SCIENCE AND RELIGION: A NEW PERSPECTIVE

-Honors 3501H 1002; BIOL 3510H 6003; RELP 3577H 5603

2:00-3:15 MW SHU 205 Fall 2003

Drs. Seth Holtzman and Bob Voelker

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hours: **MW** 3:30-5 (2nd & 4th Mondays); **TTh** 11-12 (if no meeting); **F** 2-5; & by appointment

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SYLLABUS

Course summary:

With the development of modern science and a scientific worldview in the modern West, people have felt more and more that religion is challenged and even imperiled. By the end of the medieval era in the West, religion was central in people's lives and in the culture, the Catholic Church was the dominant institution, and theology was hailed as the highest academic discipline. Needless to say, religion has lost ground in many ways since then. Many people in the West have felt deep logical tensions between their scientific and religious commitments. Since both areas of thought are important in human affairs, it is not easy to dismiss this tension. Nor has it been easy to resolve. Worse, many people have been confused about what the problem is between science and religion. Still others deny that there is any problem.

Our course will examine the relationship between science and religion. We will consider how pre-modern worldviews were in fact compatible with religion, and how the modern era saw the birth of a radically new worldview, a scientific worldview, that seems incompatible with religion. We will consider what about modern science has caused problems for religion and how religion has responded.

Central to the course will be an examination of some new developments in religion and science that offer new ways to understand the relationship between science and religion. Can religion be understood in a way that can acknowledge any empirical fact that science affirms? Are religion and science really in conflict at all? If so, in what way? Are there developments within science that make it more compatible with religion? Ways of understanding their relationship involve changing our conception of self, world, and/or Ultimate Reality.

This is a cross-disciplinary course even more than its title suggests. One cannot explore the science/religion interface without involving philosophy. We will therefore address religion (mostly through theology), science, and philosophy. Further, one of our readings is an academic history of the science/religion issue. Do not let the division of the course into sections mislead you. This material in this course is systematically connected; this is no topics course. The course tells one more or less comprehensive intellectual story. Class format will be mostly lecture.

Requirements and grading:

We expect that you are prepared to attend class always, to listen well to lecture and take considerable notes, to read with comprehension on your own, to demonstrate a conceptual grasp of the course on tests, and to demonstrate sustained inquiry into a topic through a paper.

1. Attendance is required; you cannot learn the course on your own. we may choose to elicit some material from you in class, such as your grasp of the readings, lecture, and course. Also, your participation by questions and in discussion is important. You need to be present, mentally active and prepared. Class participation counts **5% of your grade**.

2. Occasional writing assignments on the readings, generally one page. These essays force you to wrestle with the readings and help us gauge how much you are absorbing. You may work on readings with classmates. But on written assignments, come to your own thoughts. we will drop your lowest essay. Late essays will not be accepted. Missed essays count as an "F". Together, they count **15% of your grade**.

3. A take-home, cumulative midterm, testing your grasp of the readings, issues, and problems in the course. Questions will be handed out in advance. Tentatively, given Oct. 8 and due on Oct. 15. **25% of your grade**.

4. A 10-12 page paper, on a relevant topic of your choice. Clear the topic with us. Due Dec. 3rd, the last class. **25% of your grade**.

5. A cumulative, essay final exam, testing your overall grasp of the course, not your memory of specific facts. Questions will be handed out in advance; you will write in class on those questions. Exam date: ..Friday, Dec.5, 3:30pm. **30% of your grade**.

Complete your assignments in a timely fashion. Other expectations about your writing: on the topic, typed, paginated, tidy (including bound), standard margins and fonts, and dark print.

Criteria employed in evaluating written work include these:

** How well do you understand the complexity of the issue or problem? To what extent have you made good use of the relevant concepts, distinctions, positions, and reasons found in course readings or brought out in lecture or in discussion?

** Is your work clearly written? Are its claims precise? Is it clearly structured? Does it have an explicit overall direction? Would it be intelligible to an interested student?

** Is your work supported by good reasons? Are your claims and reasons throughout the paper consistent with each other? Have you anticipated and responded to any reasonable objections to your reasons or to your position?

