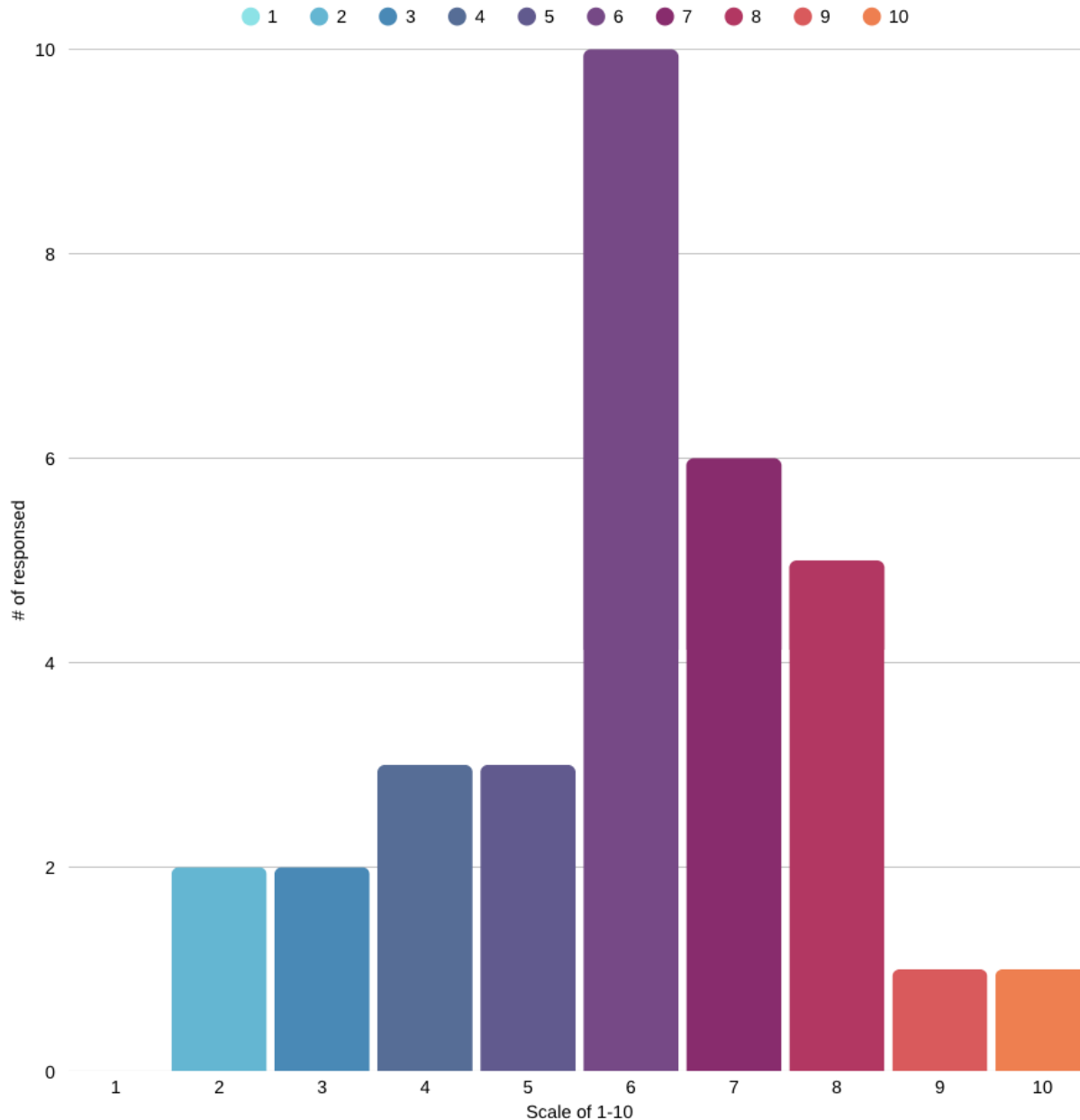
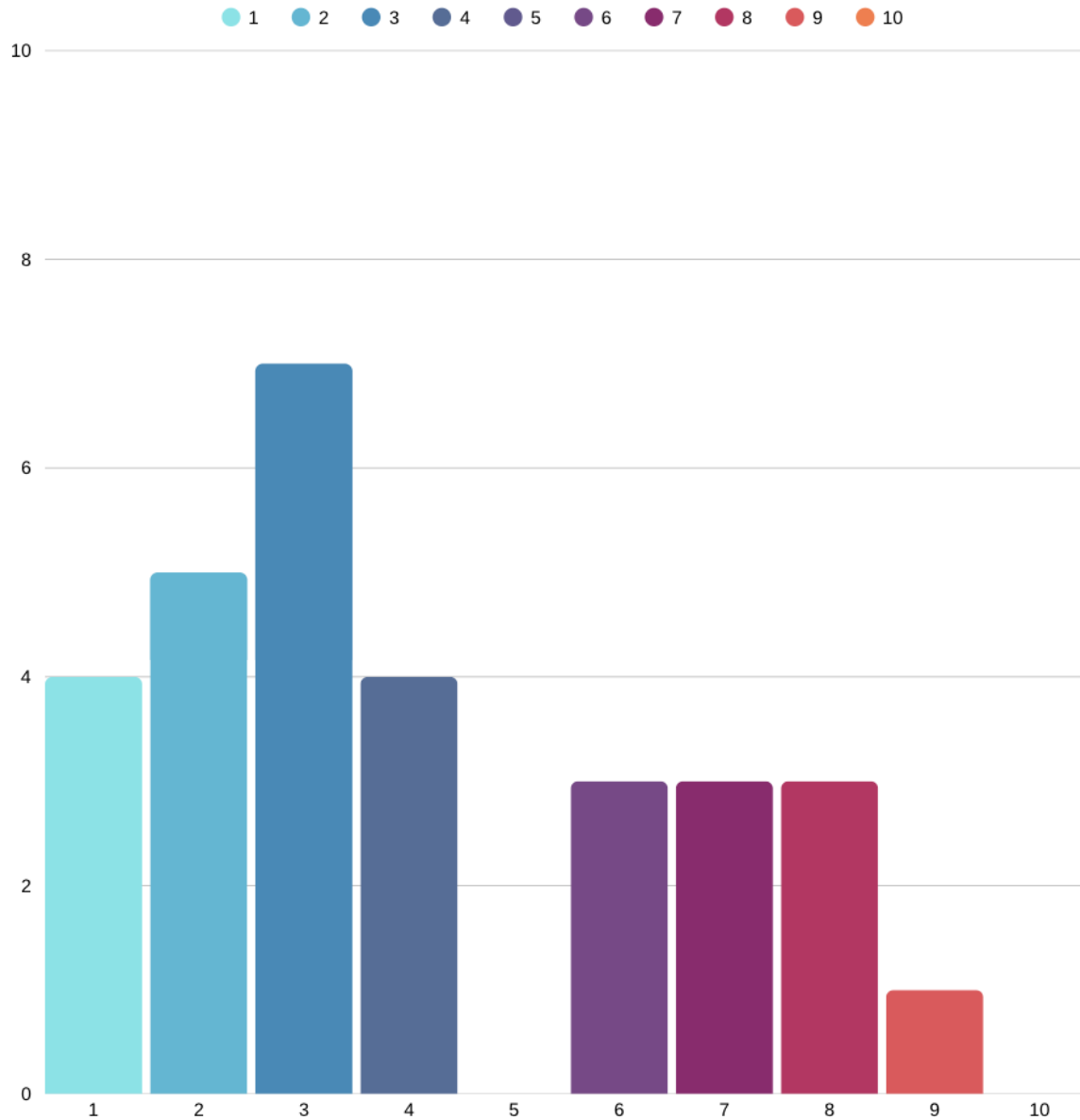


