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Concepts of Arms Control – I

Global Challenges

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Part One

Concepts of Arms Control

What Is Arms Control?

- Arms reductions are only part of the story.
- Increased stability and minimizing the risk of conflict are usually the key goals.
- There are several major forms of agreed approaches to arms control:
 - Global agreements focused on limiting a given aspect of military capability: E.g. START, CTBT, NNPT, CWC, BWC, etc.
 - Regional agreements such as INF Treaty, CFE, WMD Free Zones.
 - National treaties designed to limit or prevent local conflicts: E.g. the Camp David accords and Sinai agreements
- Confidence building measures that may not limit arms, but which reduce the risk of conflict: E.g. Conventional arms registry, exercise and movement declarations, transparency, etc.

Beyond Arms Control?

- There are several approaches to reducing conflict which may or may not be called arms control:
- Peace making and peace keeping: E.g. Kosovo, Bosnia, Somalia, etc.
- Conflict prevention or limitation: E.g. Liberia, Congo.
- Supplier regimes: E.g. MTCR, export controls.
- Sanctions: E.g. UN sanctions on arms exports to Libya and Iraq.
- Thin line between such forms of arms control and armed intervention or war.
 - Example is Kosovo, IDF forces in Lebanon using counter-guerrilla systems that could as easily be used by UNIFIL.
- National building: Combining conflict termination, arms control, conflict prevention, and aid.

The Goals of Arms Control

- **Substitute for armed struggle:** Arms control is an extension of war and diplomacy by other means.
- **Eschatological:** Arms control brings a lasting end to conflict and changes all human behavior .
- **Exhortative:** Agreements set goals for behavior, inspire nations to act in desired ways.
- **Trust Building:** Reinforce political and diplomatic settlements or trends.
- **Conflict Limitation:** Prevent or deter certain forms of conflict.
- **Conflict Prevention:** Reduce the incentive of states and factions to go to war.
- **Technological:** Limit, deter, or prevent the deployment and/or use of certain types of technologies and weapons.
- **Cosmetic:** Agreements that defer or disguise on-going competition or which disguise the failure to reach meaningful agreements.

The “Iron Laws” Limiting Arms Control

- The world is already heavily armed and high technology weapons are not necessary for mass killing.
- Nations that want to go to war will always be able to do so.
- Squeezing the balloon: Any effective set of limitations drives nations to develop war fighting systems in those areas exempt from control and to exploit gray areas.
- Technology is not static: Technology will always evolve in ways that forces the constant revision of any agreement or which creates alternative approaches to competition or warfare.
- Verification and inspection: No matter how intrusive, no agreement is ever reliable or perfect.
 - The countervalue vs. counterforce paradox of verification. Reducing to the nth weapon.
- Some of the bloodiest forms of violence have never been covered by arms control: E.g. state violence against its own citizenry.
- Jurassic Park: Over-complex systems always fail, and the cost of failure is proportionate to the risk inherent in what is being controlled.
- Ignorance: There are many things we simply do not know enough to accomplish: E.g. START III, eliminate all theater nukes, peace making and national building, BWC?
- The “Good Guys” Paradox: Agreements are most binding on the least threatening states.

The Unholy Partnership: The Link between Arms Control, On-going Competition and Warfighting

- Arms control works best when it creates a stable balance of warfighting capability that minimizes the incentive to initiate and/or escalate a conflict.
- The threat of extended deterrence and punitive action is often necessary to support enforcement.
- Hostile and intrusive intelligence action is usually necessary to support agreed enforcement.
- Coalitions involved in enforcement will rarely be fully agreed, composed of equals, and easily accommodated in a large international forum where a veto can block effective action.

Part Two

What Has to Be Controlled: Living in Jurassic Park

Convergence vs. Chaos Theory: Aristotle and Condorcet vs. Dialectics and Jurassic Park

- The world is an extremely violent place.
- History does not support not political fashion and buzzwords.
- Some trends are visible; History warns that many are not.
- Both complexity theory and history warn of the risks of prediction, over-simplification, and a belief in the creation of “order”
- In any case, entropy is a state of physics in which we are all dead.
- History will not end on our watch.

