From Nuclear Primacy To Post-Existential Deterrence

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Planning

- Part I: Desirability of nuclear elimination (= why ?)
- Part II: How to adapt existing nuclear weapon policies to reach nuclear abolition ?

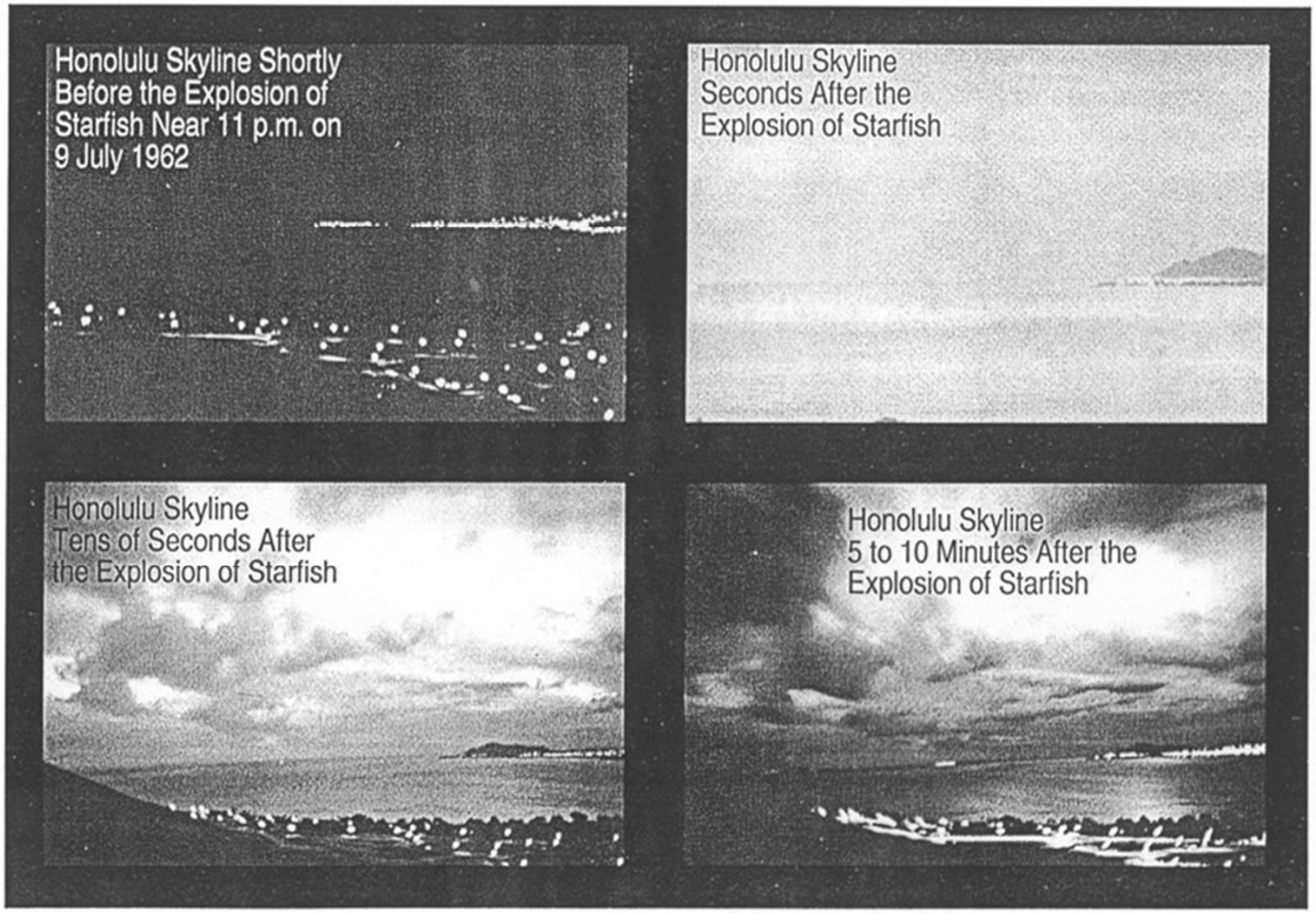
Desirability of nuclear elimination

1. Nuclear weapons are 'illegal' (= moral argument)(see Rebecca Johnson)
2. Deterrence effect is eroding because of nuclear taboo (Nina Tannenwald); therefore, less useful, and more and more irrelevant (John Vazquez; John Mueller)
3. If we want to manage proliferation, then only tenable solution in term is nuclear elimination (= Realist argument)
4. Legal obligation under NPT (art.6)(= juridical argument)