# NUCLEAR DETERRENCE

A presentation by  
**Henry Sokolski**  
Executive Director  
Nonproliferation Policy Education Center  
**[www.npolicy.org](http://www.npolicy.org)**  
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**On a scale of 1-10 (10 being nuclear deterrence always works and 1 being it probably never works), how would you rate the probability that nuclear deterrence will prevent Russian and Chinese aggression?**



**On a scale of 1-10 (10 being nuclear deterrence always works and 1 being it probably never works), how would you rate the probability that nuclear deterrence will prevent Iranian and Iranian proxy aggression?**

# **QUESTIONS TO BE ADDRESSED:**

- I. Why examining nuclear deterrence is necessary?**
- II. What can be learned from the military efforts at deterrence during WWII?**
- III. What were the first thoughts on nuclear deterrence?**
- IV. What does creating and maintaining a robust nuclear deterrent force require?**
- V. How sound are the most popular current views on deterrence and the first use of nuclear arms?**

# BRIEF ANSWERS

- I. **If nuclear weapons reliably deter aggression, more nuclear, better nuclear weapons in more hands would be better. If they don't, their indiscriminate proliferation would make matters worse**
  
- II. **1. Attacks you can't ride out are ones you can't deter ; 2. deterring horrific weapons attacks is more likely if you can retaliate with such weapons yourself ; 3. if it's unclear how you will be attacked, deterrence will require that you be able to defend against a wide variety of threats**

# **BRIEF ANSWERS (CONT.)**

- III. Nuclear aggressors will always win; cities are the primary targets; there are no effective defenses; and international control of nuclear energy is imperative.**
- IV. A robust nuclear deterrent force must overcome six minimum hurdles.**
- V. Not very.**

