, Divine, and Human**. Fortress, 1993.
- Teilhard de Chardin, Pierre. **The Phenomenon of Man**. Harper, 1959.

B) BOOKS WHICH SEE SCIENCE SUPPORTING CHRISTIAN THEOLOGY

- Templeton, John Marks. **The Humble Approach: Scientists Discover the Creator**. Continuum, 1996.
- \_\_\_\_\_, and Robert L. Hermann. **The God Who Would Be Known: Revelations of the Divine in Contemporary Science**. Harper & Row, 1989.
- \_\_\_\_\_ and \_\_\_\_\_. **Is God the Only Reality?** Continuum, 1994.

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### III. RELIGIOUS, MYSTICAL, AND PHILOSOPHICAL PERSPECTIVES

Abhayananda, Swami. **History of Mysticism: The Unchanging Testament.** ATMA, 1996.

**Bhagavad- Gita.** trans. Barbara Stoler Miller. Bantam, 1986.

**The Holy Bible.** selections: Genesis 1-4, Psalms, Isaiah, Job, John, Paul's letters, etc.

**Chuang Tzu: Basic Writings.** trans. Burton Watson. Columbia University Press, 1964.

Cooper, David A. **God Is a Verb: Kabbalah and the Practice of Mystical Judaism.**  
Penguin/Putnam, 1997.

Goodman, Felicitas D. **Ecstasy, Ritual, and Alternate Reality: Religion in a Pluralistic World.**  
Indiana University, 1988.

**The Essential Koran.** trans. Thomas Cleary. HarperSanFrancisco, 1993.

Suzuki, Shinryu. **Zen Mind, Beginner's Mind.** Weatherhill, 1970.

**Tao Te Ching: a New English Version.** trans. Stephen Mitchell. HarperPerennial, 1991.

**Lao-Tzu: Te Tao Ching.** trans. Robert Henricks. Ballantine, 1989.

Underhill, Evelyn. **Mysticism.** Dutton, 1961.

Watts, Alan. **The Way of Zen.** Random House, 1985.

Wilbur, Ken. **Quantum Questions: Mystical Writings of the World's Great Physicists.** Shambhala, 1985.

### IV. PHYSICS

Davies, Paul. **God and the New Physics.** Simon & Schuster, 1983.

\_\_\_\_\_. **The Mind of God.** Simon & Schuster, 1992.

Gell-Mann, Murray. **The Quark and the Jaguar: Adventures in the Simple and the Complex.**  
W. H. Freeman, 1994.

Polkinghorne, John. **The Faith of a Physicist.** Princeton University Press, 1994.

### V. MATHEMATICS, CHAOS, AND ORDER

Gleick, J. **Chaos.** Viking, 1988.

Hofstadter, Douglas R. **Godel, Escher, Bach: An Eternal Golden Braid.** Basic Books, 1979.

Kosko, Bart. **Fuzzy Thinking: The New Science of Fuzzy Logic.** Hyperion, 1993.

Prigogine, I., and Stengers, I. **Order Out of Chaos.** Bantam, 1984.

Stewart, Ian. **Nature's Numbers: The Unreal Reality of Mathematics.** BasicBooks, Harper, 1995.

## **VI. ASTRONOMY AND COSMOLOGY**

Barrow, John D. **The Origin of the Universe**. HarperCollins, 1994.

Hawking, Stephen. **A Brief History of Time**. Bantam, 1988.

Kaku, Michio. **Hyperspace**. Oxford University Press, 1994.

Staguhr, Gerard. **God's Laughter: Man and His Cosmos**. Harper, 1992.

## **VII. LIFE, BIOLOGY, AND EVOLUTION**

Capra, Fritjof. **The Web of Life: A New Scientific Understanding of Living Systems**. Doubleday, 1996.

Crick, Francis. **The Astonishing Hypothesis: The Scientific Search for the Soul**. Scribner's, 1994.

Dawkins, Richard. **River Out of Eden: A Darwinian View of Life**. BasicBooks, Harper, 1995.

Gould, Stephen Jay. **Wonderful Life: The Burgess Shale and the Nature of History**. Norton, 1989.

Kaufman, Stuart. **At Home in the Universe: The Search for the Laws of Self-organization and Complexity**. Oxford, 1995.

Leakey, Richard. **The Origin of Humankind**. BasicBooks, Harper, 1994.

Wilson, E.O. **Sociobiology: The New Synthesis**. Harvard University Press, 1978.

## **VIII. MIND AND CONSCIOUSNESS**

Ashbrook, James B. **Brain, Culture, & the Human Spirit: Essays from an Emergent Evolutionary Perspective**. University Press of America, 1993.

\_\_\_\_\_, and Carol Rausch Albright. **The Humanizing Brain: Where Religion and Neuroscience Meet**. Pilgrim, 1997.

Austin, James H. **Zen and the Brain: Toward an Understanding of Meditation and Consciousness**. M.I.T. Press, 1998.

Damasio, Antonio R. **Descartes' Error: Emotion, Reason, and the Human Brain**. Putnam, 1994.

deCharms, Christopher. **Two Views of Mind: Abhidharma and Brain Science**. Snow Lion, 1997.

Dennett, Daniel C. **Kinds of Minds: Toward an Understanding of Consciousness**. BasicBooks, Harper, 1996.

Gardner, Howard. **Frames of Mind: The Theory of Multiple Intelligences**. BasicBooks, Harper, 1985.

Goleman, Daniel. **Emotional Intelligence**. Bantam, 1995.

Hofstadter, Douglas, and Dennett, Daniel C. **The Mind's I: Fantasies and Reflections on Self and Soul**. Bantam, 1982.

Maslow, Abraham. **The Farther Reaches of Human Nature**. Viking, 1972.

\_\_\_\_\_, **Religions, Values, and Peak Experiences**. Ohio University Press, 1964.

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Palmer, Helen, ed. **Inner Knowing**. Tarchner/Putnam, 1998.

#### **IX: ECOLOGY: HEALTHY PLANET, HEALTHY HUMANS**

Berry, Thomas: **The Dream of the Earth**. Sierra Club Books, 1988.

Fox, Matthew. **The Coming of the Cosmic Christ**. HarperSanFrancisco, 1988.

\_\_\_\_\_, and Sheldrake, Rupert. **Natural Grace: Dialogues on Creation, Darkness, and the Soul in Spirituality and Science**. Doubleday, 1996.

McDaniel, Jay B. **With Roots and Wings: Christianity in an Age of Ecology and Dialogue**. Orbis, 1995.

Santmire, H. Paul. **The Travail of Nature: The Ambiguous Ecological Promise of Christian Theology**. Fortress, 1995.