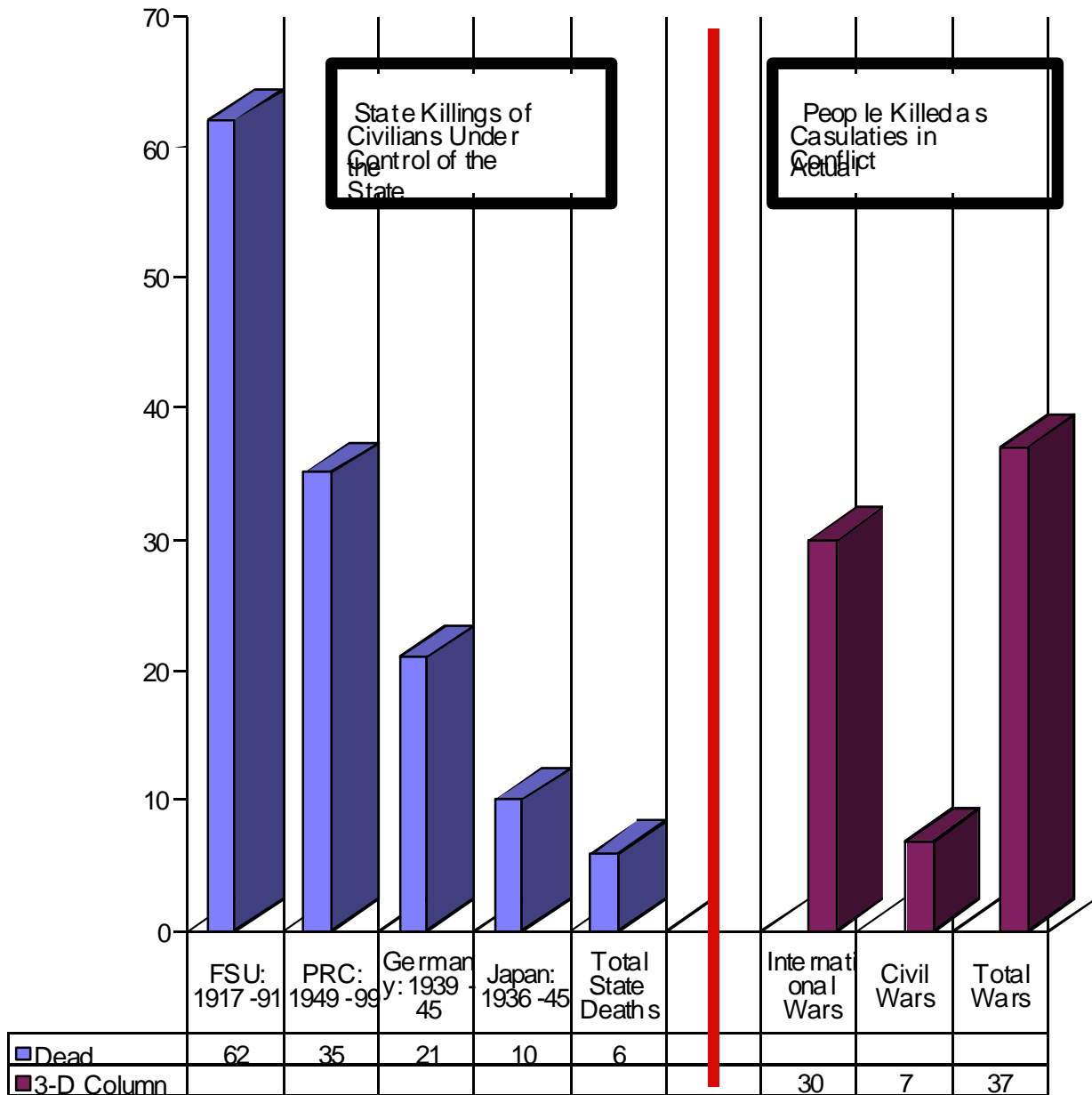
The Past is Prologue: Patterns in World Conflict: 1945-1994