# THERE ARE COUNTLESS TYPES OF NUCLEAR DETERRENCE

**Finite deterrence**

**Existential deterrence**

**General deterrence**

**Minimum deterrence**

**Proportional deterrence**

**Minimal deterrence**

**Minimum credible deterrence**

**Maximum deterrence**

**Extended deterrence**

**Flexible deterrence**

**Graduated deterrence**

**Specific deterrence**

**Classical deterrence**

**Perfect deterrence**

# **AND A VARIETY OF NUCLEAR DETERRENCE DOCTRINES**

**Assured Destruction**

**Mutual Assured Destruction**

**Flexible Response**

**Graduated Response**

**Preventative/Preemptive Nuclear War**

**Nuclear De-escalation**

**Option Enhancing Policy**

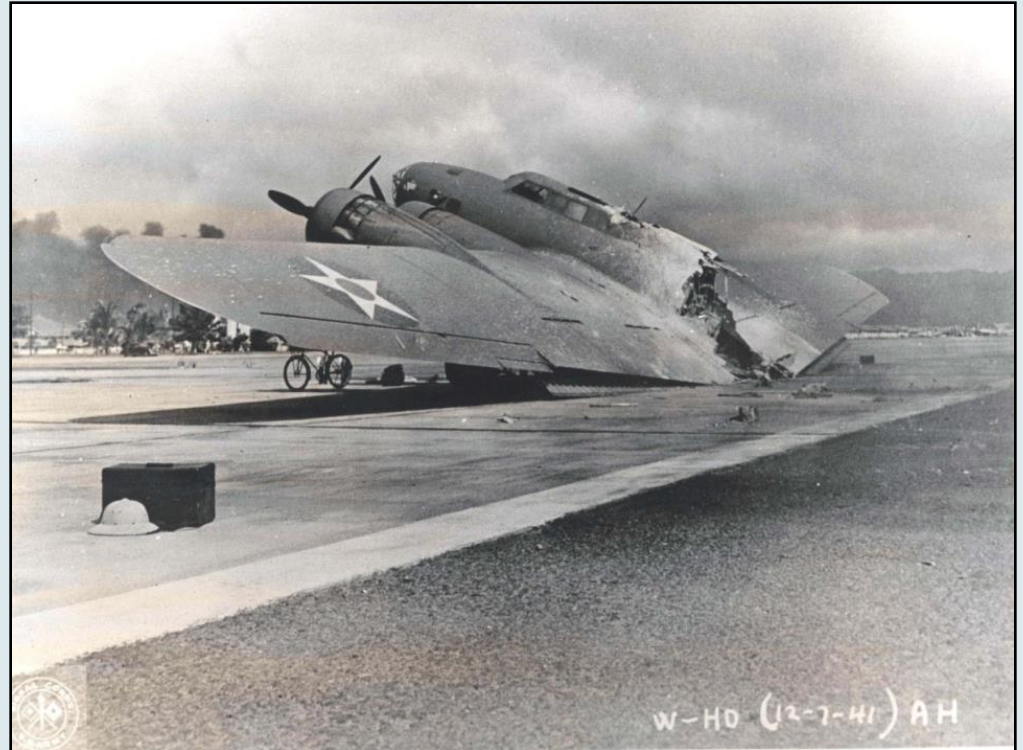
**Deterrence Only Strategy**



## **II. WHAT CAN BE LEARNED FROM THE FIRST CONSCIOUS MILITARY EFFORTS AT DETERRING?**

*THE SECOND WORLD WAR*

# AERIAL DETERRENCE: BEING POISED TO STRIKE CAN INCREASE VULNERABILITY



**America's B-17 bombers at Clark Air Base in the Philippines were so vulnerable they enabled a Japanese first strike**

# NAVAL DETERRENCE: DITTO

President Roosevelt ordered the pacific fleet from San Diego to Pearl Harbor to deter Japanese attack in far East.  
Again, it didn't work.



