COURSE SYLLABUS

THE NEW NUCLEAR ARMS CONTROL: LIMITING THE INTERNATIONAL SPREAD OF NUCLEAR WEAPONS

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Spring 2001

Requirements: attendance, regular class participation, and completion of two papers.

Paper 1 (6-8 pages): Select one of the topics addressed in weeks 5-10, and prepare an in-depth analysis for class presentation. The paper should incorporate sources beyond those listed below. This paper is due before mid-term.

Paper 2: (12 –14 pages): Prepare a research paper, complete with footnotes and bibliography, on a topic selected with the instructor. This paper is due by week 13. You may wish to check some of the following websites as sources:

treaties	www.acda.gov/treaties.htm
general	www.nukefix.org/link.htm
Nonproliferation Review	www.cns.miis.edu
Arms Control Today	www.armscontrol.org
Disarmament Diplomacy	www.fern.org/acronym/index.com
Bulletin of Atomic Sci.	www.bullatomsci.org
Federation of American Sci.	www.fas.org
NRDC	www.nrdc.org (choose "nuclear weapons and waste" then "related links")
Center for Defense Info.	www.cdi.org
Nuclear Control Institute	www.nci.org/home/htm
Stimson Center	www.stimson.org

C**ourse Summary:** With the end of the Cold War, the focus of nuclear arms control has shifted. Previous arms control efforts emphasized reducing U.S. and Soviet nuclear stockpiles; the "new nuclear arms control" is directed at preventing additional nations from getting the bomb. This new focus, referred to as nuclear nonproliferation, has been sharpened by events of the last decade. Iraq's extensive nuclear-weapon program, unveiled by the Gulf War, along with North Korea's suspected production of nuclear material for warheads, prompted serious concern in the early 1990's. The 1998 nuclear tests by India and Pakistan, which have gone to war three times since their 1947 partition, signaled an imminent danger. In addition, the breakup of the Soviet Union has turned the nightmare of nuclear terrorism into a real possibility. The seminar examines U.S. strategies to meet these challenges and to prevent future proliferation threats from emerging.

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[1] Mr. Hirsch is on leave from the U.S. State Department, where he served as Special Assistant to the Under Secretary for Arms Control and International Security Affairs. He is currently a Visiting Scholar at Yale Law School.

This seminar proceeds in four parts. Part I provides a brief history of the "old" arms control, introduces the concept of nuclear proliferation, and assesses the threat currently posed by the spread of nuclear weapons. In addition, it addresses two overarching issues. First, we will explore the motives that drive a country to seek nuclear arms. Second, we will question whether nuclear proliferation does in fact undermine international security. Might, for example, a global community with many nuclear powers be more stable than one with a few?

Part II focuses on U.S. strategies for *preventing* proliferation. We will review the status of the Nuclear Non-Proliferation Treaty (NPT), through which roughly 180 nations have foresworn nuclear arms. We will also consider the use of both negative and positive incentives as a means of discouraging proliferation. In the case of South Asia, for example, the threat and use of economic sanctions (a negative incentive) have been employed in an effort to deter proliferation. In the former Soviet Union, the U.S. has sought to secure nuclear warheads and materials by providing financial assistance (a positive incentive). Both of these cases will be examined.

Part III addresses strategies for *responding* to nuclear proliferation once it has occurred. We will look at efforts to reverse proliferation in South Africa and Iraq, to freeze nuclear-weapon development in North Korea, and to make Indian and Pakistani nuclear arms safe from unauthorized or accidental use.

Finally, Part IV explores nuclear nonproliferation strategies not yet implemented by the U.S. One such potential response is the use of military force to prevent the development or use of nuclear weapons by a proliferating state. Another is responding to proliferation by deploying a limited national missile defense. We will debate these strategies, and examine why they have not to date been used. The seminar's final week will be reserved assessing the effectiveness of the nonproliferation strategies discussed in the course, using Iraq as a case study, and for discussing of other possible nonproliferation strategies.