	<u>Number of Wars</u>	Number of Wars <u>Involving Over 10,000 Dead</u>	Number of Wars Involving US <u>Military Action*</u>	<u>Total Dead</u>
Caribbean and Latin America	19	6	8	477,000
Middle East and North Africa	19	11	9	993,000
Sub-Saharan Africa	26	15	5	4,177,000
Europe	6	0	0	186,000
Central and South Asia	10	6	1	2,857,000
East Asia	34	17	6	10,396,000
Total	114	55	29	19,086,000

* Includes significant US military assistance, covert action, demonstrative action, occupation, humanitarian efforts, combat, and emergency evacuations.

The Past is Prologue: Warless Genocide – The State against the People in the 20th Century

(Millions of Dead)



2

----- 134 million ----- 37 million -----

* Adapted By Anthony H. Cordesman from an estimate in the Economist, September 11, 1999, and Rudy J. Rummel, "Statistics of Democide."

Frequency, Duration, and Intensity of Recent Peacekeeping Operations

- Peacekeeping may be a new paradigm, but when, where, why, and how? (And with whom?)
- UN peacekeeping/peacemaking activity is accelerating, as is regional activity.
- The US alone has deployed troops 36 times since 1989 – largely in peacekeeping missions. This compares with 10 times during the previous 40 years of the Cold War, including deployments for Korea and Vietnam.

<u>Peacekeeping Activity</u>	<u>Number of Activities</u>	<u>Duration in Years</u> <u>Over Two</u>	<u>Duration in Years</u> <u>Over Five</u>	<u>More than 10,000</u> <u>Peacekeepers</u> <u>Involved</u>	<u>Some</u> <u>Combat</u> <u>Activity*</u>	<u>US</u> <u>Involvement</u>
Current UN Operations	17	14	11	0	3	5
Past UN Operations	27	23	6	5	7	7
Current Non-UN Operations	6	5	1	1	3	2
Past Non-UN Operations	5	2	1	1	4	1
Total	55	44	19	7	17	15

* Generally very low-level or indirect involvement during fighting between principals.

Global Challenges: Globalism, Regionalization, Arms Control, and Uncertain Global Stability

- **20-30 On-going regional conflicts every day of every year since end of World War II.**
- **UN found 23 ongoing “humanitarian crises” in 1999 with over 500,000 civilians each at risk**
- **The uncertain outcome of regionalization:**
 - **EC and Europe versus NATO and Atlanticism.**
 - **The Middle East and Gulf**
 - **Divided Asia**
 - **Unstable Africa**
 - **Unstable Latin America**
- **Unlikely any other regional group will equal unity and influence of EC. Unlikely EC will succeed in matching its political and economic strength with effective military strength.**
 - **Europe: Atlantic security dependence? EC versus multinationals?**
 - **Is there an “Asia?” in any sense beyond geography?**
 - **Failure of Pan Arabism.**
- **Major population, development, and technology diffusion challenges exist within regions.**
 - **Regionalism or regions with deep national divisions?**
 - **Will military globalism extend beyond the US?**
 - **A divided UN may be neither global nor regional in peacemaking and humanitarian crises. Ad hoc and case-driven responses.**
- **Problem of self-determination and ethnic conflict in many states.**
 - **Nations too can remain divided along religious and ethnic lines.**

Global Challenges: Population and Demographics Interact with Regional, Ethnic, and Religious Tensions to Affect the Prospects for Conflict

