REAL TEXT

'Senior Seminar: Science and Empire

Hist 4990 • Spring 2016 • W 4:35 to 7:35 • Ctihb 211

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Ofﬁce: Ctihb 329
Hours: Tba

'I tell you, he's lying,' cried the Imam, his voice rising in fury. 'Our guns and bombs [in Egypt] are much better than theirs. Ours are second only to the West's.'

'It's you who's lying,' I said. 'You know nothing about this. Ours [in India] are much better. Why in my country we've even had a nuclear explosion . . .'

. . . I was crushed, as I walked away [from that exchange]; it seemed to me that the Imam and I had participated in our own ﬁnal defeat, in the dissolution of the centuries of dialogue that had linked us: we had demonstrated the irreversible triumph of the language that had usurped all the others in which people had once discussed their differences. We had acknowledged that it was no longer possible to speak, as . . . thousands of travelers who had crossed the Indian Ocean in the Middle Ages might have done: of things that were right, or good, or willed by God; it would have been merely absurd for either of us to use those words, for they belonged to a dismantled rung on the ascending ladder of Development. Instead, to make ourselves understood, we had both resorted . . . to the . . . the universal, irresistible metaphysic of modern meaning . . .

—Amitav Ghosh, In an Antiquity Land (1992)

Science, technology, and violence were always part of the idiom of European colonialism. Between the Middles Ages that Ghosh mentions above and the post-colonial era in which he writes, European expansion led to the creation and consolidation of colonial regimes around the world. Colonial authorities sought to transform societies by remolding their subjects’ own vision of themselves, their families, their lands, their sciences, and even—as Ghosh illustrates so masterfully—their futures. The pervasive inﬂuence of European imperialism and colonialism, their technologies, their sciences, and their violence was thus felt in the mind and body, marked vast landscapes, and found expression in everything from politics to material culture.

How do we make sense of the relationship between science, technology, and empire? This seminar will help students answer that question and write a term paper related to it. The reading consists of three (3) to four (4) articles each week for the first six weeks, after which meetings will focus on the research and writing of the papers.

At stake in this course are such thorny and contentious issues as the primacy of Western science, the ostensible “objectivity” of science, the importance of place in the production of scientiﬁc knowledge, and the ways that ideologies of race, gender, and religion inﬂuence not only participation in scientiﬁc work but actually structure the content of scientiﬁc knowledge. We will ask not only how women and people of color were marginalized as practitioners of science but also why, for example, plants became classiﬁed according to their characteristic sexual organs and how apes became registers of racial inferiority.

As Ghosh’s passage reminds us, European empires in particular were predicated on ideologies of scientiﬁc and technological progress. Machines became measures for the supposed cultural and intellectual sophistication of whole societies. But the relationship between science and empire raises questions beyond the merely ideological.
Science makes claims that are global and universal. By implication, the place in which science is done makes little difference. Is that true? Is the place of science marginal to the content of its claims?

Science moves. Not only have empires enabled the mobility of such things as commodities, soldiers, missionaries, and diseases. They have also enabled the transfer of scientific ideas and practices. But in what direction has science moved? Has it spread like political and religious officials—outward from metropolitan centers to colonial peripheries? Or has it tended to move inward—like silver, tobacco, cotton, and cinnamon—as a raw material from the colonies toward metropolitan Europe? Is the center-periphery model even the right way to think about science and technology transfers at all? Can these move in all directions at once? Are science and technology themselves, in other words, viral?

Scientists are people. That means that like all other people they too cling to cherished values, and think within frameworks shaped by religious, racial, and gender ideologies. How do the multifarious values and ideologies we understand as inherent in imperial expansion and colonial rule relate to science? How might it determine such things as who could and could not participate in scientific activities, or which ideas were and were not “scientific”?

This class will focus on (but is certainly not limited to) the sciences of cartography, medicine, botany, and zoology. Social sciences like anthropology, ethnology, and economics will also figure into the class. Regardless, all of the natural and social sciences are up for grabs and students are encouraged to be adventurous. European empires will be the focus of the readings. But students are welcome and indeed encouraged to pursue interests in the imperial or colonial setting of their choice—any place and any time period.

1/15 Introduction
Required Reading: Jürgen Osterhammel, “Introduction” and “Colonialism: A Definition”
Kapil Raj, “Introduction”

1/22 Science and Empire 1: Technology
Required Reading: Daniel Headrick, “Introduction: Technology, Imperialism, and History”
Camilla Townsend, “Burying the White Gods”
Gabrielle Hecht, “A History of Invisibility”

1/29 Science and Empire 2: Violence
Required Reading: Lynn White, Jr., “The Historical Roots of Our Ecological Crisis”
Carolyn Merchant, “Dominion over Nature”
Shiv Visvanathan, “The Annals of the Laboratory State”
Michael Adas, “Scientific and Technological Convergence”