# BIO CHEM DETERRENCE: SEEMED TO WORK WITH BOTH SIDES ARMED



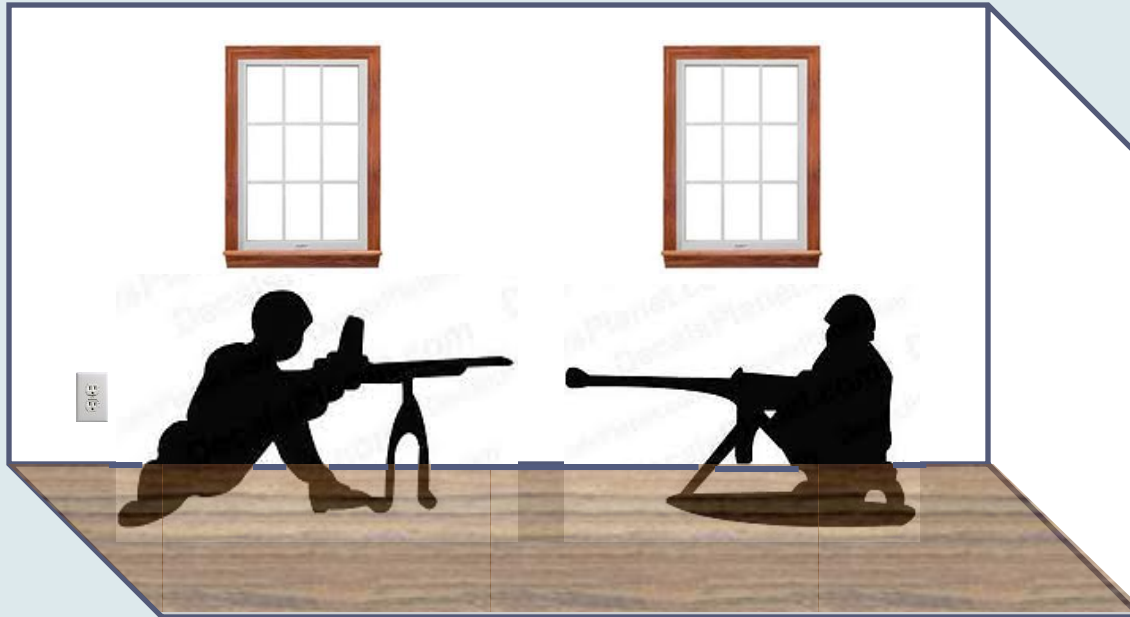
- Hitler didn't use chemical weapons
- Japanese used biological and chemical weapons against defenseless Chinese
- No Japanese use of biological or chemical weapons against U.S. or British troops
- No Allied use of these weapons against Axis forces

### **III. WHAT WERE THE FIRST THOUGHTS ABOUT NUCLEAR DETERRENCE?**



# WHOEVER SHOOTS 1ST WINS

Two men in a small room with machine guns



The Jeffries Report

# INTERNATIONAL CONTROLS ARE IMPERATIVE



**Harry Truman, Clement Attlee, and  
Mckenzie King November 15, 1945**

# COUNTERARGUMENTS

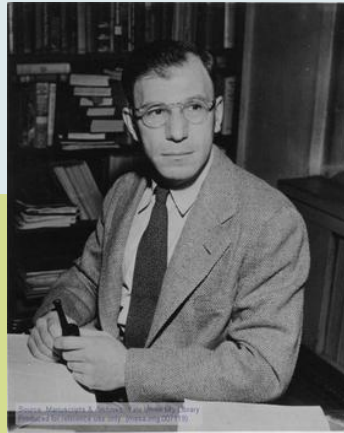
- **Otto Frisch, Rudolph Peierls, Bernard Brodie—  
nuclear deterrence is possible**
- **Jacob Viner and William L Borden— strategic  
forces, not cities, are the primary target,  
defenses and deterrence are likely, international  
government is not**



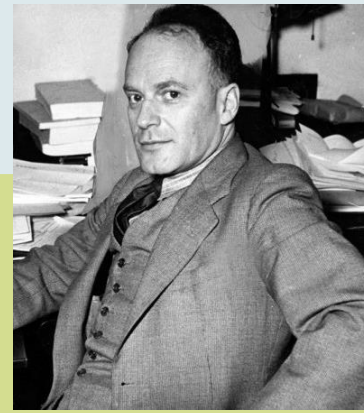
Frisch



Peierls



Brodie



Viner



Borden



# WHY NUCLEAR DETERRENCE IS NOT LIKE TWO MACHINE GUNNERS IN A ROOM



**Gunners can use defensive barriers.**



**One side could have many more machine gunners**



**The location of the machine gunners can be hidden**

# NEXT THOUGHT ON NUCLEAR DETERRENCE: GETTING A FEW BOMBS CREATES AN AUTOMATIC “BALANCE OF TERROR”

Winston Churchill

**“Safety will be the sturdy  
child of terror, and survival  
the twin brother of  
annihilation”**

March 1, 1955

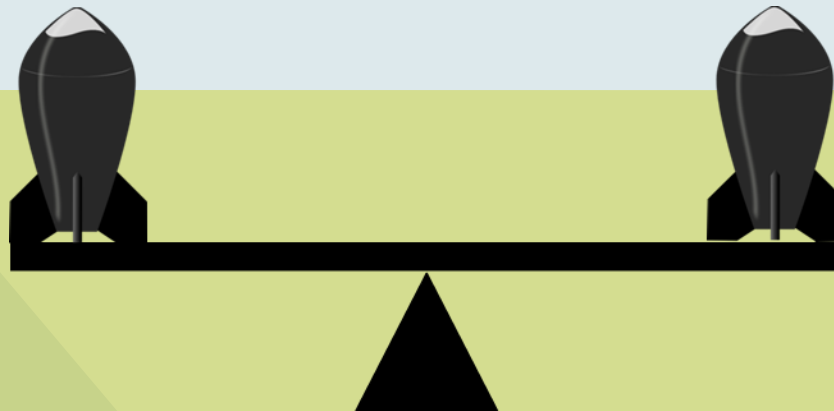
Last speech before the House  
of Commons