The seminar draws upon several academic disciplines, including international relations, political science and law. Primary documents will be used, as will occasional guest speakers.

Part I: Introduction

Week 1: **Course Overview; A brief history of U.S. - Soviet nuclear arms control.** During the Cold War, arms control was understandably focused on the nuclear competition between the United States and the Soviet Union. The 1962 Cuban Missile Crisis underscored the importance of U.S.-Soviet communication during an emergency. The next year, a 24-hour "hotline" between the two superpower leaders was established. This early arms control agreement was followed by several others designed to stabilize the U.S.-Soviet relationship, most notably the 1972 Anti-Ballistic Missile Treaty. Around this time, the emphasis of arms control began to shift toward slowing, and ultimately reversing, the arms race. This was attempted first through the Strategic Arms Limitation Talks (SALT) and then through the Strategic Arms Reduction Treaty (START) negotiations. The START negotiations are ongoing. However, with the end of the Cold War, attention has increasingly shifted to the threat posed by emerging nuclear nations. It is this threat that the "new nuclear arms control" seeks to address.

Readings: Charles Kegley and Eugene Wittkopf, The Nuclear Reader: Strategy, Weapons and War (St. Martin's Press, 1985), pp. xi – xx.

Jonathan Schell, "Nuclear Holocaust," *in* Charles Kegley and Eugene Wittkopf, The Nuclear Reader: Strategy, Weapons and War (St. Martin's Press, 1985), pp. 258 – 269.

Arms Control and National Security, an Introduction (The Arms Control Association, 1989), pp. 18-37.

Richard Smoke, National Security and the Nuclear Dilemma, (Random House, 1987), pp. 52 – 59; 94-99.

Week 2: **The New Nuclear Arms Control**: **Defining the Threat of Nuclear Proliferation.** The "new" nuclear arms control is aimed at preventing the proliferation, or spread, of nuclear weapons to countries not currently possessing them. The threat posed by nuclear proliferation is in fact not a new one. President Kennedy worried that, by the end of the 1970's, as many as 25 nations would possess the bomb. In fact, for the thirty years proceeding the 1998 nuclear tests by India and Pakistan, the number of declared nuclear powers remained at five (the U.S., Russia, the U.K., France and China). With the end of the Cold War, arms control has increasingly focused on preventing the spread of nuclear weapons to new states. Revelations of the covert nuclear programs in Iraq and North Korea, along with the nuclear tests in South Asia, have sharpened this focus. In addition, the breakup of the Soviet Union, and the lack of total control over its nuclear assets, has increased the possibility that nuclear weaponry may end up in the hands of subnational, terrorist groups.

Readings: Leonard S. Spector, The Undeclared Bomb (Ballinger, 1988), pp. 447-55.

Robert Blackwill and Albert Carnesale, New Nuclear Nations, Consequences for U.S. Policy (Council on Foreign Relations, 1993), pp. 3-19.

Lewis Dunn, Controlling the Bomb (Yale University Press, 1982), pp. 71-75.

Gavin Cameron, Nuclear Terrorism: A Threat Assessment for the 21st Century (St. Martin's Press, 1999), pp. 1-16**.**

Week 3: **Motives for Proliferation.** Why do nations and subnational groups seek nuclear arms? Given the price of their acquisition, and their questionable military utility, a state's motivation(s) for pursuing nuclear weapons must be a powerful one. Is the decision to embark on a quest for nuclear arms generally motivated by a (perceived) external threat to its national security? How often are a state's efforts to acquire nuclear weapons driven by internal political or bureaucratic forces? Could the primary motive for proliferation be to obtain international status or prestige? Paradoxically, while nuclear proliferation is generally met with broad international condemnation, joining the exclusive "nuclear club" can guarantee a major role in world affairs. Discussion will explore these and other possibilities, examining the policy implications of each.

