2.6: Nuclear Weapons

Alex Montgomery
2.6: Nuclear Weapons

- Definitions and concepts
- Nuclear optimists
- Nuclear pessimists
- Cases
- Discussion
Definitions

- **Coercion/Compellence:** A threat to punish the enemy or deny the enemy’s military objectives if the enemy does not change its behavior.

- **Deterrence:** A threat to punish the enemy if the enemy changes its behavior.

- **Defense:** A threat to deny the enemy’s military objectives if the enemy changes its behavior.
Nuclear Buzzwords

- **Triad:** Bombers, ICBMs, SLBMs
- **First-Strike:** Ability to eliminate an enemy’s nuclear forces w/o retaliation
- **Secure Second-Strike:** Ability to inflict sufficient damage on an enemy after absorbing a first strike
- **Preventive First-Strike:** Striking an enemy’s forces before they develop a secure second-strike capability.
Requirements for Nuclear Deterrence

• Prevention of preventive war during transitions
• Development of survivable second-strike forces
• Avoidance of accidental nuclear war
Nuclear Arsenals

- U.K.
- FRANCE
- CHINA
- Israel (Potential)
- India (Potential1)
- Pak (Potential)
- Nkorea (potential)
Nuclear Optimists
Van Evera

- When technology favors defense, wars less frequent
- Nuclear weapons favor deterrence, not defense, but same logic applies
Pape

• Conventional
  – Punishment: not effective
  – Risk: even less effective
  – Denial: sometimes effective
  – Takes time

• Nuclear
  – Punishment: not effective
  – Risk: can be successful
  – Denial: not useful
  – Requires superiority
Waltz

- Preventive/preemptive strikes difficult, rare
- States have strong incentives to make nukes safe & secure
  - Nuclear accidents are rare
  - Second-strike Nuclear deterrence is cheap and easy to ensure
- Wars will be less frequent and more limited
Nuclear Pessimists
Military organizations are likely to lead to deterrence failures, insecure second strikes, and deliberate or accidental war, due to their:
- common biases
- inflexible routines
- parochial interests

Wars may be more likely:
- Stability/Instability Paradox

Wars may be worse:
- Accidental escalation
Paul

- States believe that other states will not use nuclear weapons in marginal conflicts
  - Moral revulsion
  - Desire not to escalate
  - Historical precedent
  - Disproportionate response
Cases

• Difficult to determine how affects start of wars
• Deterrence is difficult to measure
• Best case (Cold War) had other variables
  – Bipolarity
  – No land border
• Even more difficult to measure how affects war
  – Not clear when nuclear threats worked
    • Japan 1945, Korea 1952-3, Suez 1956, Cuban Missile Crisis 1962
  – Look instead at cases of non-nuclear power attacks
Requirements for Nuclear Deterrence

• Prevention of preventive war during transitions
• Development of survivable second-strike forces
• Avoidance of accidental nuclear war
India/Pakistan:
Militaries start preventive wars
India: Brasstacks 1986  Pakistan: Kargil 1999
India/Pakistan: Survivability undermined by SOPs
India/Pakistan:
Accidents rather frequent

THE HINDUSTAN TIMES

Friday, January 5, 2001, New Delhi

Missile explosion in defence factory kills official
HTC, Hyderabad

A DEFENCE official was killed and five others injured when an anti-tank missile exploded in Bharat Dynamics Limited (BDL), Hyderabad, on Thursday.

The accident took place when some top defence officials, including Defence Secretary Yogendra Narayan, were being shown anti-tank missiles and one of them exploded. The visiting dignitaries had a miraculous escape.

This is the first accident in the 28-year history of BDL, a defence sector undertaking and the sole manufacturer of missiles in India.

No damage was reported to the production units of Akash, Prithvi and Trishul missiles, also located in the BDL complex. At the time of mishap, about 500 missiles were stored in the basement.

The explosion, which occurred adjacent to the missile inspection section, killed quality control inspector M. K. N. Chary on the spot. Five other BDL employees were reportedly injured. Defence authorities are conducting a departmental inquiry into the incident.
1973 Yom Kippur War

- “To President Sadat and his advisors, a limited attack confined to the occupied Sinai would preclude the use of nuclear weapons by Israel.” (707)
- Limited-aims strategy: Cross Suez, hold first line of Israeli fortifications, dig in.
1982 Falklands War

- “The Argentine calculations prior to the war rested on the premise that Britain would not use nuclear weapons to protect a far-away island group with little direct economic or strategic value.” (709)
- Limited-aims strategy: occupy islands, pursue negotiations.
Discussion

• Brian Head
• John Panfil