Lester Pearson

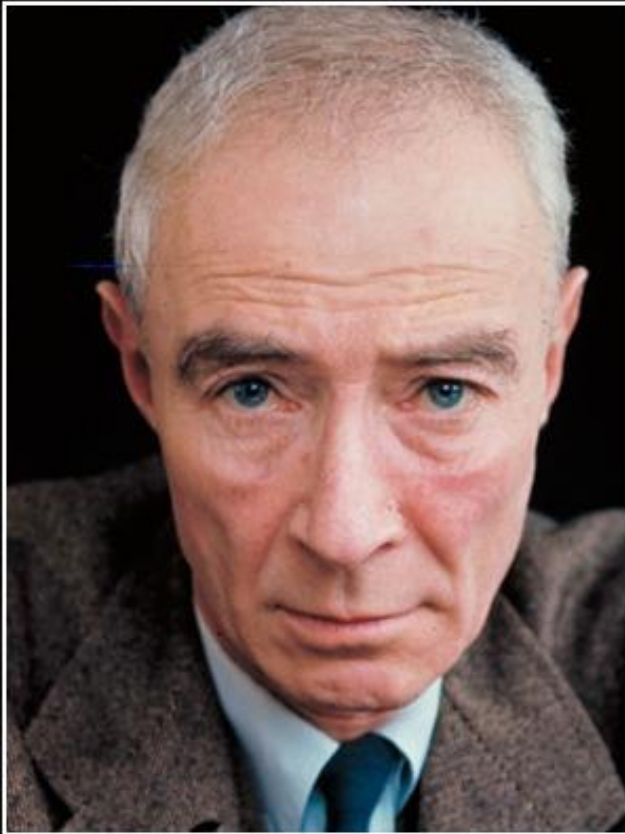
**“The balance of terror has  
replaced the balance of power”**

June 1955

At the 10th anniversary of the  
signing of the UN Charter

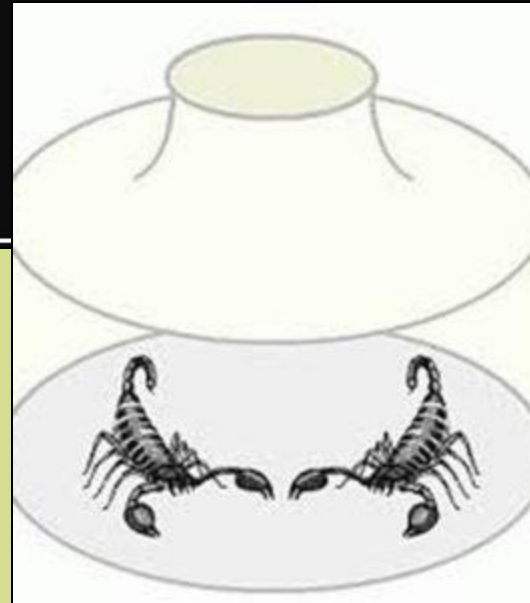


# NEXT THOUGHT: NUCLEAR WAR WILL KILL BOTH SIDES



We may be likened to two scorpions  
in a bottle, each capable of killing  
the other, but only at the risk of his  
own life.

— *J. Robert Oppenheimer* —



## **IV. WHAT DOES A ROBUST NUCLEAR DETERRENT FORCE REQUIRE?**

# HURDLE 1: STABLE PEACETIME OPERATION

**solid fueled, silo-based missile in the 1970s**



**VS.**

**vulnerable, non-storable liquid fueled Jupiter in the early 1960s**





# HURDLE 2: ABILITY TO SURVIVE A FIRST STRIKE

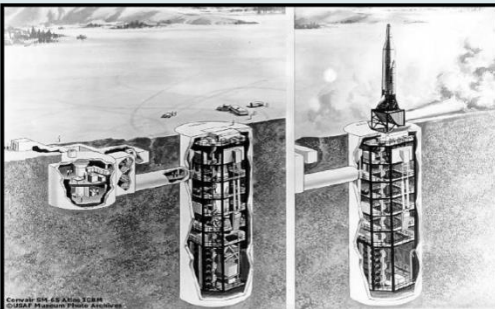
Hard to target subs,  
hardened silos,  
mobile missiles

vs.