Readings: Bradley Thayer, "The Causes of Nuclear Proliferation and the Non-Proliferation Regime," *in* Raju Thomas, The Nuclear Non-Proliferation Regime (St. Martin's Press, 1998), pp. 77-97.

Scott Sagan, "Why Do States Build Nuclear Weapons?" *International Security*, Vol. 21, No. 3 (Winter 1996/1997).

Week 4: **Is Nuclear Proliferation a Good Thing?** While most would say that the international spread of nuclear weapons presents a threat to U.S. and global security, others disagree. Might nuclear deterrence, which kept the two superpowers from going to war for nearly half a century, keep the peace elsewhere? Is it fair to expect the developing world and others to forego nuclear weapons while the five members of the "nuclear club" hold on to theirs? Is nonproliferation just a "codeword" for perpetuating a system of nuclear hegemony? We will consider such arguments before exploring how best to combat proliferation.

Reading: Scott Sagan & Kenneth Waltz, The Spread of Nuclear Weapons: A Debate (New York, 1995), pp. 1-91.

Part II: Preventing Nuclear Proliferation

Week 5: **Treaties: The Nuclear Non-Proliferation Treaty.** Discussion will focus on the Nuclear Nonproliferation Treaty (NPT), the membership of which includes every country in the world save four: India, Pakistan, Israel and Cuba. The NPT, which entered into force in 1970, strikes a bargain between the nuclear "haves" and "have nots." The "haves" (the U.S., U.K., France Russia and China) agree to negotiate in "good faith" toward nuclear disarmament, and to share the peaceful benefits of nuclear technology. The "have nots" (everyone else), agree never to acquire nuclear weapons. Is the NPT a "fair" deal? Are the "haves" living up to their side of the bargain? What do the "have nots" get out of it? How is NPT compliance monitored and enforced? This last question is particularly relevant, given that both Iraq and North Korea were NPT parties while secretly trying to produce nuclear weapons.

Readings: Leonard Spector, The Undeclared Bomb (Cambridge MA, 1988), pp. 456 – 63.

Joseph Pilat and Charles Nakhleh, "A Treaty Reborn? The NPT After Extension," *in* Raju Thomas, The Nuclear Non-Proliferation Regime (New York, 1998), 41-55.

"Five Atom Powers Agree to Scrap Arms," *The New York Times*, May 22, 2000.

Documents: The 1968 Treaty on the Non-Proliferation of Nuclear Weapons. (NPT)

Decisions of the 1995 NPT Review and Extension Conference.

Week 6: **Sanctions: Sanctioning India and Pakistan.** The 1998 nuclear tests conducted by India and Pakistan triggered broad U.S. sanctions, sharply restricting commercial, diplomatic and military interaction with these countries. Now some in Congress, which required these sanctions to deter proliferation, are having second thoughts about them. The nuclear-weapon capability of India and Pakistan is a *fait accompli*. It is time, they say, to switch from a failed policy of punitive sanctions to one of engagement, in order to help prevent a nuclear war between these bitter rivals. Or is it? While sanctions ultimately did not stop proliferation in South Asia, they may well have significantly delayed it. Moreover, rescinding the sanctions could send the wrong message to other states weighing the costs and benefits of pursuing nuclear weapons. How should the balance be struck between these opposing positions?

Guest Speaker: Dr. Randy Rydell

Readings: Randy Rydell, "Giving Nonproliferation Norms Teeth: Sanctions and the NPPA.

Robert Hathaway, "Confrontation and Retreat: The U.S. Congress and the South Asian Nuclear Tests," *Arms Control Today* (January/February 2000).

Strobe Talbott, "Dealing With the Bomb in South Asia," *Foreign Affairs*, Vol. 78, No. 2 (March/April 1999).

Document: The 1994 Nuclear Proliferation Prevention Act (NPPA).

