

**Science, Technology, Religion:  
Building and knowing in secular cultures and in cultures of faith**

HSci 8950  
Seminar, Fall 2013  
Wednesdays, 3:35 - 5:30 p.m., Shepherd Labs 127  
3 credit hours

Jennifer K. Alexander, Instructor  
Program in History of Science and Technology  
Department of Mechanical Engineering

**Overview**

Many observers have been stunned by the rise of religious fundamentalisms in highly advanced cultures, because people often assume that advanced scientific and technological cultures are secular. This seminar asks whether this assumption is true, by asking how science, technology, and religion have interacted, empirically and historically. Scholars have focused on science and religion for generations, but very few have investigated technology and religion, and yet technology seems to be one thing that crosses cultural boundaries with ease.

The seminar opens with an analysis of the concept of secularity, and then asks if we can identify secular societies in a time of globalization, by surveying interactions between science and technology and the great world religions. We read work by Charles Taylor on secular societies, George Saliba on Islam and European science and technology, Noah Efron on Judaism and science, and Donald Lopez on Buddhism, science, and epistemology. The literature is most developed on science and Christianity, and we read the debate between Richard Dawkins and David Bentley Hart on the role of Christianity in scientific development, recent reappraisals by a variety of scholars of perennial myths of warfare between Christianity and science (such as Galileo's dispute with the Catholic Church), and Peter Harrison on the role of theology in early scientific practices. We then turn to David F. Noble's study of Christianity and technology, and ask why scholars have paid so little attention to religion and technology. The seminar concentrates on the early modern and the late modern/industrial periods.

**Format**

The seminar is a readings and discussion course, and students are expected to attend and participate in the weekly discussions. Discussion is worth 40% of the course grade.

**Weekly Reports**

Each student will prepare and pre-circulate a one-page report on the readings for each week. In addition, each student will lead three of the weekly discussions, by giving an overview of the

reading and by posing questions to begin discussion. We will assign weeks at the first seminar meeting. Weekly reports are worth 20% of the course grade.

### **Term paper**

Each student will write a term paper of approximately 12-15 pages addressing these two questions: Using materials assigned in the course, how would you characterize the history, or histories, of science, technology, and religion? What questions might you pose to direct future scholarly work? Please note that these questions do not ask you to characterize the existing literature, but to characterize the subjects of that literature.

Two drafts of the paper must be turned in. The first draft is due in class on Wednesday, October 16, and must be five pages long. The second draft is due in class on Wednesday, November 20, and must be ten pages long. The final paper is due via email or in the instructor's mailbox on Wednesday, December 18. The term paper is worth 40% of the course grade.

### **Grading**

Grading will be based on participation in discussion (40%), weekly reports (20%), and term paper (40%). Please note that students may not pass the course without completing all assignments, and that a grade of incomplete (I) will be given only if a student has already satisfactorily completed the majority of the coursework and if there is a compelling and emergency reason.

### **Schedule of readings and discussions**

Week I, Sept. 4

#### **Who we are and why we are here**

Getting acquainted with our subject and with each other.

Week II, Sept. 11

#### **Let's start with narrative! Historical interactions between science and religion**

For discussion this week, please read Peter Harrison's "Introduction" and Part I, "Historical interactions" of Peter Harrison, ed., *The Cambridge Companion to Science and Religion*. Part I includes pieces by David Lindberg on science and patristic and medieval Christendom, John Henry on religion and the scientific revolution, Jonathan Topham on natural theology, Jon Roberts on the religious reception of Darwin, and John Hedley Brooke on science and secularization.

Week III, Sept. 18

#### **An atheist's case (a secularist's case?): Richard Dawkins**

For discussion this week, please read Richard Dawkins, *God Delusions*, and Michael Ruse, "Atheism, naturalism, and science:

three in one?” from the Harrison volume, *Cambridge Companion to Science and Religion*.

Please also begin reading Taylor, *Secular Age*, “Introduction” and “Part I: The Work of Reform”.

Week IV, Sept. 25

**A historian’s response: David Bentley Hart**

For discussion this week, please read Hart, *Atheist Delusions*.

Please also continue reading Taylor, *Secular Age*, “Introduction” and “Part I: The Work of Reform”.

Week V, Oct. 2

**What is secularity?**

For discussion this week, please read Charles Taylor, *Secular Age*, “Introduction” and “Part I: The Work of Reform”.

Week VI, Oct. 9 (SHOT)

**Where did religion go?**

For discussion this week, if we are able to reschedule our meeting, please read Taylor, *Secular Age*, “Part II: The Turning Point”.

Week VII, Oct. 16

**Had technology anything to do with religion?**

For discussion this week, please read David F. Noble, *Religion of Technology*, and John H. Evans, “Science, bioethics, and religion,” from the Harrison volume, *Cambridge Companion to Science and Religion*.

First term paper draft is due, in class.