Vulnerable strategic  
airpower deployments

*Clark Air Base, Philippines*

Japan attacked on December 8, 1941



# CARSWELL AFB TORNADO 9/1/1952: PUT 2/3<sup>RDS</sup> OF SAC BOMBER FORCE OUT OF ACTION



# HURDLE 3: SECURE C<sup>3</sup>I SYSTEM

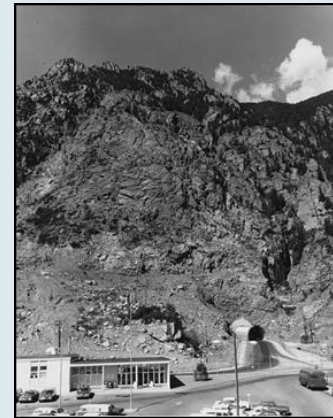
**air-based C<sup>3</sup>I**



**2<sup>nd</sup> Airborne Command & Control Squadron**

**vs.**

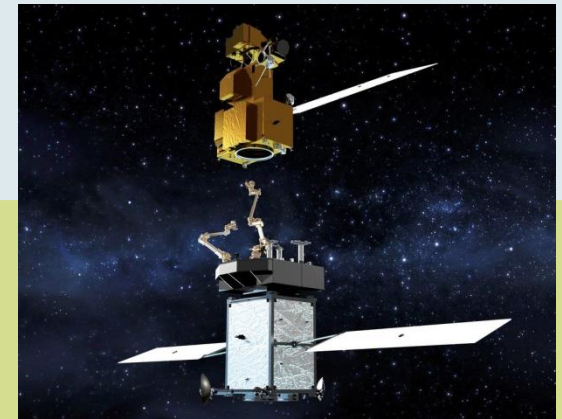
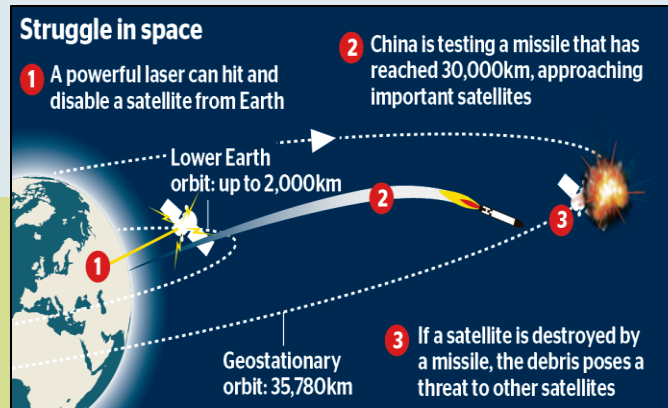
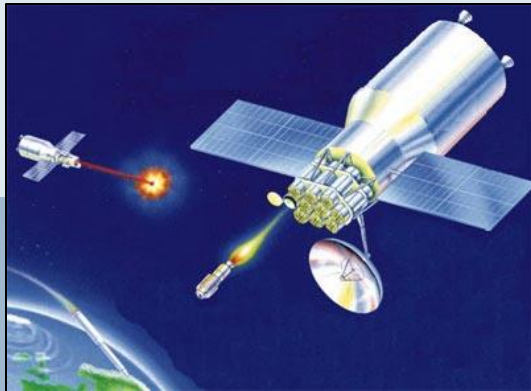
**vulnerable command centers**



**NORAD Cheyenne Mountain Complex**



# HURDLE 3: CYBER WEAPONS, EMP, AND ASATS THREATEN C<sup>3</sup>I

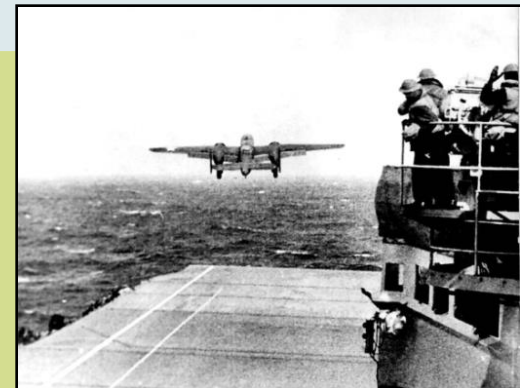
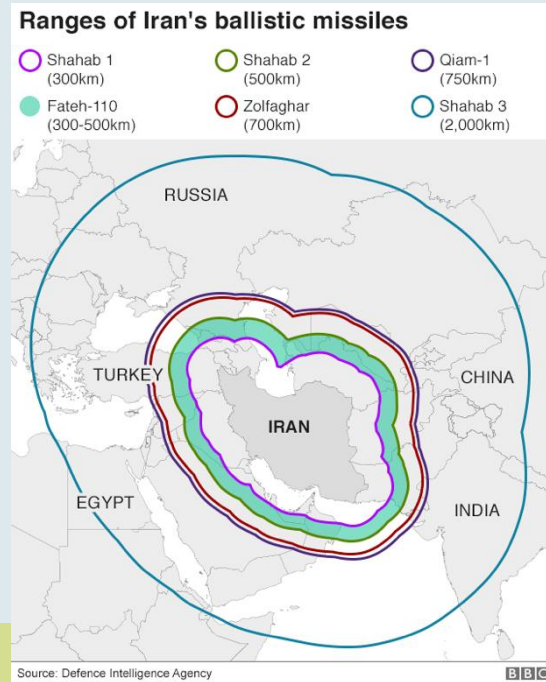