1. The moral argument: nuclear weapons use is illegitimate and should asap be declared illegal

- Conventional weapons: max 7 ton TNT
- Hiroshima bomb: 14,000 ton TNT (14 KT)
- W88 Trident II D-5 Mk-5 SLBM warhead: 475,000 ton TNT (475 KT = 30 X Hiroshima)
- 1 American submarine: 24 x 8 x 475 KT = 91.200 KT (91.2 MT) = 6,500 Hirosh. (x 14)
- WW II: 3 MT
- American nuclear arsenal: 2,000 MT

The Nuclear Danger from Shortfalls in Russian Early Warning Satellites



The above four photographs can only begin to illustrate the power and utility of high altitude nuclear explosions for blinding sensors in strategic warfare. The upper left photo is the skyline of Honolulu moments before the Starfish high altitude nuclear explosion occurred near 11 p.m. on 9 July 1962. The 1.4 megaton explosion occurred at about 400 km altitude over Johnston Island nearly 800 miles away. Within a second the sky was lit to daylight conditions, and it stayed lit for many minutes thereafter. At electromagnetic frequencies a radar like the one at Olenegorsk attempting to search through the area of sky behind the explosion would be unable to do so for many tens of minutes. Thus, such an explosion could be used to effectively "screen" an incoming attack from an early warning radar.

Destructive power	Area destroyed
100 KT	35-60 square km
475 KT	100-150 square km

Is the (threat of) use of nuclear weapons legitimate/legal ?

- Modern war/humanitarian law (Conventions of Geneva): principle of proportionality; distinction civilians/military
- Genocides = illegal
- Biological weapons = illegal (BW Convention, 1972)
- Chemical weapons = illegal (CW Convention, 1993)
- Nuclear weapons ?

