

Fall 2006  
MW 2:55 - 4:10  
Alice Cook House 106

## GOVERNMENT 227:

# THE ATOMIC AGE

Professor Christopher Way  
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**Overview.** How has the advent of nuclear weapons changed world politics? In exploring this general question, we will address a wide range of issues: How do nuclear weapons work, and how difficult are they to obtain? Do nuclear weapons keep the peace by rendering war obsolete, or do they make the world a more dangerous place? How has the advent of the atomic age been portrayed in fiction and film? Does the Nuclear Non-Proliferation Treaty (NPT) work, and what are the prospects of future proliferation? How likely is nuclear terrorism, and what can be done to prevent it? Our texts include film and literature as well as international relations literature, and writing assignments offer students the opportunity to explore a number of genres: policy memo, political research, film interpretation, fiction, and editorial.

**Requirements.** This class is conducted as a seminar, with an emphasis on discussion among the participants rather than lecturing by the instructor. Students will develop their ability to critique existing scholarship, to analyze different writing styles in order to understand how writers express their arguments, and to conduct original research and write a final research paper. Specific course requirements (and their percentage of the final grade) are:

Active class participation and attendance: (25%)  
Writing assignments: (75%)

1. A policy memo. (15%)
2. A newspaper editorial-style essay. (15%)
3. One of these two options: (15%)
  - a. A piece of original “atomic age” fiction (no more than 10 pages, although exceptions may be granted)
  - b. An analysis of *Dr. Strangelove* or *The Day After* (or another movie depicting nuclear war with my approval).

4. A research paper (12-15 pages in length). (30%)

As part of your participation grade, once during the semester you will take on a special assignment for a session of the class. You will play the role of “**author’s defendant**” and should be able to defend the merits of particular readings in seminar by stepping into the author’s shoes. For this assignment, you essentially role-play as the author of one of our readings. This task includes serving as “resident expert” on the text, so that you can be called on to explain or clarify questions other students or the instructor may have about the readings.

For the research paper, you will be asked to investigate the success of various “counter-proliferation policies”: what works and what doesn’t when trying to convince (or force) countries not to acquire nuclear weapons?

**Readings.** Three books are available for purchase at the Cornell Campus store or at Kraftee’s in Collegetown.

- Scott Sagan and Kenneth Waltz. 2003. *The Spread of Nuclear Weapons*, 2<sup>nd</sup> edition. New York, NY: W.W. Norton & Company.
- Gerard J. DeGroot. 2005. *The Bomb: A Life*. Cambridge, MA: Harvard University Press.
- Pat Frank. 2005 (reissue edition, originally published 1959). *Alas, Babylon*. Harper Perennial Modern Classics.

The DeGroot book is fairly new and was quite popular, so you can probably also find it at Borders at the Pyramid Mall or the Barnes and Noble on Route 13 (near Wegman’s). Needless to say, all three books are also available from on-line vendors such as Amazon.

The rest of the readings are available in a reading packet that can be purchased at K C Copy Center in Collegetown (118 Dryden Rd).

**Cornell University Policies and Regulations:** Participation in this class commits students and instructors to abide by Cornell’s expectations and policies regarding equal opportunity and academic integrity. Further, it implies permission from students to submit their written work to services that check for plagiarism. Each student in this course is expected to abide by the Cornell University Code of Academic Integrity. **It is your responsibility** to familiarize yourself with university policies regarding plagiarism and other violations of academic integrity. In particular, please make yourself familiar with the definition of plagiarism, and be aware that you may not turn in the same piece of work (or part thereof) for credit in multiple classes, either in the same semester or while at Cornell in general. Violations of the University Code of Academic Integrity will be firmly dealt with in this class. The Code can be found on the web at:

<http://www.cuinfo.cornell.edu/Academic/AIC.html>

In addition, this instructor observes all university policies addressing racial, ethnic, gender, sexual preference, or religious discrimination and all forms of harassment; he conducts class in conformance with provisions of the Americans with Disabilities Act. Students are expected to familiarize themselves with pertinent policies and to bring any concerns related to them to the attention of the instructor.

### ***Semester Outline:***

#### ***Week 1: Introduction and Overview***

Aug. 28. Introductions and organization.

Aug. 30. No class! I am traveling.

#### ***Week 2: How nuclear bombs work***

Sept 4.

- Gerard J. DeGroot. 2005. *The Bomb: A Life*. Chapter 2: “Neutrons and Nations” and chapter 3: “Born in Manhattan.” pp. 8-55.
- Joseph Cirincione. 2002. *Deadly Arsenals*. Chapter 3: “Nuclear Weapons and Materials.” pp. 35-42.

Sept. 6.

