Arms Control and Disarmament during the Cold War, 1945-1989

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Nuclear Hot Takes
The only wrong answer is no answer

• Was dropping the bomb on Japan the right choice? Why?

• Last week: If RU uses a tactical NW in Ukraine, should the US respond with a tactical NW on a military target?
  
  Majority: No. So, we just let him get away with using a nuclear weapon?
  
  Would Putin or others feel emboldened to use nuclear weapons again?
  
  Would others be encouraged to seek nuclear weapons of their own?
  
  Ukraine gave up its NW assets. Then suffers invasion & nuclear attack. Lessons?

• When should the US use nuclear weapons?

• When should China use nuclear weapons?
Lecture themes

• The arc (phases) and artifact of nuclear history
• The relationship b/t sci/tech and the state
• The ideas in our heads
• The centrality of politics
• Behavior in past decades not for condescension but guide to the future
• Prospects for human survival

Questions
### Terms and Concepts

**Nuc Deterrence:** If you hit me, I’ll hit you back  
- MAD but one version of deterrence  
- General deterrence  
- Crisis deterrence  

**Compellence:** Do what I say, or I’ll hit you  

**Secure second strike:** even if you kill me, I still kill you  

**Deterrence vs Defense**  
**Deterrence vs War Fighting**  
- Deterrence: never fight  
- War fighting: if have to fight, fight to win  

**Counter-value vs counter-force**  
- Counter-value: hit cities, for deterrence  
- Counterforce: hit arsenal, for war fighting  

**Stability:** No side tempted to go 1st  
**Instability:** 1 side tempted to go 1st (or so perceived)
When last we met.....

Given the fact that...

1) The US & USSR feared each other more than they feared NW
2) Nobody knew what they were doing (it was brand new!)
3) Both built huge arsenals
4) There were accidents and mishaps and threats and crises
5) Decision-making processes riddled w/ ignorance & petty politics, that is to say, a human endeavor....

Why no nuclear use after 1945?
This Talk

Arms Control and Disarmament (ACD) during the Cold War

1. Overview of ACD: Who & What over Time
2. International Atomic Energy Commission
3. Limited Test Ban Treaty
4. Nuclear Non-proliferation Treaty
5. What just happened?
1. ACD: Who & What
The Who: Nation States

1. WWII fought by global alliances but further enshrined the State
2. United Nations a collection of member States
   The UNSG is not the leader of a country; they are the leader of an organization that serves its member states
3. Powerful states have more power in these international institutions
   But can also be challenged by other members and “the community of nations”
4. 3 kinds ACD: Bi-lateral (US-USSR), multi-lateral (ad hoc collection of states), or international (via international organization)
5. In general, would expect international to be most difficult; requires more parties, sometimes all the parties
# The What

<table>
<thead>
<tr>
<th>Decade</th>
<th>Events/Agreements</th>
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<tbody>
<tr>
<td>1940s</td>
<td>UNAEC, Acheson-Lilienthal Report, Baruch Plan</td>
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<tr>
<td></td>
<td>Obstacles: USSR waiting to catch up, who decides, inspection, enforcement</td>
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<td>1950s</td>
<td>IAEA, Atoms for Peace</td>
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<tr>
<td>1960s</td>
<td><strong>Limited Test Ban Treaty</strong>, Outer Space Treaty</td>
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<td>1990s</td>
<td>Comprehensive Test Ban, Agreed Framework (N Korea), <strong>START</strong></td>
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<td>2000s</td>
<td>UNMOVIC, Proliferation Security Initiative</td>
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<td></td>
<td>Withdraw ABM, Withdrawal Agreed Framework</td>
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<td>2010s</td>
<td>New Start, JCPOA, Nuclear security initiative, Ban Treaty</td>
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<td></td>
<td>Withdraw JCPOA, W/draw INF, W/draw Open Skies</td>
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(Over time, growth in NFWZ)
ACD and the US-USSR Competition

- Defeating adversary was top priority for each country
- Mistakes + close calls + [other factors] compelled negotiation
- But both had common interest in non-proliferation (Germany, China)
- Both had to manage domestic political challenges to ACD
- ACD not stop growth in arsenals, but put walls around more destabilizing capabilities and “domains”
- Along the way, built institutional capacity, verification technologies and concepts
1. Arms Control and Disarmament: Who and What over Time

Questions
2. International Atomic Energy Agency
1957
Formation

With US-USSR cooperation under the UNAEC
Comprised of member states: 35 BOG (173 GG)
Safeguards and Technical Assistance

Evolution

Early years

Safeguards: bi-lateral    Scope: plants
Feared too weak    Feared too strong

NPT
Indian nuclear test
Greater responsibility and authority over time

A Technical Agency?

Budget:    General: $387m    Tech assist: $90m
IAEA: Authority

Exciting but wrong
- Not the nuclear police
- Has no power over states that are not in safeguards agreements or treaties
- Not stop nuclear smuggling
- Not search for NW programs
- Not punish violators
- Not negotiators of nuclear agreements

Boring but true (but also shocking!!)
- Confirm there is no discrepancy b/t what a State reports about its civilian nuclear program and material accountancy measurements
- Reports to IAEA BOG and UN
- If in AP, IAEA has the right to conduct inspection at military facility

Arguably the second most powerful IO in existence. Different rules than UN. Power of legitimacy and standing. But there are limits, e.g., war in Iraq.
2. IAEA

Readings

Reohrlich: History
Rockwood: How operates legally today
Norman et al: New “state level” idea

Questions
3. Limited Test Ban Treaty 1963
# Path to the LTBT

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>'55</td>
<td>Negotiations after errant nuclear test</td>
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<td></td>
<td>Informal moratorium</td>
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<td>'60</td>
<td>France tests, moratorium collapses</td>
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<tr>
<td>'58-61</td>
<td>Global protests</td>
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<tr>
<td>'62</td>
<td>Cuban Missile Crisis</td>
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<tr>
<td>6/63</td>
<td>JFK speech at American University</td>
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<td>8/63</td>
<td>LTBT signed</td>
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<td>11/63</td>
<td>Kennedy assassinated</td>
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Disappointment or Pathbreaking Innovation?