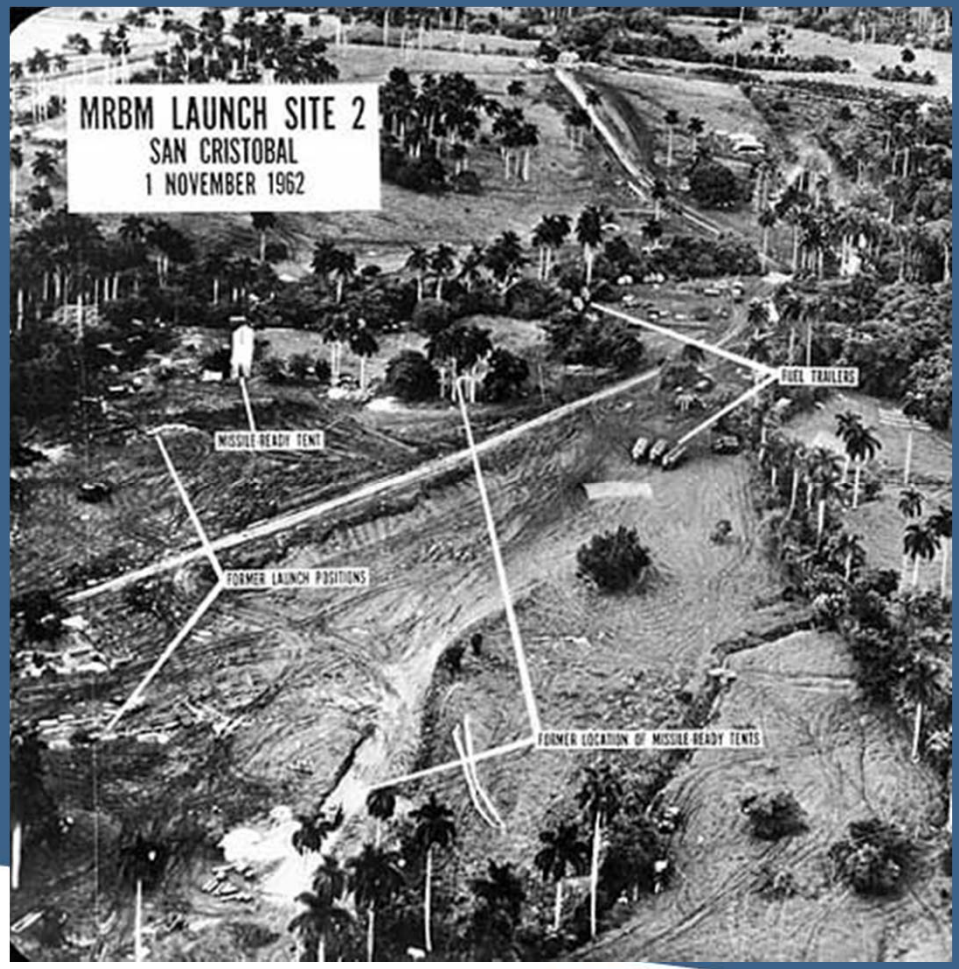
2. Debunking nuclear deterrence

Deterrence during the Cold War

'The Cold War and nuclear weapons gave deterrence an undeserved good name'…'The lessons are not just that deterrence worked but that (a) much of the war avoidance was achieved, and could have been achieved, without nuclear weapons, and (b) nuclear deterrence was insufficiently stable and reliable – too often we lived close to the edge of the cliff',

Patrick Morgan

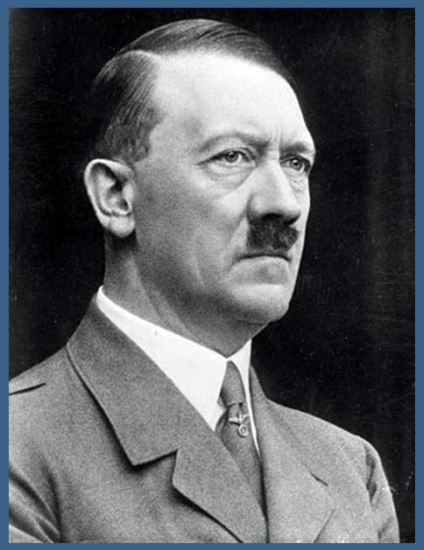
Cuban missile crisis (October 1962)

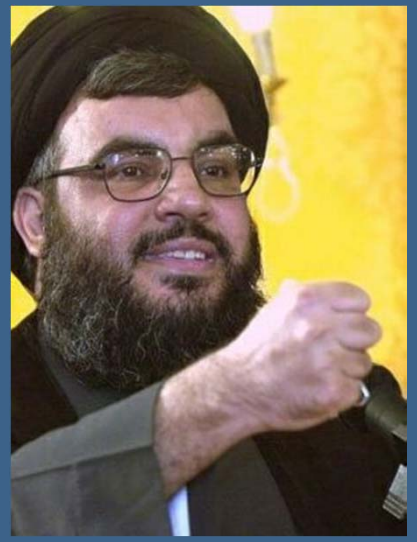


Conditions for effective nuclear deterrence

1. Vital interests must be at stake
2. Rational enemy
3. Credible threat

Rational enemy





Credible threat

1. Capabilities: "second-strike capability"
2. Intention: the nuclear taboo (see *Nina Tannenwald*)

'In long private conversations with successive Presidents – Kennedy and Johnson – I recommended, without qualifications, that they never initiate, under any circumstances, the use of nuclear weapons'…'I believe they accepted my recommendation',

Robert McNamara

‘I can’t just imagine President Bush making the decision to use chemical or nuclear weapons under any circumstances’,