- Gerard J. DeGroot. 2005. *The Bomb: A Life*. Chapter 4: “It’s a Boy!”. pp. 56-65.
- Peter D. Zimmerman. 1993. “Technical Barriers to Nuclear Proliferation.” Appendix to *The Proliferation Puzzle*, edited by Zachary Davis and Benjamin Frankel.

#### ***Week 3: Using the bomb***

Sept. 11. Deciding to use the bomb.

- Gerard J. DeGroot. 2005. *The Bomb: A Life*. Chapter 5: “Decisions.” pp. 66-81.

Sept. 13. The effects of nuclear detonations.

- Gerard J. DeGroot. 2005. *The Bomb: A Life*. Chapter 6: “*Genshi Bakudan*” and chapter 7: “Nuclear Giants and Ethical Infants.” pp. 82-125.

- Go through the 9 page simulation of the consequences of the detonation of a 150 kiloton device at the base of Empire State Building at the “Atomic Archive” web site:  
<http://www.atomicarchive.com/Example/Example1.shtml>
- Assess the consequences of detonation for any of 10 large American cities. Vary the yield to see how much size matters. Be sure to try blasts ranging up to at least 1,000 kilotons. This is a fun and terrifying web page:  
<http://meyerweb.com/eric/tools/gmap/hydesim.html>
- Office of Technological Assessment, United States Congress. 1979. *The Effects of Nuclear War*. Read the “Executive Summary,” pp. 3-12.

### ***Week 4: Entering the Atomic Age***

Sept. 18. Learning to live with the bomb

- Film: **The Atomic Café**, by Jayne Loader and Pierce Rafferty. [88 minutes].

Sept. 20. The emergence of nuclear deterrence theory

- Bernard Brodie. 1959. “The Anatomy of Deterrence.” Chapter 8 (pp. 264-304) from *Strategy in the Missile Age*. Princeton, New Jersey: Princeton University Press.
- Herman Kahn. 1960. “Alternative National Strategies.” Chapter 1 (pp. 3-39) from *On Thermonuclear War*. Princeton, New Jersey: Princeton University Press.

### ***Week 5: Deterrence theory in film and in practice.***

Sept. 25.

- Gerard J. DeGroot. 2005. *The Bomb: A Life*. Chapter 11: “The New Look”. pp. 184-216, and chapter 14: “To the Brink,” pp. 253-271.
- Assignment #1 distributed.

Sept. 27. Short stories

- “That Only A Mother,” by Judith Merrill. 1948.
- “Lot,” by Ward Moore. 1953.
- “Thunder and Roses,” by Theodore Sturgeon. 1947.

All of these stories may be found in an anthology of Cold War fiction called *Countdown to Midnight*, edited by H. Bruce Franklin, which was published as an inexpensive

paperback in 1984. Several copies are available on Amazon Marketplace for prices ranging from about \$1 to \$4.

***Weeks 6,7, 8: Life under the nuclear shadow***

Oct. 2. (Yom Kippur)

- Film: **Dr. Strangelove**, by Stanley Kubrick. [93 minutes].
- Begin reading *Alas, Babylon*, by Pat Frank

Oct. 4.

- *Alas! Babylon*, by Pat Frank. Part 1 (chapters 1 – 5).

\*\*\* Assignment #1 due: policy memo advocating a nuclear posture  
for a new nuclear power \*\*\*

Oct 9.

Fall break – no class! But read *Alas, Babylon* at bedtime....

Oct. 11.

- *Alas! Babylon*, by Pat Frank. Part 2 (the rest).

Oct. 16.

- Film: **The Day After**, by Nicholas Meyer. [127 minutes].

“The Day After” caused a sensation when broadcast on ABC in 1983. Viewed by 100 million people -- a record for a made-for-TV movie --, the movie reportedly had a powerful impact on President Reagan and may have, along with other events that year, played a role in shifting his policies towards curbing the nuclear arms race and reducing Cold War tensions.

***Week 8-9. Understanding proliferation: Who wants the Bomb? And Why?***

October 18.

- Text of the “The Treaty on the Non-Proliferation of Nuclear Weapons.” Available on-line at:

<http://www.state.gov/t/np/trty/16281.htm#treaty>

- Richard K. Betts. 1993. “Paranoids, Pygmies, Pariahs and Nonproliferation Revisited.” In *The Proliferation Puzzle*, edited by Zachary S. Davis and Benjamin Frankel. London: Frank Cass and Company. pp. 100-124.
- George Monbiot. “Everyone Wants A Bomb.” *Outlook India*, December 21, 2004.

<p>*** Assignment #2 due: “nuke fiction” or film analysis ***</p>
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October 23.

- Scott D. Sagan. 2000. “Rethinking the Causes of Nuclear Proliferation: Three Models in Search of a Bomb.” In *The Coming Crisis*, edited by Victor A. Utgoff. Cambridge, MA: MIT Press. pp. 17-50.