Week 7: **Assistance: Containing "Loose Nukes" in the former Soviet Union.** The breakup of the Soviet Union revealed that the world's largest nuclear arsenal was neither sufficiently protected nor fully accounted for. While the risk of a nuclear warhead being smuggled beyond Russia's borders remains remote, this is not necessarily the case with respect to the nuclear material and components necessary to make a bomb. In addition, unpaid and disgruntled weapon scientists may choose to sell their nuclear know-how to the highest bidder. With respect to nuclear material, the problem has been exacerbated by the rapid dismantlement of nuclear weapons under U.S.-Russia arms reduction accords. In response to these proliferation risks, the U.S. has undertaken a host of programs, ranging from purchasing Russian nuclear material to funding a research institute for Russian nuclear scientists. Are these programs accomplishing their purpose, or should more be done?

Readings: Graham T. Allison, Owen R, Cote, Richard Falkenrath and Steven Miller, Avoiding Nuclear Anarchy: Containing the Threat of Loose Russian Nuclear Weapons and Fissile Material (Cambridge MA, 1996), pp. 1-73.

Matthew Bunn, "The Next Wave: Urgently Needed Steps to Control Warheads and Fissile Material," The Harvard Project on Managing the Atom (Cambridge MA, 2000), pp. v – 7.

Additional Reading: Gavin Cameron, Nuclear Terrorism: A Threat Assessment for the 21st Century (New York, 1999), pp. 1-16**.**

PART III: Responding to Nuclear Proliferation

Week 8: **Reversing proliferation in South Africa and Ukraine.** The past decade has witnessed two dramatic examples of nuclear proliferation reversals: South Africa, and the non-Russian successor states of the former Soviet Union. In 1993, South Africa announced that it had secretly produced a handful of nuclear weapons, and that these had been "dismantled and destroyed" before joining the NPT two years earlier. The unilateral decision by the South African government to scrap its two-decade project to build the bomb was unprecedented, and has yet to recur. In the former Soviet Union, four states "inherited" that country's vast nuclear arsenal. Three of them – Belarus, Kazakhstan and Ukraine – have transferred the nuclear weapons on their territory to Russia, and have signed the NPT as non-nuclear weapon states. Of these, the "denuclearization" of Ukraine proved the most difficult. We will examine the circumstances that led to "rolling back" proliferation in South Africa and Ukraine. What, if anything, might the U.S. learn from these cases in seeking to induce further such reversals to occur?

Readings: Mitchell Reiss, Bridled Ambition: Why Countries Constrain Their Nuclear Capabilities, (Woodrow Wilson Center Press, 1995) pp. 7-35; 89-129.

William Long & Suzette Grillot, "Ideas, Beliefs, and Nuclear Policy: The Cases of South Africa and Ukraine," *The Nonproliferation Review*, Vol. 7, No.1 (Spring 2000).

Week 9: F**reezing North Korea's nuclear-weapons program.** In a 1994 agreement with the United States, North Korea agreed to "freeze" activity at certain suspicious nuclear facilities in return for provision of alternative energy sources and sanctions relief. This arrangement, known as the Agreed Framework, represented an *ad hoc* response to a proliferation danger that had been emerging for roughly a decade. While it is a step-by-step arrangement that has yet to run its full course, the Agreed Framework has successfully contained the North Korean proliferation threat. On the other hand, by not requiring the destruction of bomb material produced before the agreement, the U.S. has shown a willingness to compromise its nonproliferation ideals to reach the best practical outcome. Given North Korea's membership in the NPT, U.S. willingness to bargain for North Korean restraint sends an unfortunate signal to other Treaty parties already living up to their non-nuclear pledge. Is this policy of "rewarding" nonproliferation, both in economic and diplomatic terms, a good model to follow?

Readings: Don Oberdorfer, The Two Koreas: A Contemporary History (Massachusetts, 1997), pp. 351-68.

Curtis Martin, "Lessons of the Agreed Framework for Using Engagement as a Nonproliferation Tool," *The Nonproliferation Review* (Fall 1999).

Leon Sigal, "The North Korean Nuclear Crisis: Understanding the Failure of the 'Crime-and-Punishment' Strategy," Arms Control Today (May 1997).