Dan Quayle

Yes, minister

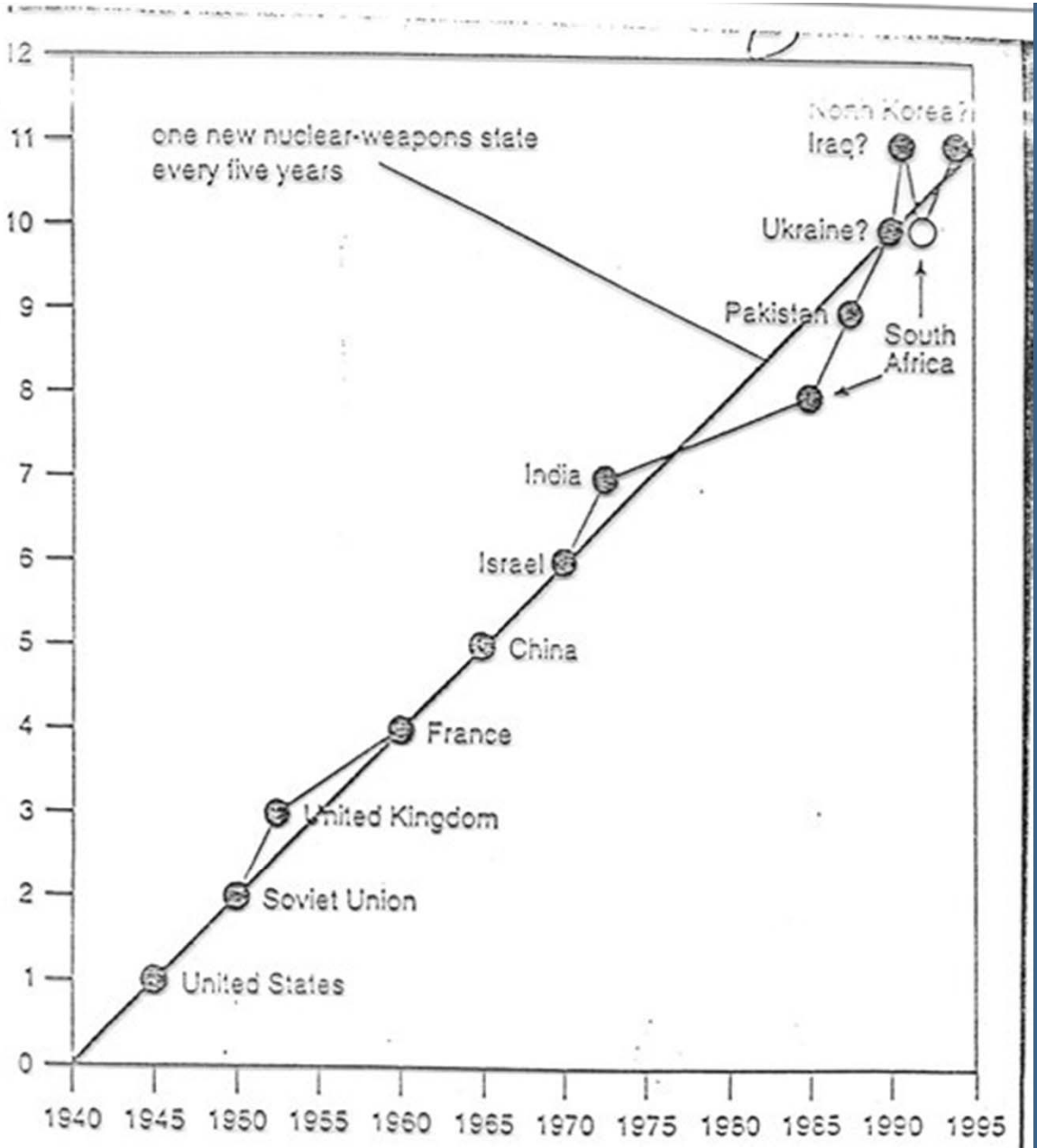
Deterrence failures in practice

1. Yom Kippur war (1973)
2. Falklands war (1981)
3. Gulf War (1991)
4. Kargil-crisis (1999)

Nuclear weapons: irrelevant

- In Suez (by UK; France)
- In Vietnam (by US)
- In Afghanistan (by USSR; US)
- In Iraq (by US)
- In Palestine (by Israel)
- In Libanon (by Israel)
- …

3. The realist argument: the risk of proliferation can most easily contained in a world without nuclear weapons



re 7. Roughly every five years since 1945, a new nation has acquired a nuclear-
pons capability. The trend has not all been one way, however. South Africa,
ch has made some nuclear weapons covertly, renounced its nuclear-weapons

Proliferation in practice: domino-effect

(Germany) -US - USSR - UK
- France
- China – India–Pakistan
-North Korea

Israel (- Iran – Saudi-Arabia)
- Egypt - Algeria)

The longer the nuclear weapon states (and alliances) keep nuclear weapons, the more nuclear weapon states will show up, and the bigger the chance that nuclear weapons will be used again

'Well, the American posture currently says we need to develop a few more additional nuclear weapons, but everyone else needs zero…I remember in government trying to explain that position without smiling, and I could never manage to do it', *Graham Allison*