October 25.

- T.V. Paul. 2003. “Systemic Conditions and Security Cooperation: Explaining the Persistence of the Nuclear Non-Proliferation Regime.” *Cambridge Review of International Affairs*. 16:1: 135-154.
- Richard Stanley and Michael Ryan Kraig. 2003. “The NPT: Can This Treaty Be Saved?” *Bulletin of the Atomic Scientists*, Sept/Oct 2003, Vol 59, Iss. 5, pp. 59-65.
- Avner Cohen and Thomas Graham, Jr. 2004. “An NPT for Non-Members.” *Bulletin of the Atomic Scientists*, May/June 2004, Vol 60, Iss. 3, pp. 40-44.

***Week 10-11. New nuclear powers and networks of proliferation: Iran, North Korea, and A.Q. Khan***

October 30. Rogues with nukes? 1) North Korea

- Victor Cha and David Kang. 2004. “Can North Korea be Engaged? A Debate” *Survival* 46(2):89-108.
- Nicholas Eberstadt. 2005-6. Two editorials published in the *Wall Street Journal*, “Nuclear Shakedown” (July 6, 2006) and “North Korea Triumphs Again in Diplomacy” (Sept 21, 2005).

November 1. Rogues with nukes? 2) Iran

- David Albright. 2006. “When Could Iran Get the Bomb?” *Bulletin of the Atomic Scientists* 62(4), July/August, pp. 26-33.

- Scott D. Sagan. 2006. "How to Keep the Bomb From Iran." *Foreign Affairs* 85(5): 45-59.
- Seymour Hirsch. 2006. "The Iran Plans: Would President Bush Go To War To Stop Iran Getting the Bomb?" *The New Yorker*, March 17, 2006.

November 6. Rogues with nukes? 3) A. Q. Khan and Proliferation Networks

- William Langewiesche. 2005-06. "The Wrath of Kahn," parts 1 and 2. *The Atlantic Monthly*, November 2005 and Jan/Feb 2006.
- Alexander H. Montgomery. 2005. "Ringing In Proliferation: How to Dismantle an Atomic Bomb Network." *International Security* 30(2), 153-187.

\*\*\* Assignment #3 due: editorial on strategy for "fixing" the NPT \*\*\*

***Week 11-12. A contemporary debate on deterrence theory and proliferation***

Nov 8. A nuclear peace?

- Scott Sagan and Kenneth Waltz. 2003. Waltz's chapter 1 ("More May Be Better") and Sagan's chapter 2 ("More Will Be Worse") in *The Spread of Nuclear Weapons*. New York, NY: W.W. Norton & Company.

Nov 13. Rebuttals.

- Scott Sagan and Kenneth Waltz. 2003. Selections of replies: pp. 131-155 and pp. 166-184, in *The Spread of Nuclear Weapons*. New York, NY: W.W. Norton & Company.

***Week 12-13. Nuclear South Asia: the most dangerous place in the world?***

"The most dangerous place in the world today ... is the Indian subcontinent and the line of control in Kashmir." President Clinton, March 10, 2000.

November 15.

- Scott Sagan and Kenneth Waltz. 2003. Chapter 3 ("Indian and Pakistani Nuclear Weapons: For Better or Worse?") in *The Spread of Nuclear Weapons*. New York, NY: W.W. Norton & Company

November 20.

- S. Paul Kapur. "India and Pakistan's Unstable Peace." *International Security* 30(2) 127-152.
- Natural Resources Defense Council. "The Consequences of Nuclear Conflict between India and Pakistan." On line:

<http://www.nrdc.org/nuclear/southasia.asp>

\*\*\* Draft section of research paper due. \*\*\*

November 22. No class: Thanksgiving break!

### ***Week 14. Nuclear Terrorism***

November 27

- Scott Sagan and Kenneth Waltz. 2003. Waltz on nuclear terror, pp. 126-131, and Sagan on nuclear terror, pp. 159-166, in *The Spread of Nuclear Weapons*. New York, NY: W.W. Norton & Company.
- Jonathan Medalia. 2005. *Nuclear Terrorism: A Brief Review of Threats and Responses*. Washington, DC: Library of Congress, Congressional Research Service.

November 29

- Graham Allison. 2006. "Nuclear 9/11? The Ongoing Failure of Imagination." *Bulletin of the Atomic Scientists* (Sept/Oct 2006), pp. 34-41.
- William M. Arkin. 2006. "Nuclear 9/11? The Continuing Misuse of Fear." *Bulletin of the Atomic Scientists* (Sept/Oct 2006), pp. 42-45.

*** Research Paper Due Friday, December 8 ***
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