- Population challenge.
 - World is now 6 billion.
 - During 1990s, the number of countries with life expectancies over 70 has increased from 55 to 84.
- Even so, more than 1.5 billion people will not live to be 60.
- Growth rate is dropping more rapidly than expected but will be 7.1 billion in 2015. 8.1 billion by 2030.
- Demographic explosion: 40% under 15 in developing world; developed world becoming geriatric.
- The problem of self-determination and ethnic conflict in many states.
- The uncertain outcome of regionalization:
 - EC and Europe versus NATO and Atlanticism.
 - The Middle East and Gulf
 - Divided Asia
 - Unstable Africa
 - Unstable Latin America

Global Challenges: Rich versus Poor, “North versus South”

- **Growing “north-south” challenge: Developed nations still greatly outpacing developing nations in growth of wealth.**
 - **World is filled with “young” nations. About 80% have emerged since WWII.**
 - **About half of emerging nations have serious ethnic and religious divisions or instability.**
 - **About 40% of emerging nations have disputed borders.**
- **Growing global disparity of income between rich and poor.**
 - **1.3 billion people live on less than \$1 a day.**
 - **Assets of the top three billionaires are equal to the GNP of all the “least developed” countries – with a population of 600 million.**
 - **Richest 20% of population controls 86% of world output, and 82% of all world exports.**
 - **Sustained growth out of poverty sector uncertain.**
- **Uncertain impact of global health:**
 - **High infant survival. Mortality rate reduced from 76 per 1,000 births to 58 during 1990s. Percent of 1 year olds immunized rose from 70% to 89%.**
 - **Access to safe water up from 40% to 72%.**
 - **However, 160 million children remain severely undernourished and 250 million working in child labor.**
 - **More than two-thirds of developing world cannot afford to sustain health programs to deal with endemic diseases like AIDS and malaria.**

- **850-million lack access to any health services, and 2.6 billion do not have access to basic sanitation.**

Global Challenges: Global Economic Integration and Technology Diffusion

- *Major new risks of Economic, trade, and information warfare!*
- **Trade is 39% of PPP GNP in high-income states, 19% in middle income, and 8% in low income.**
 - **Regional trade blocs show a sharp growth in interregional exports, relative to global markets. EU exports within bloc rose from \$76.5 billion in 1970 to \$1,867.8 billion in 1997. NAFTA from \$22 billion to \$496 billion.**
- **Global capital flows aren't truly global:**
 - **Foreign direct investment in 1997 totaled \$10.6 billion in low-income countries, \$160.6 billion in middle income countries, and \$233.9 billion in high-income countries (20:1).**
 - **Private capital flows in 1997 totaled \$17 billion in low-income countries, and \$268.9 billion (12:1) in middle income countries.**
- **Technology diffusion is a major challenge:**
 - **Richest 20% controls 74% of all telephone lines, 91% of all Internet users.**
 - **Top 10 telecommunications firms control 86% of the \$262 billion global telecommunications market.**

	<u>Total Per 1,000 People</u>	<u>Low Income</u>	<u>Middle Income</u>	<u>High Income</u>
Television sets	56		256	647
Telephone mainlines	16		87	506
Mobile phones	1		15	189
Fax machines	0.2		0.9	49.7
Personal computers	2.2		15.8	264.4
Internet hosts (per 10,000)	0.10		3.96	374.89

Global Challenges: An Armed World

- **East-West, US-Russia still have massive assets.**
 - Nuclear
 - CWC, BWC
 - Conventional

- **Several major areas of potential regional conflict are fully armed for conflict:**
 - Greece and Turkey
 - Arab-Israeli.
 - Gulf.
 - North and South Korea.
 - PRC and Taiwan
 - South China Sea/Spratleys
 - India and Pakistan
 - Horn of Africa.
 - Sudan
 - Congo