'Nuclear weapons are held by a handful of states which insist that these weapons provide unique security benefits, and yet reserve uniquely to themselves the right to own them. This situation is highly discriminatory and thus unstable; it cannot be sustained. The possession of nuclear weapons by any state is a constant stimulus to other states to acquire them',

Canberra Commission

'Imagine this: a country or group of countries serves notice that they plan to withdraw from the Nuclear Non-Proliferation Treaty (NPT) in order to acquire nuclear weapons, citing a dangerous deterioration in the international security situation. "Don't worry," they tell a shocked world. (…)

(…) *"The fundamental purpose of our nuclear forces is political: to preserve peace and prevent coercion and any kind of war. Nuclear weapons provide the supreme guarantee of our security"* (…)

'the rationale I have just cited to justify nuclear weapons is taken from NATO's current Strategic Concept',

Mohamed El Baradei ('Five steps towards abolishing nuclear weapons', in: Süddeutsche Zeitung, 4 February 2009)

Nuclear terrorism

- Link with proliferation
- Is do-able given fissile materials and scientists (Taylor)
- Will use nuclear weapons (not for deterrence)
- If so, 9/11 becomes a footnote in history books

4. Legal argument: art.6 of the NPT

NPT Deal between NWS and NNWS

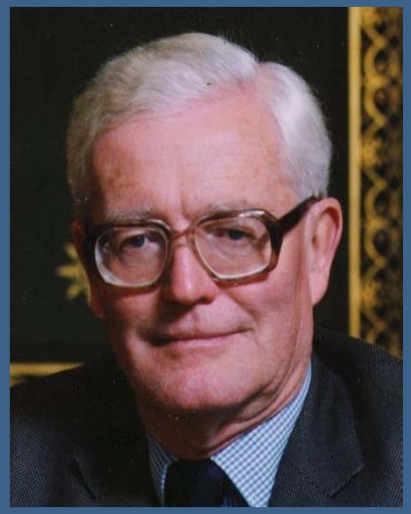
Five temporary but exclusive NWS

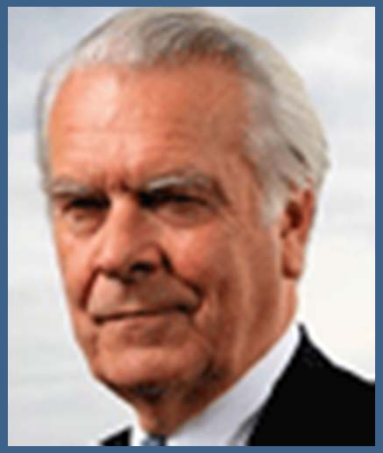
in exchange for

1) support for nuclear energy
2) nuclear disarmament in term

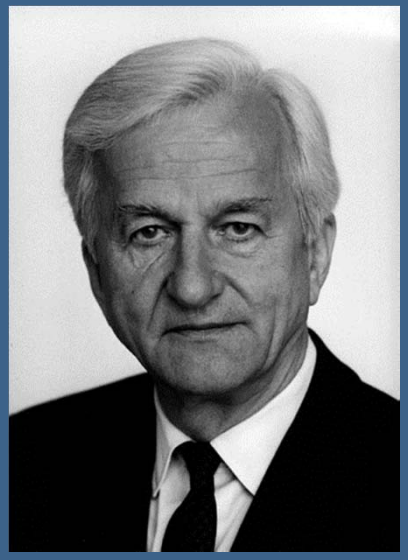
Kissinger, Schultz, Perry, Nunn

Hurd, Rifkind, Robertson, Owen

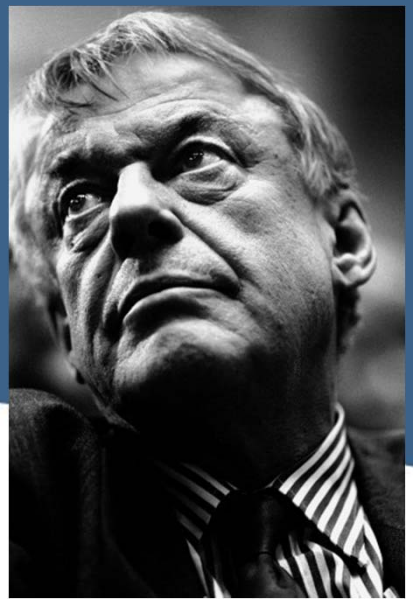


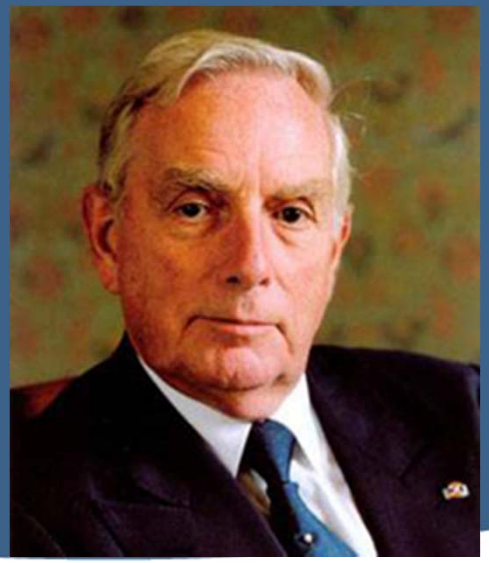


Schmidt, Von Weizsäcker, Bahr, Genscher



Lubbers, van Mierlo, van der Stoel, Korthals Altes





Claes, Dehaene, Michel en Verhofstadt

- George Perkovich and James Acton, *Abolishing Nuclear Weapons*, in: Adelphi Paper 396, IISS, September 2008
- Ivo Daalder and Jan Lodal, *The Logic of Zero. Towards a World Without Nuclear Weapons*, in: Foreign Affairs, November/December 2008

UK Foreign Secretaries
Margaret Beckett and David Miliband

David Milliband, *Lifting the nuclear shadow: creating the conditions for abolishing nuclear weapons*, UK Foreign Office, February 2009, 60 p.

