Science and Spirit: A Mathaphorical Tour

Institution: Meadville Lombard School of Theology

Instructor: Dr. Sarah Voss

This course offers a "Wonder"-filled introduction to topics in the religion and science dialogue. Using metaphors drawn from mathematics as a starting point, this smorgasbord-approach traverses much territory and leaves plenty of "pointers" (resources) for those who want to explore a topic in more depth. Areas "toured" include ways of relating science and spirit, the history of the science/religion dialogue, artificial intelligence, human/machine life, the impact of chaos theory on religion, holographic and other world views, various cosmologies, biology, genetics, and "moral" math. Designed to be user-friendly to the non-mathematician, a precursor of this course was a prize-winner in the 1998 Templeton Religion and Science Course Program.

Requirements

Class attendance and participation. Students should be prepared to discuss the ideas presented and/or questions raised in the previous class sessions.

Readings

(Required) Barbour, Ian. *Religion and Science: Historical and Contemporary Issues* (San Francisco: Harper Collins, 1997), Parts I and II (i.e., Chapters 1-6)

(Recommended) Voss, Sarah. *What Number Is God? Metaphors, Metaphysics, Metamathematics and the Nature of Things*, (Albany: SUNY Press, 1995)

Presentation to class of ***one*** of the following eight case-study books (written summaries or outlines are not required, but would be very helpful to other class members)

Capra, Fritjof. *The Web of Life*. New York: Anchor Books, 1996. Deals both explicitly and implicitly with the mathematics of complexity. (Presentation due Thursday)

Goswami, Amit. *The Self-Aware Universe*: *How Consciousness Creates the Material World*. New York: Jeremy P. Tarcher, 1993. A physicist's vision of how consciousness creates the world. (Presentation due Thursday)

Groothuis, Douglas. *The Soul in Cyberspace*. Grand Rapids, Michigan: Baker Books, 1997. Raises concerns about the effect of technology, particularly of computer technology, on society. (Presentation due Wednesday)

Kurzweil, Ray. *The Age of Spiritual Machines.* New York: Viking, 1999. A projection through the present millennium of computer technology and its role in human identity. (Presentation due Wednesday)

Pickover, Clifford A. *The Loom of God: Mathematical Tapestries at the Edge of Time.* New York: Plenum Press, 1997. A compendium of historical notes drawn from mathematics on topics related to religion. (Presentation due Tuesday)

Tipler, Frank J. *The Physics of Immortality: Modern Cosmology, God and the Resurrection of the Dead*. New York: Anchor/Doubleday, 1994. One mathematician's vision of how the computer impacts free will, soul, the nature of God, resurrection, etc. (Presentation due Wednesday)

Wertheim, Margaret. *Pythagoras' Trousers: God, Physics and the Gender Wars*. New York: W.W. Norton & Company, 1996. A feminist view of the relationship between math/physics and religion. (Presentation due Tuesday)

Wright, Robert. *NonZero: The Logic of Human Destiny*. New York: Pantheon Books, 2000. A history of human society emphasizing a "purposeful" evolution of biological complexity and intelligence. (Presentation due Friday)

NOTE: In order to maximize coverage, students are asked to **contact the instructor at shv@novia.net for *pre-assignment*** of one of these books. (Student's choice will be honored wherever possible.) Students auditing the course are invited, though not required, to participate in this assignment.

One final paper, due by August 30, 2001.

Class Format

The five day format is divided into topical themes, as follows:

1) Setting the historical context: metaphors in math, science and religion

2) Computer consciousness, computer life, and artificial realities

3) Chaos and order, Illusions and religion

4) Creation myths: past, present, and future

5) Bioethics and moral math

Expectations and Evaluation

Case-study Books: Students, working in teams if class size permits, are expected to first summarize and then analyze for the rest of the class *one* of eight books as a particular case study relating to the religion/science conversation. Analysis should 1) identify which (if any) of Barbour's four ways of approaching the religion/science dialogue the author has elected to use; 2) summarize the author's personal perspective on the religion/science dialogue; 3) investigate the author's suppositions about the role of mathematics in the

dialogue; and 4) identify the author's metaphorical use (if any) of mathematics to depict religious ideas.

Final Papers: The final paper is to be a more in-depth investigation of a topic which falls within the general themes of this course. The choice of topic can reflect an area of the student's own personal interest, but all papers should exhibit some connection between math/science and theology and an understanding of how the topic fits within the wider religion/science discussion. Topics and approaches (creativity is welcomed!) should be submitted for approval by Wednesday. The final paper should be approximately 6-8 pages long (typed, double-spaced), should strive for excellence in writing technique, and should reference at least three of the books from the course *Resource List* (to be handed out in class).

The course grade will be calculated as follows:

Case study project: 50%

Final paper: 50%