Much of the recent change in relations among nations has been driven by scientific and technical innovations, and the pace of these changes is accelerating. How are you, the leaders of the future, going to deal with what is coming? The best way is to learn from past and ongoing examples. We will start by considering nuclear weapons, with a bit on how they work and what they do, what is needed to make them, and a lot on the doctrines and controls that arose to deal with the threat of nuclear war. Then we will consider the ongoing revolution in information, public in the sense of communication, and less than public, as in spying. Both peoples and nations are receiving vast inputs. How will this change the future of global relations? Last, we will achieve wisdom on the issues of climate change driven by our progress since the Industrial Revolution began. Climate change is going to be a global problem, but with local and national choices driving the future.

The format of the course will be lots of reading, leading to informed discussions in class, with a weekly two-page paper to develop skills in analysis and argumentation. It is expected that you will make good use of all of your previous course work and other educational attainments. A brief term paper will be written. A strong array of experts will be invited to our class to show you a range of wonders.

1. The reading assignments (below) are to be read and considered before each class. Note!!!
   There is a reading assignment before you come to our first class meeting on January 17.
2. Two-page (no more!) papers are due each Thursday at the start of class.
3. Class discussions will be based on what you read and wrote.
4. A 6-8 page term paper is due the class meeting just before spring break.
5. We will end the term with brief (but intense) team presentations.

In case of weather or other campus closure, we will stick with this schedule, and double up when classes resume. Articles in Science and other journals for which CU has a subscription can be accessed through Chinook. Enter the journal title, volume and page number. Assignments with a star * have been scanned in for access by electronic reserve. The password is “global”. Other items are findable on the Web.

January 17 Introduction
- The Pervasive Role of STH in Foreign Policy
  //books.nap.edu/openbook.php?record_id=9688&page=1 Read the Executive Summary.
- *Intervention for the Common Good/Onuf, in Beyond Westphalia--- scanned to e-reserve
- * Science diplomacy clippings

Jan. 19 Smallpox, rinderpest and polio
Paper—What best lesson should we take from the campaign to defeat smallpox?
- First, be appalled by looking for photos of smallpox victims
- *Appeasing Wilson’s Ghost
* Diagnosis and management of smallpox, NEJM 346,1300-1308 April 25,2002
* Check out who is dying of what and where - //globalatlas.who.int/globalatlas
* Polio, Smallpox and Rinderpest Newsclips

Jan. 24 How nuclear weapons work, and what you need to make one
* //www.fas.org/programs/ssp/nukes/nuclearweapons/nukestatus.html for a brief list
* Atoms for Peace speech at //www.iaea.org/About/history_speech.html
* *HEU Done it, Foreign Affairs March/April 2005, pp 145-148
* * Chapter 3; Nuclear Weapons, in Megawatts and Megatons, Garwin and Charpak
* www.nuclearfiles.org/menu/key-issues/nuclear-weapons/basics/weapons-basics.htm

Jan. 26 Effects of Nuclear Weapons
Paper-How has Ike’s plan for Atoms for Peace worked out?
* //www.fas.org/nuke/intro/nuke/effects.htm
* * News clips
* * The Effects of Nuclear War, Office of Technology Assessment (1977)
* www.princeton.edu/~aglaser/lecture2007_weaponseffects.pdf (with graphs and numbers)
* //www.cddc.vt.edu/host/atomic/nukeffct/index.html (yes, funny spelling, has brief videos)

Jan 31 US Nuclear Doctrines
* Nuclear Weapons and Foreign Policy-The Need for Doctrine/H. Kissinger (1957)
* Nuclear weapons in the 21st century www.aps.org/policy/reports/popa-reports/upload/nuclear-weapons.PDF
  //bit.ly/amLIRy Nuclear Posture Review
* //nuclearweaponsarchive.org/Usa/Weapons/B61.html ----for one example
* * clippings

Feb. 2 Nuclear doctrines of other nations/visitor Col. Keith Tobin, USAF
Paper—Pick some nation and analyze why they did or did not choose to develop or keep nuclear weapons.