"Working Nuclear Blackmail," *The New York Times*, October 29, 2000; "Bush Tells Seoul Talks With North Won't Resume Now," *The New York Times*, March 7, 2001, p. A1.

Week 10: **Assisting India and Pakistan with command and control of their new nuclear forces?** With their 1998 nuclear tests, India and Pakistan have now demonstrated their nuclear capability. They are currently in the process of integrating nuclear arms, and the planes and missiles to deliver them, into their defense strategy. Meanwhile, military clashes between the two nations, which have fought three wars since their partition in 1947, erupt frequently in the disputed Kashmir region. Given the volatility of this situation, shouldn't we provide India and Pakistan assistance in managing their nuclear forces? For example, shouldn't we help them to prevent an accidental or unauthorized launch leading to a devastating nuclear exchange? Or might such high-tech assistance be seen by others as an incentive to build their own crude nuclear explosives? In short, at what point should a strict policy of nonproliferation yield to a more pragmatic one of helping to manage proliferation?

Readings: Steven Miller, "Assistance to Newly Proliferating Nations," *in* New Nuclear Nations," pp. 97-124.

Clayton Bowen and Daniel Wolven, "Command and Control Challenges in South Asia," *The Nonproliferation Review*, Vol. 6, No. 3 (Spring/Summer 1999).

Tariq Rauf, "Learning to Live with the Bomb in South Asia: Accommodation not Confrontation," Center for Nonproliferation Studies Report, Monterrey Institute for International Studies (December 30, 1998).

Part IV: New U.S. Nonproliferation Strategies

Week 11: **Offensive Military Options – A preventive or preemptive military strike?** Given the United States' intelligence assets and military power, might it be possible to counter nuclear proliferation with strategic military strikes? In theory, the military could be employed to *prevent* a country from acquiring nuclear weapons or to eliminate such weapons before they can be used (*preemption*). However, there are many difficulties with such an approach. Nuclear-weapon programs are rarely confined to just a few sites. This is particularly true once a state has moved beyond the initial phases of manufacturing nuclear arms. Taking military action before a proliferation threat has reached fruition may well provoke retaliatory action by the intended target or other nations, and would generally be regarded as a violation of international law. Strikes on nuclear facilities, moreover, risk spreading radioactive material into the atmosphere. Nonetheless, there is at least one precedent for such military action. In 1981, Israel bombed Iraq's Osiraq nuclear reactor, delaying Baghdad's nuclear-weapon program for a period of years. Should military strikes play a part in U.S. nonproliferation policy? If so, under what circumstances? What are the risks and benefits of such an approach, and how should they be balanced?

Guest Speaker: Mr. Leonard S. Spector

Readings: Phillip Zelikow, "Offensive Military Options," in New Nuclear Nations, pp. 162-191.

Shai Feldman, "The Bombing of Osiraq – Revisited," *International Security* (Fall 1982).

"60's Administration Considered Bombing Nuclear Sites in China," *The New York Times*, January 2001.

Skim the following report to Congress, with particular attention to Department of energy programs intended to counter nuclear proliferation:

Counterproliferation Program Review Committee, "Executive Summary, Report on the Activities and Programs for Countering Proliferation and NBC terrorism," (April 2000).

Week 12: **National Missile Defense as a Response to Proliferation?** The idea of constructing a national defense against nuclear-tipped missiles has returned to the forefront of the U.S. nuclear debate. Early experience with missile defense systems led to the 1972 Anti-Ballistic Missile (ABM) Treaty, intended to prevent an arms race in defensive systems and to preserve a stable deterrence relationship through "mutually assured destruction." The idea was revived by President Reagan in the form of the Strategic Defense Initiative ("Star Wars"); it has recently resurfaced as a means of countering the anticipated missile threats from new nuclear states like North Korea and Iraq. President Clinton deferred a decision on deployment to his successor; the Bush Administration has made pursuing a national missile defense a centerpiece of its foreign policy. Is such a missile defense the most reliable means of protecting ourselves against the threat of proliferation? Might proliferators, including terrorists, deliver nuclear explosives to the U.S. by means other than long-range ballistic missiles? What considerations should go into deciding whether to deploy a national missile defense?