It’s a sad little treaty
- Only partial ban
- Didn’t limit growth in arsenals
- Legalizing expansion of arsenal
- More environmental agreement than arms control
- Had limited carry-on momentum

Wow!
- 1st NW agreement in history
  - Demonstrated concept
  - Achieved goals
  - 33 yrs later became CTBT
- Estab global verification regime
- Set off investments in sci/tech of verification, ACD
- NPT 5 years later, enormously expands the scope of international verification
3. Limited Test Ban Treaty

Readings

Insider accounts: Goodby, Sykes
International factors: Masty, See
Domestic: Whitehurst, Pietrobon

Questions?
4. NPT
NPT’s Core Elements

- Nonproliferation
  Weapons states promise not to share
  Non-nuc states promise not to accept/develop
- Access to civ nuclear tech (“peaceful uses”)
- Disarmament
  NWS “pursue negotiations in good faith...to nuclear disarmament”
NPT’s Flaws

• Not address causes of proliferation
• No ban on weapons material
• No limit on enrichment and reprocessing facilities
• No cap on enrichment levels
• No enforcement clause
• Countries that don’t join (or “w/draw”)
## Did the NPT Matter?

<table>
<thead>
<tr>
<th>Skeptics</th>
<th>Pro-NPT</th>
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<tbody>
<tr>
<td>Just a piece of paper</td>
<td>Force of international law</td>
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<tr>
<td>NPT flaws</td>
<td></td>
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<tr>
<td>Countries have cheated</td>
<td></td>
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<tr>
<td>Other explanations</td>
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<tr>
<td>Alliances/Extended deterrence</td>
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<td>US pressure</td>
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<td>Norms not NPT</td>
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One of greatest policy successes on 20th c. Predicted by no one.
NPT worked in unexpected ways

- Drew line in sand, made nuclear decisions transparent
- Reframed debate & who got to play
- Changed the incentive structure
- Created political winners & losers; raised bar for losers
- Dynamic, asymmetric, & enmeshing
- Other tools successful b/c NPT creates outliers and brings legitimacy*

* Thought experiment: how other tools work if there was no NPT?
Reflections: The NPT in 2022

• Little appreciation of NPT, greatest success of age
• Instead, focus on sanctions and coercion
• Ignore the reasons for success
  Agreement did not have to be perfect
  Diplomacy and agreements alter internal politics of NW
  decision-making; create new realities
  Early is better than late
  Don’t miss agreements until gone and need them

NPT Lesson: create political and other conditions that allow govs to conclude its in interest to forgo NW
4. NPT

Questions?
Looking back:
the 1st 4 decades of efforts to control the bomb

- Didn’t know what were doing with NW
- Didn’t know what they were doing with ACD
- Early decades more bareknuckle and more innocent
- Couldn’t know future going to be very, very different
- Unexpected outcomes
Assessment

• Critics: AC legitimizes growing arsenals, management over disarmament
• What it did not stop: growth of arsenals, development of dangerous nuclear strategies and doctrines
• Created institutional lines of communication about nuclear threat
• Diplomatic and tech infrastructure and relationships to achieve reductions at a later point (Thought experiment: imagine USSR falls but with no ACD)
• Walling off area of competition now meant didn’t encounter new insidious conundrums later
• If didn’t have it, would have to invent it, but inventing it is difficult and takes time; AC in not instant oatmeal
The END?
Early Attempts to Deal with Nuclear Knowledge

- March 25, 1945 – Einstein writes to Roosevelt introducing Leo Szilard who is concerned with a nuclear arms race after WWII
  - May 8, 1945 – Germany surrenders
  - August 6, 1945 Hiroshima
- October 3, 1945 - Truman addresses Congress on the Atomic Bomb
  - Support future development
  - Creation of AEC
  - Control of atomic energy
- January 1946 – first meeting of UN General Assembly in London
  - First action to create United Nations Atomic Energy Commission
  - Basic charter was to eliminate all weapons of mass destruction including the atomic bomb
  - Rejected idea of international agreements and security against atomic warfare
  - More than just inspection and agreements are needed
  - Operating premise was there should be international control of the “dangerous elements” of atomic energy
- June 14, 1946 – Bernard Baruch presents US plan for international controls of atomic energy to the UN Atomic Energy Commission first meeting
  - Sharing of nuclear knowledge among nations
  - Control of nuclear power for peaceful uses
  - Eliminate nuclear weapons from all arsenals
  - Establish Safeguards by inspection to assure compliance
  - President Truman asks Acheson and Lilienthal to draw up a specific plan
  - Soviets reject plan by veto in security council vote 3 weeks after proposal
- US response to Soviet rejection
- Operation Crossroads – July 1, 1946 –
  - Publically announced and covered by press
  - Shots Able and Baker used for testing effects on ships - about 20 KT each