Here is what the grades mean:

"A" Superior mastery
"B" Good mastery
"C" Satisfactory achievement
"D" Less than satisfactory achievement
"F" Unsatisfactory achievement; failure to achieve minimum competency

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A+	97-100	B+	87-89	C+	77-79	D+	67-69
A	93-96	B	83-86	C	73-76	D	63-66
A-	90-92	B-	80-82	C-	70-72	D-	60-62

(A+ is not a final course grade.) Grades measure achievement, not effort per se.

Texts:

1. Science and Religion: A Historical Introduction, ed. Gary B. Ferngren
2. In Face of Mystery by Gordon D. Kaufman
3. handouts and websites.

Readings on the schedule at the end of the syllabus are for that class (not the following class).

Reading and taking notes:

There is a substantial amount of reading in this course. We expect you to do all of the reading; to do well in the course you will need to. Some material is easy and so accessible on your first attempt. Other assignments are quite taxing and will probably require multiple readings. Try the following strategy for difficult readings: read it once quickly simply to get the gist; then read it carefully for details, not worrying about the overall picture; then read it normally, fitting the details into the overall picture.

The lectures will sometimes stick close to the readings but will also range far afield. You should come to class already having done the readings. You will be responsible for all of it, and the final exam will be frightening if you have not read everything. Since lectures can cover material not in the readings, this is another reason to attend each class.

For some reason, most students take very sketchy notes. Perhaps they think that they cannot both take notes and listen at once or perhaps they do not appreciate the value of taking notes. Learn to write while you listen; it not only can be done, it usually enhances your grasp of what is being said. Take as many notes as you can, without losing too much of what is being said. You cannot get by with noting only key terms and definitions. Your notes are an invaluable resource for understanding the course and for the final exam.

Absences and violations:

After 2 absences, further ones lower your final grade incrementally. Missing more than 7 classes for other than an emergency is automatic grounds for an "F" (or an "I", depending), regardless of your other grades. Sleeping or other forms of mental non-attendance count as an absence. Missing class the day before or after vacation counts double.

When absent, you are responsible for missed assignments and classroom material. Get notes from a classmate. If you still have questions, contact one of us.

Cheating, as well as falsifying an emergency to skip class or to skip an assignment, violates the Honor Code. So does plagiarism, the act of employing a writer's ideas (and even words) without giving the writer due credit. See one of us if you have any question about borrowing someone's ideas or words for your use.

Honors Science and Religion: Tentative schedule

Mon., Aug 25

hand out syllabus; review any parts of it deemed necessary; discuss aspects of team-teaching; sketch of the course: felt inconsistencies and possible avenues of resolution; present my conflict thesis: clash of world views; consider what a world view is (not "world" in the sense of "Earth")

READING: Ferngren, Part I
Berman, "Introduction", The Reenchantment of the World, pp.1-11

Wed., Aug 27

what a humanistic world view is; generated from a humanistic conceptual system; what is a conceptual system; what are humanistic concepts? source, function, and scope; H concepts used literally to describe and explain a subject matter

READING: Ferngren, chapter 3

Mon., Sept 1

basic human needs: materialistic versus humanistic; civilizations address both, but which gets priority (and why even prioritize)?; pre-modern civilizations were humanistic (examples); trace implications for knowledge/understanding, and present examples; episteme vs. techne

READING: Ferngren, chapter 4

Wed., Sept 3

what a humanistic world view is; grounded in basic philosophical assumptions about how we must think about reality & knowledge; extension of humanistic concepts from self to the world; emphasis on meaning and value as categories; examples (including present-day); implications for wholism

READING: Ferngren, chapter 5

Mon., Sept 8

religion as a humanistic way of thought; what it is, how it works; meets H needs (especially w/r/t religious consciousness); wholism and Ultimate Reality; the Ultimate must be ultimate in meaning and value, thus a Divine Reality; religion employs a view of self and world view to account for self-in-world and our relation to Ultimate Reality (via our feelings about this); religion needs an H world view

READING: Adams, chpt 1 "Religion and Culture", Religion & Cultural Freedom, pp.1-25

Wed., Sept 10

premodern science (not as in *scientia*, organized knowledge); science not originally a separate area of culture; in service of H needs as much as M needs (examples: astronomy in service of religion, physics in service of ethics); science was humanistic originally

READING: Artz, "Science and Technology", The Mind of the Middle Ages, pp.232-53

Mon., Sept 15

in pre-modern civilizations, unity of thought; same H conceptual system was used to account for all of reality; science and religion were conceptually compatible, so no real conflict