Guest Speaker: Ms. Mary Elizabeth Hoinkes

Readings: Arms Control and National Security, an Introduction, pp. 67-73.

Michael O'Hanlon, "Star Wars Strikes Back," *Foreign Affairs* (November/December 1999).

James Clay Moltz, "The Impact of National Missile Defense on Nonproliferation Regimes," *The Nonproliferation Review* (Fall-Winter 2000).

Wade Boese, "Clinton Says No to NMD As Program Lags; Cites Technology Doubts and Foreign Concerns," *Arms Control Today* (September 2000).

Wade Boese, "NMD Gaining Ground in Europe; Russia Pushes Alternative," *Arms Control Today* (March 2001).

Document: The 1972 Anti-Ballistic Missile Treaty

Week 13: **Assessing Nonproliferation: Iraq.** Many of the nonproliferation strategies studied in this course have been applied to Iraq, which has sought for nearly three decades to acquire nuclear weapons. In 1969, Iraq ratified the Non-Proliferation Treaty and, in 1981, Iraq's Osiraq reactor was the target of offensive military action by Israel. A decade later, following the Gulf War, the U.N. Security Council imposed sweeping sanctions on Iraq, and made sanctions relief contingent on Iraq's

cooperation with an inspections regime of unprecedented dimension. Inspectors were charged not only with ferreting out Iraq's weapons of mass destruction programs, but with destroying them and thus reversing the proliferation threat. This hard line has been eroded, somewhat, by the intransigence of Saddam Hussein and by competing interests facing leaders of the sanctioning states. While application of these nonproliferation tools have met with a measure of success -- after all, Iraq is still not known to have acquired the bomb -- few doubt that Iraq has the capacity and the will to reconstitute its weapons infrastructure.

Readings: Rodney Jones & Mark McDonough, Tracking Nuclear Proliferation: Guide in Maps and Charts, the Carnegie Endowment for International Peace (1998).

Khidir Hamza, "Inside Saddam's Secret Nuclear Program," The Bulletin of Atomic Scientists (September/October 1998).

"Weapons of Mass Destruction in the Middle East," Center for Nonproliferation Studies, Monterrey Institute for International Studies (1998).

Supplemental Bibliography

Bruce Blair, The Logic of Accidental Nuclear War (Washington DC, 1993).

Paul Bracken, The Command and Control of Nuclear Forces (Connecticut, 1983).

Lewis Dunn, Controlling the Bomb, Nonproliferation in the 1980s (1982).

Frances Fitzgerald, Way Out There in the Blue: Reagan, Star Wars and the end of the Cold War (2000).

Randall Forsberg, Nonproliferation Primer: Preventing the Spread of Nuclear, Chemical and Biological Weapons (1995).

Peter Feaver, Guarding the Guardians: Civilian Control of Nuclear Weapons (1992)

Gary Gardner, Nuclear Nonproliferation, A Primer (1994).

Sarah Graham-Brown, Sanctioning Saddam: The politics of Intervention in Iraq (1999).

James Clay Moltz and Alexandre Monsourov, The North Korea Nuclear Program (New York, 2000).

Sam Nunn, "Managing the Global Nuclear Materials Threat – Policy Recommendations," Center for Strategic and International Studies, (January 2000).

Jonathan Schell, The Fate of the Earth (1982).

Leonard Spector, Nuclear Ambitions: The Spread of Nuclear Weapons (1990)

Strobe Talbott, Endgame, the Inside Story of SALT II (1980).

Strobe Talbott, Deadly Gambits: the Reagan Administration and the Stalemate in Nuclear Arms Control (1984).

Kenneth Waltz, The Spread of Nuclear Weapons: More May be Better (1981).