# HURDLE 4: YOU NEED ENOUGH FUEL TO HIT TARGET AND RETURN

long-range aerial  
refueling



Doolittle Raids: Not enough  
fuel; crash landed in China





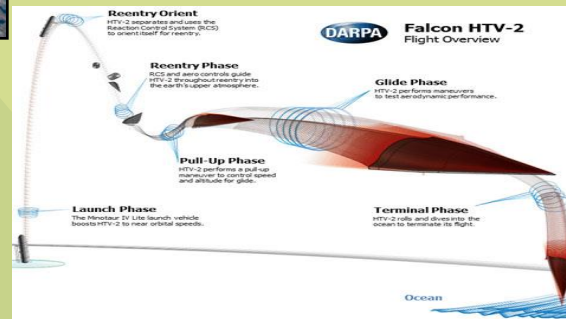
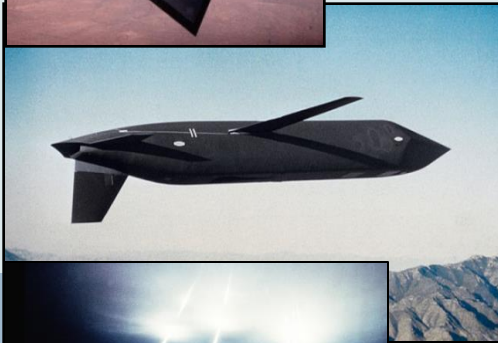
# HURDLE 5: OVERCOME ENEMY AIR DEFENSES

U.S. Post War air offensive efforts

VS

Schweinfurt–Regensburg Mission, WWII

- Daylight raid, ball bearing works, Germany, 8/17/1943
- 376 B-17s left London, 60 shot down, 95 bombers heavily damaged, ~600 MIA, KIA.



# **SDI AND GOLDEN DOME: A DEFENSE DOMINANT WORLD?**

- **Could air and missile defenses be effective enough to deter massive first strikes?**
- **Might space-based missile interceptors force main theater strategic deterrence away from the surface of the earth into space?**
- **Would a defense dominant world be one in which new generation warfare accelerates and reliance on threats of massive nuclear destruction decline?**

# HURDLE 6: DESTROYING THE TARGET DESPITE PASSIVE DEFENSES

fixed silos are  
becoming more  
vulnerable

VS

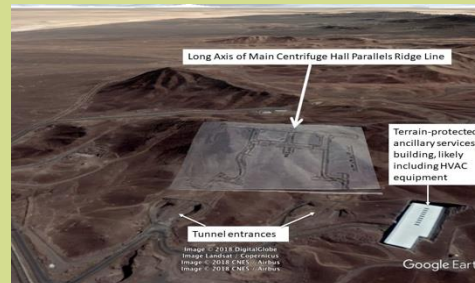
China's Underground Great  
Wall, road mobile missiles,  
Russian Yamantau Complex



