The Future of Nuclear Weapons (and life on earth)

Jim Walsh, MIT, 5/9/22
Broad 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: we are no different
• Prospects for human survival
This Talk

I. The Future Starts with the Past
II. Current trends/Projected Futures
III. Alternative View
IV. Consequences of “Proliferation”
V. Personal reflections
II. Nuclear History Re-wind

II. History

Rewind:

Testing
II. Nuclear History Rewind: NW Arsenals
II. Nuclear History Rewind

Rate of Proliferation, 1945-2019
## Constructing a Regime (Rules, Institutions, & Norms)

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II. Nuclear History Rewind

Where we’ve been

Biggest policy success in the 20th century?

1. Far fewer NW states than predicted
2. Far fewer states seek NW today than before
3. Since the 90’s, more given up than acquired
4. Of 9 violators of NPT, only 1 became NWS
My question: “Why so few nuclear weapons states?”

In 1994, looking backward, things looked pretty good

Unable to judge the meaning of the present; Not in my data set

Did not realize, that as I was offering new assessment, things had already begun to change
III. Current trends/Projected futures

- Baking at home
- Zoom
- Short hair
- Knitting
- Conspiracy theories
- Tik Tok
- Long hair
- Escalate to de-escalate
III. Current trends/Projected futures

Negative trends/developments

• Reductions in US-RU stockpiles plateau since ‘09
• UK raises cap for 200 additional NW
• China announces building new nuclear missile “fields”
• Pakistan, India, N Korea arsenals increasing
• All NWS increasing nuclear capabilities (qualitatively)
• Changes in nuclear doctrine, technology (e.g., India)

(This is proliferation)
III. Current trends/Projected futures

The Disappearing

- Anti-ballistic Missile Treaty
- Intermediate Nuclear Forces
- Iran agreement (maybe not)
- Open Skies Treaty
- Strategic Arms Limitations
- Outer Space Treaty
- Comprehensive Test-Ban Treaty
III. Current trends/Projected futures

Positive trends/developments

• IAEA and safeguards regime
• Progress on fissile material security
• Ban Treaty came into force (1/21)
Projected Futures

Two Most Common Views

1. Increasing spread/importance of NW (dominant view)
   “2nd nuclear age”: proliferation in Asia and Middle East
   Return of great power competition

2. Incremental nonprolif/arms control -> disarm
   25-100 years
IV. Alternative analysis

1. When has there been success and why?
2. When has there been failure and why?
What does success look like?

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Success = [External shock] + Leaders + International environment + Domestic push
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IV. Alternative analysis

Notice anything?
IV. Alternative analysis: success

1958-1963
Alternative Analysis: Success

1981-1987
What do those 2 periods tell us about success?

*Essential verities in political science*

- Governments are reactive, not pro-active
  
  Designed to be that way and for good reason

- Once govs acquire an asset, they are reluctant to give it up

- Govs will give up an asset, but often requires being pushed, esp but not exclusively, by a domestic audience
IV. Alternative analysis: Failure

Forgetting... and failure
What was the most devastating event for progress towards nuclear disarmament???
IV. Alternative analysis: Failure & Forgetting
Redefining Threat, Remedy, & Agency

Frame: Disarmament
- Nuclear weapons (all)
- Arms Control/Disarmament
- Citizens + Governments

Frame: Proliferation
- Non-nuclear countries
- Sanctions, etc.
- Governments

Frame: Nuc Terrorism
- Loose fissile material
- Fissile material security
- Governments

1958-1963
1982-1987
1989-
Public opinion moved on...

1980s

Gallup (1987): “almost 2 out of 3 Americans worry ‘often’ about the chances of a nuclear war.”

Washington Post poll (1984): “nearly 2 out of 3 teenagers saw it as the nation's biggest problem.”

2019

- Economy: 70
- Health care costs: 69
- Education: 68
- Terrorism: 67
- Social Security: 67
- Medicare: 67
- Poor and needy: 60
- Environment: 56
- Immigration: 51
- Jobs: 50
- Reducing crime: 50
- Drug addiction: 49
- Budget deficit: 48
- Race relations: 46
- Military: 45
- Transportation: 45
- Climate change: 44
- Global trade: 39
V. Consequences of Proliferation
The Literature on Proliferation Consequences

- Likelihood of inter-state nuclear war
- Likelihood of inter-state conventional war
- Bargaining power (w/ allies, adversaries)
- Crisis behavior
- Blackmail
- Extended deterrence and cascades
No,
the biggest consequence of “proliferation” is not on bargaining or crises behavior or blackmail or ....
The Biggest Consequence of “Proliferation”....

Making world safe for expanding NWS arsenals

1. If focus exclusively on the next state that might acquire NW, not on the NWS, then NWS will possess NW in perpetuity
2. If states own nuclear weapons for perpetuity, the outcome will be at least 1 and possibly more than 1 nuclear war
3. A nuclear war represents a risk of 1 in [X] of planetary extinction
VI. Meditations on Nuclear Weapons during a Global Pandemic

Gottfried Kneller, Philosopher in Meditation, 1668, Paris Louvre Museum. (Getty Images)
1994: Looking back, things looked better than people thought
2021: Looking forward, things look worse than people think

1. Less confident in the basic competence of national governments
2. Less confident gov leaders will choose to “do the right thing on the most important things”
3. Less confident that are lines or limits that people won’t cross
4. Less confident people will act before it’s too late: Recent President virtually destroyed the national security d-m process. We all kind of shrugged our shoulders and moved on.
Return to 1st (political) Principles….

• Governments are reactive, not pro-active

  They are designed to be that way and for good reason

• Once govs acquire an asset, they are reluctant to give it up

• Govs will give up an asset, esp but not exclusively, if pushed by a domestic audience
Applying the Principles: No pressure, no progress

1) Absent pressure, govs will not give up their NW

2) Today, there is no nuclear movement; nuclear issue largely disconnected from civil society

3) A few mostly small, siloed, aging organizations that may not survive the next 10 years

4) Nuclear weapons are left to a small, disconnected, professionalized set of government officials and academics except for brief spasms of interest over N Korea
1. Negative trends can be reversed. We know this, b/c it happened twice before.

2. But it cannot happen today, unless people change the ideas in their heads. Currently people do not believe they can affect the outcome.

3. This is a struggle of courage and imagination.
The End?

(TBD)
QUESTIONS?