* www.fas.org/programs/ssp/nukes/nuclearweapons/nukestatus.html (has country profiles, with doctrines for each)
* www.nuclearfiles.org/menu/key-issues/nuclear-weapons/issues/policies/nuclear-doctrine-print.htm

Feb. 7 Nuclear treaties/visitor Amb. Martin Cheches
* www.state.gov/www/global/arms/treaties/ctb.html -Comprehensive Test Ban Treaty
  (also scanned)
* www.armscontrol.org/documents/npt.asp - NonProliferation Treaty (also scanned)
* *Sovereignty and Collective Intervention/Beyond Westphalia/Chapter 8
* www.armscontrol.org/factsheets/treaties links to a broad array of treaties
Feb. 9 Verifications of treaties
Paper- Why have we not seen nuclear war?

- * Identifying Foreign Nuclear Explosives
- * Adventures in Scientific Nuclear Diplomacy/Physics Today, July 2011 pp 31-37
- * clippings

Feb. 14 Problem cases—Iran and the DPRK

- * Controlling Iran’s Nuclear Program
- * Islam, Terror and the Second Nuclear Age, NYT Magazine October 29, 2006, pp 50-
- * Book reviews
- * Clippings
  - www.fas.org/nuke/guide/dprk/index.html a great general source

Feb. 16 Nuclear Terrorism or Nuclear Zero?
Paper- Could/should the world seek the total elimination of nuclear weapons?

- * Can we rid the world of nuclear weapons?
- * Nuclear Disarmament Agenda
- * Weapons without a purpose, Foreign Affairs July/August 2001
- * When outlaws get the bomb, Time October 23, 2006, pp 33-39
- * Working toward a world without nuclear weapons/Drell, Physics Today July 2010, pp 30-34
- * The Next Nuclear Wave—a collection of book reviews
- * clippings
- * The Logic of Zero/Foreign Affairs Nov/Dec 2008, pp 80-95 (also scanned)

Feb. 21 The digital information revolution

- Search on ‘bandwidth’, and see why this is a big deal. Also, find out what Moore’s Law says.
- Newsclips
- The Economist November 6, 2010, It’s a smart world (special section), pp 3-18

Feb. 23 Cell phones and change --- Visitor Prof. Tim Brown
Paper- Analyze an example of how cell phones have had a political or economic effect

- * Clips

Feb. 28 Controlling information
March 1 Examples—USSR and the PRC
Paper—Find a terrorist web site and write an analysis of their message.
- *clips
- *Dismantling Utopia

March 6 Information opportunities for the developing world
- Clips
- Mobile Marvels, special section of The Economist Sept. 26, 2009, pp 3-19
- The Digital Divide
- *Space and Global Stability

March 8 Satellite reconnaissance—Ed Locher
Paper—How should the US respond to modern information technologies? Pick a single issue.
- *The Politics of Remote Sensing
- *Clips
- Seek the website of the National Reconnaissance Office to see what they do//www.nro.gov
- What do you learn at www.NIMA.gov?
- Imaging Space Reconnaissance Operations during the Cold War (a splendid history)
  //Webster.hibo.no/asf/Cold_War/report1/williame.html

March 13 Spying amid an information flood—Dr Peg Sanders
- See the list of US intelligence agencies at www.loyola.edu/dept/politics/intel.html, click on ‘strategic intelligence’. Pick one to talk about in class.
- *Can the Intelligence Community Keep Up?
- *Cyberspies
- *Moral Dilemma of Spying
- *Cult of the Confidence Man
- *Intelligence Services in the Information Age
- *Clips

March 15 Future of omnipresent information
Paper—Predict a major change that information technology could or should inspire.
- *clips (two sets)
- *Explosions in Orbit

March 20 Energy, security, and development
- Review the history of the industrial revolution, Wikipedia is ok
  //earthtrends.wri.org/updates/node/339-energyaccessfordevelopment
• Seek information on world energy production—wikipedia is ok
• Prowl the US Energy Information Agency  www.eia.gov
• *The Road to Energy Security
• *Energy Security: A Global Challenge
• Millenium Development Goals  //unstats.un.org/unsd/default.htm  click on MDG Progress Chart 2011 and otherwise learn about the MDG.