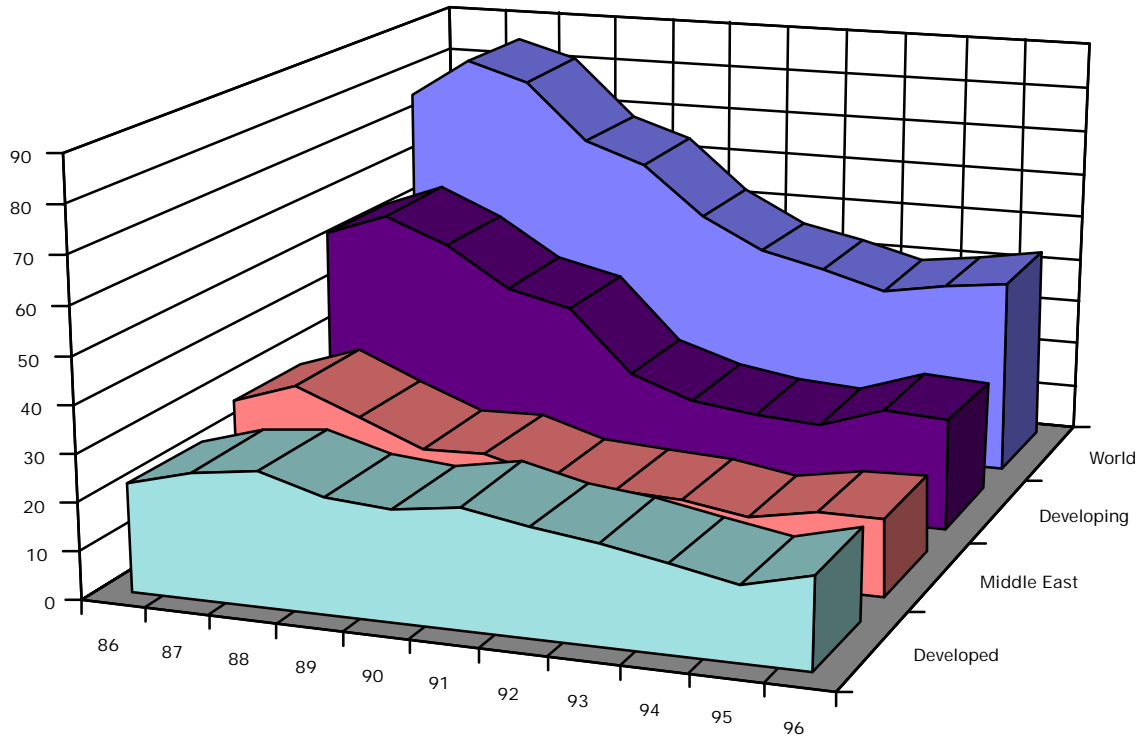
- **Older arms and killing:**
 - Extended low intensity conflicts with older arms tend to produce the highest number of net deaths.
 - High technology wars tend to produce lower casualties, although extended wars have not taken place since 1945 between high technology power.
 - Conventional killing mechanisms are dominated by fragmentation wounds from older artillery weapons.
 - In any environment without advanced and immediate medical care, the killing effects are just as horrible as chemical, biological, and nuclear weapons.

Global Challenges: Arms Transfers and Transfer of Technology

- Decentralized: Rogue sellers and rogue buyers.
- End of Cold War sometimes means first line technologies go directly to world market: F-16 Block 60.
- “Dual use” technologies aid in proliferation and the C⁴I/BM/SR side of the “RMA.”
- Patterns in conventional arms sales down:
 - World sales drop from \$75.6 billion in 1986 to \$42.6 billion in 1996, in constant 1996 US dollars.
 - Sales to developing world drop from \$53.1 billion in 1986 to \$23.7 billion in 1996, in constant 1996 US dollars.
- May not be a stable form of “globalism:”
 - Iran, Iraq, Libya, North Korea, and Syria have all faced critical economic problems and/or sanctions.
 - Russia may rebuild sales of FSU.
 - Proliferation and asymmetric warfare are key alternatives.
 - Potential rebirth of Asian (PRC, Japan, Korea) competition.
- Relative free transfer of new weapons for new types of wars and battles: Information warfare.