READING: Jones, Preface, Introduction: "Jumping High and to the Right", and "The Crisis of Contemporary Culture", The Sciences and the Humanities, pp. 1-25

Wed., Sept. 17

transition from pre-modern to modern; change of priorities as medieval civilization collapsed, not while it flourished; evidence of transition;

READING: Ferngren, chapters 7 and 8

Mon., Sept. 22

new modern view of nature; Reformation in science occurs to produce the new knowledge sought, knowledge of nature newly conceived; new meaning of concepts such as science, knowledge, description, explanation, cause, change, fact, object, etc.; examples of physics (Galileo) and astronomy (Copernicus, Kepler)

READING: Ferngren, chapters 12
Berman,"The Birth of Modern Scientific Consciousness", pp.13-35 and "Consciousness and Society in Early Modern Europe", The Reenchantment of the World, pp.37-55

Wed., Sept. 24

new naturalistic world view; its underlying philosophical assumptions; the need for a new conceptual system to yield the new knowledge; division of our conception of reality; science and religion part ways;

READING: Ferngren, chapter 11 and 25
Adams, "The Metaphysics of Modern Western Culture", Religion & Cultural Freedom, pp.93-109

Mon., Sept. 29

empiricism, atomism, nominalism (in science: extended to biological and "human" sciences; and in culture generally)

READING: Ferngren, chapters 9, 10, 13, and 14

Wed., Oct 1

Mon., Oct. 6

Darwinism, Evolution and the Modern Synthesis: Darwin formally consolidated and presented the notion of evolution, but a biological mechanistic understanding awaited the discovery of modern genetics and population genetics.

READING: Ferngren Ch. 15, 16, 17
Darwin, Charles – MSN Encarta (encarta.msn.com/find/concise.asp?ti=761574327)
Darwin, Charles – The Origin of Species (www.literature.org/authors/darwin-charles/the-origin-of-the-species). chapter 1
1Up Info – Darwinism, Genetics and Genetic Engineering (www.1upinfo.com/encyclopedia/D/Darwinis.html)

Wed., Oct. 8

Population Genetics and Evolution: Evolution (descent with modification) involves changes in allele frequencies in populations.

READING: http://home.att.net/~dorak/indexevol.html : *A Brief History of Life, Human Evolution, Molecular Clocks, Basic Population Genetics* (through section entitled "The implications of the HWE") and *Speciation.*

Mon., Oct. 13 **VACATION**

Wed., Oct. 15 – Continuation of Oct. 8 material

Mon., Oct. 20

Reactions to Biology's adoption of Evolutionary Biology: Scientific Naturalism: The non scientific world, especially Christianity, had varying reactions to the notion of biological evolution

READING: Ferngren, ch. 19, 20, 21, 22

Wed., Oct. 22 (start section 3 of course)

Christian's attempts merge or blend traditional Christian and evolutionary understandings gave rise to the Intelligent Design Argument and The Anthropic Principle.

READING: Ferngren ch. 26, 27

Mon., Oct. 27

Development of Religion and Traditional Theology:

READING: Kaufman, ch. 1, 2, 16

Wed., Oct. 29

Rethinking Traditional Theology:

READING: Kaufman, ch. 3, 4, 5

Mon., Nov. 3

The Monotheistic (Christian) Categorial Scheme: God, Humanity, World, (and Christ)

READING: Kaufman, ch. 6

Wed., Nov. 5

Kaufman's proposals for understanding The World and Humanity

READING: Kaufman, ch. 8 & 9

Mon., Nov. 10

Kaufman's proposals for restructuring the concepts of God and Christ

READING: Kaufman ch. 19, 20, 21, 22

Wed., Nov. 12

Mon., Nov. 17

Wed., Nov. 19

New scientific discoveries: The possible roles of Chaos and Chaos Theory in scientific understanding

READING: Chaos Theory and Fractals: http://www.mathjmendl.org/chaos/

Mon., Nov. 24

Barry: Process theology: Another attempt to incorporate modern scientific understandings and Christian theology into a comprehensive world view.

READING:

Wed., Nov. 26 **VACATION**

Mon., Dec. 1

Wed., Dec. 3

felt conflicts between science and religion; not so much empirical facts (since religion can accommodate these), but rather underlying conflict of world views

the philosophical challenge we face

READING:

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final exam: Friday, Dec 5, 3:30pm