2/5** Science and Empire 3: Globalization and the Power of Networks (**Proposal Due)
Required Reading: Bruno Latour, “Centers of Calculation”
Barbara Mundy, “Preface” and “Imperial Ideology of Mapping”
Ricardo Padron, “Mapping Imaginary Worlds”

2/12 Science and Empire 4: Race, Gender, and Classification
Required Reading: Londa Schiebinger, “The Private Lives of Plants”
Londa Schiebinger, “Why Mammals are Called Mammals”
Londa Schiebinger, “The Anatomy of Difference”
2/19  **Science and Empire 5: Medicine and the Tropics**  
Required Reading: Daniel Headrick, “Malaria, Quinine, and the Penetration of Africa”  
Sonia Shah, “Birth of a Killer”  
Nancy Leys Stepan, “The New Tropical Pathology”  
David Arnold, “Cholera: Disease as Disorder”

2/26**  **Discussion of Research (**Research Report Due**)  
Required Reading: On your own

3/5**  **No Class: Individual Meetings (**Outline Due**)  
Required Reading: On your own

3/12  **No Class: Writing**  
Required Reading: On your own

3/15  **SPRING BREAK**  
Required Reading: None

3/26**  **Writers Workshop: Peer Review of Short Drafts (**Pre-Circulated Draft Due**)  
Required Reading: On your own

4/2  **Writers Workshop: Revising**  
Required Reading: On your own

4/9  **No Class: Individual Meetings**  
Required Reading: On your own

4/16  **Presentation and Discussion of Projects**  
Required Reading: On your own

4/23  **Presentation and Discussion of Projects**  
Required Reading: On your own

4/30  **Final Projects Due**  
Required Reading: On your own

**REQUIRED READINGS**

All readings for this course will be provided in hard copy by the instructor.

**ASSIGNMENTS AND EVALUATION**

Reading actively, deeply, and on time is **priceless**. Attendance at all meetings is mandatory. Unexcused absences after the first one will reduce the student’s final assessment by one half of one letter grade. All other required assignments are weighted:

1) **Participation (20 %)**  
2) **Research report** of no fewer than 3 pgs. (15 %)  
3) **Outline (10 %)**  
4) **Rough Draft** of between 10 and 15 pgs. (20 %)  
5) **Final Paper** of between 15 and 25 pgs. (35 %)
**TERM PAPER RULES AND FORMAT**

All components of the term paper assignment must be submitted in typewritten hard copy. Late assignments are penalized one-half of one letter grade for every day they are overdue. I do not distinguish between weekends and weekdays. All term papers must be between 5 and 6 pages in length and laid out according to the following guidelines: 12-point Times New Roman font, double spaced, 1-inch margins on all sides, with the name and date in the header, with the title on the second line of the paper beginning immediately below the header, and with the body of the text beginning on the fourth line below the header. There should be no additional spacing at all (i.e. no extra spacing between paragraphs). Each paper must have page numbers. Citations should be as footnotes and follow the *Chicago Manual of Style*. Papers should not include a bibliography. **Improperly formatted papers will not be graded.** Note that late papers will incur a penalty of one half of one letter grade for each day they are late. Additional instruction may be given over the course of the semester.

For a quick reference guide to these notes, students should consult the CMS quick guide on their website: [http://www.chicagomanualofstyle.org/tools_citationguide.html/](http://www.chicagomanualofstyle.org/tools_citationguide.html/)

**CONTROVERSIAL MATERIAL**

Some of the readings, lectures, films, or presentations may include material that may conflict with the core beliefs of some students. Please review the syllabus carefully to see if the course is one that you are committed to taking. If you have a concern, please discuss it with me at your earliest convenience. For more information, please consult the University of Utah’s “Accommodation Policy.” ([www.admin.utah.edu/facdev/accomodations-policy.pdf](http://www.admin.utah.edu/facdev/accomodations-policy.pdf))

**PLAGIARISM**

“Plagiarism” means the intentional unacknowledged use or incorporation of any other person’s work in, or as a basis for one’s work offered for, academic consideration or credit for public presentation. Plagiarism includes but is not limited to representing as one’s own, without attribution, any individual’s words, phrasing, ideas, or content of expression. (See the “Student Code,” p. 3) To combat plagiarism, in addition to the required hard-copy, all final papers must be submitted digitally through the Turn it In [dot] com facility on the course Canvas webpage.

**PERSONAL DIGITAL RESPONSIBILITY**

It is your responsibility to maintain your computer and related equipment in order to participate in the online portion of the course. Equipment failures will not be an acceptable excuse for late or absent assignments.

**STUDENTS WITH DISABILITIES**

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

**WELLNESS STATEMENT**

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student’s ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at (801) 581-7776 or [www.wellness.utah.edu](http://www.wellness.utah.edu).
ADDRESSING SEXUAL MISCONDUCT

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

THIS SYLLABUS IS NOT A BINDING LEGAL CONTRACT. IT MAY BE MODIFIED AS NEEDED BY THE PROFESSOR OVER THE COURSE OF THE SEMESTER.