President Obama in Prague (5 April '09)

'So today, I state clearly and with conviction America's commitment to seek the peace and security of a world *without* nuclear weapons'

'Some argue that the spread of these weapons cannot be stopped, cannot be checked – that we are destined to live in a world where more nations and more people possess the ultimate tools of destruction. Such *fatalism* is a deadly adversary, for if we believe that the spread of nuclear weapons is inevitable, then in some way we are admitting to ourselves that the use of nuclear weapons is inevitable',

President Obama, 5 April 2009, Prague

Conclusion Part I

- Nuclear elimination is desirable
- Remaining question: how to go from here to there ? How to adapt existing nuclear weapon policies ?

Part II: Adapting nuclear weapon policies

1. Nuclear weapon policies: categorization
2. From nuclear primacy to post-existential deterrence

Three sub-domains

1. Force structure policy
2. Declaratory policy
3. Operational policy
    1. Safety policy
    2. Targeting policy

Force structure policy

How large and diverse should the arsenal be ?

- What is a credible second-strike capability ? What is a sufficient destructive force ?
- Is parity (or superiority) necessary ?
- Is a triad necessary ?
- Are tactical nuclear weapons necessary ?
- Should nuclear weapons be stationed abroad ?
- Is a prompt launch capability needed ?

Declaratory policy

What kind of attacks must be deterred and declared as such ?

- Attacks beyond those threatening the survival of the state ?
- Also chemical, biological, large conventional weapons attacks ? Or only nuclear ?
- What about extended deterrence (= nuclear umbrella) ?
- No first use ? Legally binding negative security guarantees ?
- Launch-on-warning, launch-under-attack, or ride-out ?

Safety policy

- How to balance the ability to prevent accidental or unauthorized launches in times of peace (= negative control) with the ability to use nuclear weapons rapidly and effectively in times of war (= positive control) ? Safety devices ?
- What about the alert-levels ?

Targeting policy

How will the nuclear war plan(s) look like ?

- Predetermined targets ?
- If so, which targets ? Counterforce vs countervalue
- How many targets ? Massive attack options ?