Week VIII, Oct. 23

**Judaism and science: different historical interactions?**

For discussion this week, please read Noah J. Efron, *Judaism and Science: A Historical Introduction*. I recommend reading the conclusion first.

Week IX, Oct. 30

**Buddhism and science: a particular view of nature?**

For discussion this week, please read Donald S. Lopez, Jr., *Buddhism and Science: A Guide for the Perplexed*.

Week X, Nov. 6

**Islam, science, technology: diverse religious sources for the scientific and technological tradition**

For discussion this week, please read George Saliba, *Islamic Science & the Making of the European Renaissance*.

Week XI, Nov. 13

**Religion and the scientific revolution**

For discussion this week, please read Peter Harrison, *The Fall of Man and the Foundations of Science*.

Week XII, Nov. 20

**Beliefs: moving into the modern age**

For discussion this week, please read Taylor, *Secular Age*, parts III and IV, “The Nova Effect,” and “Narratives of Secularization”.

Second term paper draft is due, in class.

Week XIII, Nov. 27  
(Thanksgiving week)

**The mind and the maker: artificial intelligence, psychology, and religious belief**

For discussion this week, please read Noreen L. Herzfeld, *In Our Image: Artificial Intelligence and the Human Spirit*; Frazer Watts, “Psychology and Theology,” and Simon Conway Morris, “Evolution and the inevitability of intelligent life,” both in the Harrison volume, *Cambridge Companion to Science and Religion*.

Week XIV, Dec. 4

**Where next?**

For discussion this week, please read Taylor, *Secular Age*, chapter 15, “The Immanent Frame”; and John Haught, “Science, God, and Cosmic Purpose” and Mikael Stenmark, “Ways of relating science and religion,” both in the Harrison volume, *Cambridge Companion to Science and Religion*.

Week XV, Dec. 11

**Generating questions, concluding remarks**

Please come prepared to offer some questions that might guide further work on science, technology, and religion.

Term paper is due to the instructor on Wednesday, Dec. 18.

## **Books**

With two exceptions, these books are available in the University Bookstore. Peter Harrison, *The Fall of Man and the Foundations of Science*, is available as an e-book from the University Libraries. Noreen Herzfeld, *In Our Image: Artificial Intelligence and the Human Spirit* is readily available on-line.

Richard Dawkins, *The God Delusion* (Mariner Books, 2008)

Noah Efron, *Judaism and Science: A Historical Introduction* (Greenwood Press, 2006)

David Bentley Hart, *Atheist Delusions: The Christian Revolution and Its Fashionable Enemies* (New Haven: Yale University Press, 2010)

Peter Harrison, *The Fall of Man and the Foundations of Science* (Cambridge: Cambridge University Press, 2009)

Peter Harrison, ed., *The Cambridge Companion to Science and Religion* (Cambridge: Cambridge University Press, 2010)

Noreen L. Herzfeld, *In Our Image: Artificial Intelligence and the Human Spirit* (Minneapolis: Fortress Press, 2002)

Donald S. Lopez, Jr. *Buddhism and Science: A Guide for the Perplexed* (Chicago: University of Chicago Press, 2010)

David F. Noble, *The Religion of Technology: The Divinity of Man and the Spirit of Invention* (New York: Penguin Books, 1999)

George Saliba, *Islamic Science and the Making of the European Renaissance* (MIT Press, 2011)

Charles Taylor, *A Secular Age* (Cambridge, Mass.: Belknap Press, 2007)

## Book order

Charles Taylor, *A Secular Age* (Cambridge, Mass.: Belknap Press, 2007)

ISBN-10: 0674026764

ISBN-13: 978-0674026766

David F. Noble, *The Religion of Technology: The Divinity of Man and the Spirit of Invention* (New York: Penguin Books, 1999)

ISBN-10: 0140279164

ISBN-13: 978-0140279160

Peter Harrison, ed., *The Cambridge Companion to Science and Religion* (Cambridge: Cambridge University Press, 2010)

ISBN-10: 0521712513

ISBN-13: 978-0521712514

Noah Efron, *Judaism and Science: A Historical Introduction* (Greenwood Press, 2006)

ISBN-10: 0313330530

ISBN-13: 978-0313330537

George Saliba, *Islamic Science and the Making of the European Renaissance* (MIT Press, 2011),

ISBN 10: 0262516152

ISBN-13: 978-0262516150

Donald S. Lopez, Jr. *Buddhism and Science: A Guide for the Perplexed* (Chicago: University of Chicago Press, 2010)

ISBN-10: 0226493199

ISBN-13: 978-0226493190

Richard Dawkins, *The God Delusion* (Mariner Books, 2008)

ISBN-10: 0618918248

ISBN-13: 978-0618918249

David Bentley Hart, *Atheist Delusions: The Christian Revolution and Its Fashionable Enemies* (New Haven: Yale University Press, 2010)

ISBN-10: 0300164297

ISBN-13: 978-0300164299