Global Challenges: Decline in Arms Deliveries to Developing World

(\$US1996 Billions)



	86	87	88	89	90	91	92	93	94	95	96
Developed	22.7	26.3	27.9	23.9	23.2	25.2	22.5	20.7	18.4	15.9	19
Middle East	27.4	31.6	26.1	20.8	21.3	17.3	16.2	15.8	13.4	15.9	16.2
Developing	53.1	58.3	52.7	44.1	40.7	27.4	23	21.1	20.3	24.9	23.7
World	75.9	84.4	80.6	67.7	63.4	52.5	45.5	42.1	38.5	40.6	42.6

Adapted by Anthony H. Cordesman from ACDA, World Military Expenditures and Arms Transfers, various editions.

Global Challenges: Proliferation

- Genocide is cheaper than war.
- A wide range of options:
 - Chemical weapons
 - Biological weapons
 - Nuclear weapons
 - Ballistic and cruise missiles
 - Superterrorism and covert warfare.
- Missile defense: A useful option, but
 - Selling what we don't have at a price we do not know with unestablished effectiveness and no clear timelines to resolve uncertainties.
 - Many alternative delivery methods.
- The race in biotechnology is globalizing capability and presents key uncertainties:
 - Advanced research and genetic engineering to microbreweries and dry storable food powders.
 - Offense now leading defense, but outcome hard to determine.
 - Full spectrum of warfighting capabilities from local incidents to city-busting.

Global Challenges: Who Has Weapons of Mass Destruction?

<u>Country</u>	<u>Type of Weapon of Mass Destruction</u>			<u>Long-Range Missiles</u>	
	<u>Chemical</u>	<u>Biological</u>	<u>Nuclear</u>	<u>Theater</u>	<u>Intercontinental</u>
<u>East-West</u>					
Britain	Breakout	Breakout	Deployed	Deployed	SLBMs
Canada	-	Technology	Technology	-	-
France	Breakout	Breakout	Deployed	Deployed	SLBMs
Germany	Breakout	Breakout	Technology	Technology	-
Sweden	-	-	Technology	-	-
Russia	Residual	Residual	Deployed	Technology	ICBMS/SLBMs
US	Residual	Breakout	Deployed	Technology	ICBMS/SLBMs
<u>Middle East</u>					
Egypt	Residual	Breakout	-	Deployed	-
Israel	Breakout	Breakout	Deployed	Deployed	-
	Technology/Booster				
Iran	Deployed?	Breakout	Technology	Deployed	
	Technology/Booster				
Iraq	Deployed	Deployed	Technology	Technology	?
Libya	Deployed	Research	-	Deployed	?
Syria	Deployed	Technology?	-	Deployed	-
Yemen	Residual	-	-	-	-
<u>Asia and South Asia</u>					
China	Deployed?	Breakout?	Deployed	Deployed	ICBMS/SLBMs
India	Breakout?	Breakout?	Deployed	Deployed	Technology
Japan	Breakout	Breakout	Technology	Technology	-
Pakistan	Breakout?	Breakout?	Deployed	Deployed	Technology?
North Korea	Deployed	Deployed	Technology	Deployed	
	Technology/Booster				
South Korea	Breakout?	Breakout	Technology	Technology?	-
Taiwan	Breakout?	Breakout	Technology	-	-
Thailand	Residual	-	-	-	-
Vietnam	Residual	-	-	-	-
<u>Other</u>					
Argentina	-	-	Technology	Technology	-
Brazil	-	-	Technology	Technology	-
South Africa	-	-	Technology	Technology	-

Global Challenges: Asymmetric Warfare

- Ranges from proliferation to use of media.
- Globalization is occurring:
 - Iraq helps Serbia.
 - Iran's focused use of Guards and naval power near Strait of Hormuz.
 - New Chinese book on modern methods to defeat Western conventional advantage.
- Proliferation most threatening, but includes information warfare, terrorism, human shields, guerrilla warfare, use of media.
 - Few rules and little practical experience.
 - Can use many types of asymmetric warfare simultaneously.
- Iraq and now Serbia show that can continue to fight asymmetric warfare even if formally accept defeat