March 22  Energy resources and trade
No two-page paper! I require term papers to be turned in during class or before.
• Video(5 min) www.youtube.com/watch?v=M8NWnA64A_4
• Video (7 min) www.youtube.com/watch?v=_4iy5uDuAM&feature=related
• //www.declineoftheempire.com/2011/05/peak-coal-this-year.html
• *Peak Oil Production May Already Be Here, Science Magazine  vol. 331, pp 1510-11 (25 March 2011)

(March 26-30  spring break)

Apr. 3  Climate observations -----Prof. Tad Pfeffer
• //climate.nasa.gov  prowl about for images, data
• *two sets of clippings, mainly from Science Magazine, better seen online in color
• //nsidc.org/icelights  from the National Snow and Ice Data Center, and other great images

Apr. 5  Climate science
Paper-Just how much of our/their current prosperity should we give up for CO2 reasons?
• www.ucsusa.org/global_warming/science-and-impacts/science   sample some articles
• Learn somewhere how the ‘greenhouse effect’ works
• www.ipcc.ch  learn what this group has done and why the findings are controversial, read the
  ‘summary for policymakers’, also scanned to e-reserves
• *clippings
• * Climate Modeling. (how it’s done) Physics Today January 2007, p 72-
• *Ozone Depletion—by a lawyer

(Apr. 9 Conference on World Affairs begins)

Apr. 10  Climate change effects, security
• *clippings
• *A brief history of climate change and conflict, Bulletin of the Atomic Scientists
• *The Real Roots of Darfur, The Atlantic April 2007, pp 67 ff
• *National Security and the Threat of Climate Change
• *Global Warming-who loses and who wins’ The Atlantic, April 2007, pp 52 ff
• In Google Earth, run the ‘layer’ bit.ly/4-degrees for a great set of interactive maps
April 11-our CWA session =#3711 “Disease Prevention vs. Overpopulation” at 3-4:20 Wednesday, Old Main Chapel

Apr. 12  Solutions, wedges and treaties
Paper—Have/will international climate treaties done/do any real good?
- //cmi.princeton.edu play the wedge game
- *clippings
- *The Kyoto Protocol, //unfccc.int/resource/docs/convkp/kpeng.html, also scanned
- *International Coordination to Address the Climate Problem

Apr. 17 Global Food, GMO opportunities
- * Clippings
- What are genetically modified crops? Wikipedia is ok
- Check out www.monsanto.com --what are they about?
- *Biowarfare Scientific American June 1999, pp 70 ff
- *The New Geopolitics of Food
- www.who.int/foodsafety/biotech/en/ and pick a topic of interest
- Prowl the site of the Food and Agricultural Organization www.fao.org

April 19  Global Water
Paper- Analyze a specific looming climate problem, and forecast the political effect it will have.
- www.newworldencyclopedia.org/entry/Desalination
- //ga.water.usgs.gov/edu/drinkseawater.html
- * clippings
- *Global Water Futures
- * Desalination clippings

Apr. 24, 26 Presentations, in teams of three
Each team is to cover an ‘interesting’ issue, and convince the class to DO SOMETHING about it, all in six minutes plus six minutes of questions. The class will vote for or against the suggestion of each team.

May 1 Grand Finale-Living in the Anthropocene

May 3 Last Class! General discussion, what lies ahead?
Paper—In two pages, describe why your UCB/IA degree and education qualify you for some job, grad school, or wherever your hopes and plans may take you.

(May 4 Picnic at 763 16th Street, sixish, in the back yard)

May 10 IAFS commencement, 10, UMC 235

(May 11 Commencement)