Linkages between sub-domains

Targeting (or "deterrence") requirements may determine the force structure levels, which in turn might exclude some declaratory options

Five policies

1. Nuclear primacy
2. **Maximum deterrence**
3. **Minimum deterrence**
4. Existential deterrence
5. Post-existential deterrence

Literature on min vs max deterrence

- Glenn Snyder, *Deterrence and Defense*, 1961: deterrence by punishment vs deterrence by denial
- Barry Buzan, *Intro to Strategic Studies*, 1987: minimum det vs maximum deterrence

Caveats

- Policy choice depends also on geography:
  - small/big states
  - Natural barriers (oceans,…)
- A heuristic instrument; not written in stone

Nuclear primacy

- First-strike capability. Superior (and therefore very large) arsenal. Triad. Tactical NW, also abroad. Prompt launch capability.
- Ambiguous declaratory policy: also against CBW and conventional attacks; no NFU
- Launch-on-warning.
- High alert-levels.
- Counterforce. Massive attack options.

Example: US in 2006 (Lieber and Press)

Maximum deterrence

- Second-strike capability. Very large arsenal. Equal (or superior) as opponent. Triad. Tactical NW, also abroad. Prompt launch capability.
- Ambiguous declaratory policy: also against CBW and conventional attacks; no NFU
- Launch-on-warning, or launch-under-attack.
- High alert-levels.
- Counterforce. Massive attack options.

Examples of max.deterrence

- US and USSR during the Cold War
- US and Russia after the Cold War

Explaining maximum deterrence policies of US and USSR/Russia

- Conceptual, ideological: "more credible" than minimum deterrence
- More fundamental: bureaucratic interests: the targeting (or deterrence) requirements, damage expectancy levels and corresponding alert-levels were "used" by the US military to get the nuclear force structure they wanted.

‘the SIOP did not provide for the complete satisfaction of targeting requirements even under optimal conditions, a fact that implicitly promoted vigorous force modernization to close the gap’,

Bruce Blair, *The logic of accidental nuclear war*, 1993, p.54

'What passes for a strategic debate is little more than the construction of a façade of nuclear logic to permit getting on with the day-to-day job of deterrence. The most that can be said for this practice is that creating a veneer of rationality in the discussion of nuclear strategy is a ritual used to convince opponents that we are serious about deterrence'

Paul Bracken, *The command and control of nuclear forces*, 1983, p.239.

Minimum deterrence

- Small, but credible (and therefore invulnerable) second-strike capability.
- Balancing (let alone superiority) is not necessary.
- Triad and tac nukes (abroad) are not needed.
- No prompt launch capability
- To deter only nuclear weapon attacks. NFU.
- Low alert-levels (except some invulnerable nuclear weapons)
- Countervalue. No massive attack options.

Advantages of minimum deterrence

- Lower risk of accidents and unauthorized use (due to lower alert-levels)
- Less (but more than enough) destruction in times of war
- Less costly

Examples of minimum deterrence

- China and Israel during the Cold War
- China, Israel, India, Pakistan and the UK after the Cold War

Existential (or virtual) deterrence

- Very small capability.
- Balancing is not necessary.
- Triad and tac nukes (abroad) are not needed.
- No prompt launch capability.
- To deter only nuclear weapon attacks. NFU.
- Low alert-levels (except some invulnerable nuclear weapons)
- Countervalue. No massive attack options.

Example: North Korea since 2006

Post-existential deterrence (Jonathan Schell, The abolition, 1984)

- No nuclear weapons. Only nuclear facilities, and later on only nuclear knowledge.
- No (first) use.
- No alerts.
- No targeting.

From nuclear primacy or max deterrence to minimum and existential deterrence

- Lowering force levels, both strategic and tactical NW, and delivery vehicles
- Withdrawing tactical NW from abroad
- Reducing alert-levels; safety devices
- De-targeting
- Reducing the declared role of nuclear weapons: only as a last resort against nuclear weapons attacks; no first use; ride-out

Positive evolution

- US declaratory policy (NPR, February 2010)
- US-Russian (deployed) strategic arsenal (New START, 2010)
- US alert-levels (in general)
- UK: monad; lower alert-levels
- France: closure of testing site; abolition of triad

Status-quo: missed opportunities

- US and Russian triad
- US and Russian strategic weapons in reserve
- US tactical nuclear weapons abroad
- Russian tactical nuclear weapons (numbers)
- Role of strategic nuclear weapons in Russia and France
- NATO declaratory policy
- US and China on CTBT

Dangers

- US (and NATO) missile defense
- Eurobomb
- New arms race between India and Pakistan
- Proliferation in the Middle East, including extended deterrence by the US
- US tactical nuclear weapons back to South Korea