Ultra  
Performance  
Concrete 30-  
60,000 PSI



Fordow Nuclear  
Facility

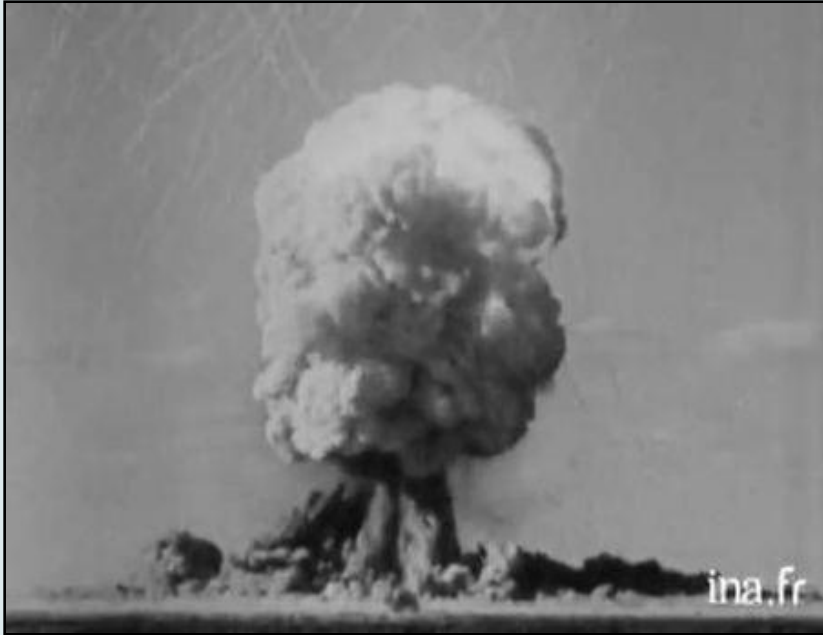


# **VI. WHAT ARE THE MOST POPULAR VIEWS OF NUCLEAR DETERRENCE ABOUT?**

*FINITE DETERRENCE AND NO FIRST USE*



# FINITE DETERRENCE: A FRENCH AND U.S. NAVY IDEA



**1<sup>st</sup> French Nuclear Test, *Blue jerboa*,  
Feb. 13, 1960**



**Pierre Marie Gallois**

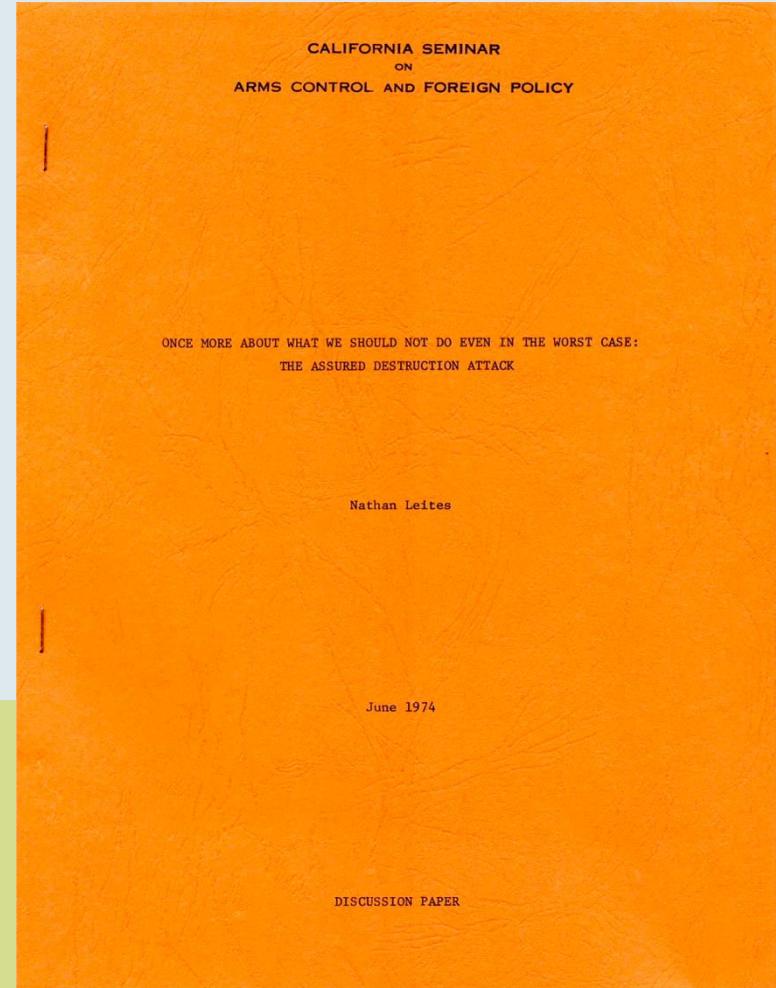


**Polaris SLBM**



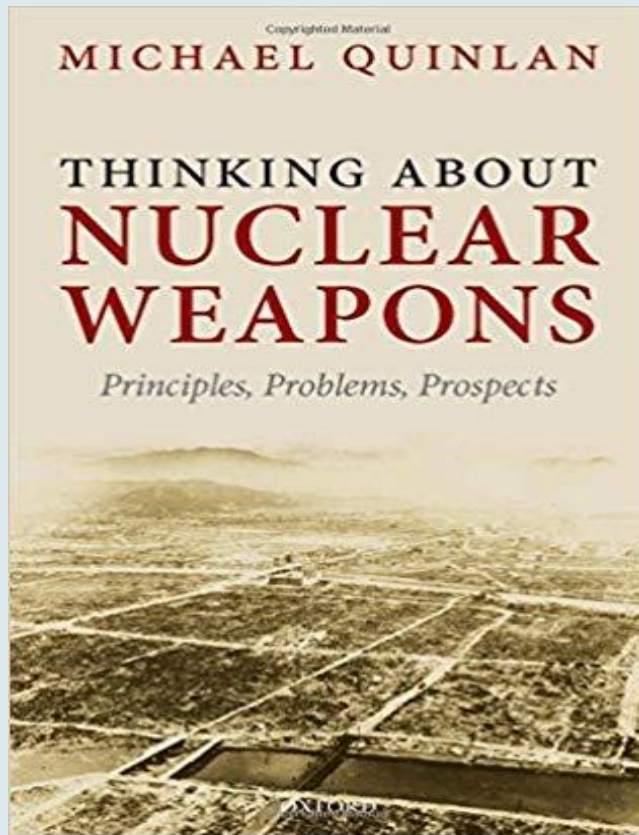
**Arleigh Burke**

# ONCE MORE ABOUT WHAT WE SHOULD NOT DO EVEN IN THE WORST CASE: THE ASSURED DESTRUCTION ATTACK





# QUINLAN QUESTIONED NO FIRST USE



# **PLAUSIBLE CASES OF NUCLEAR DETERRENCE: DIFFICULT TO BELIEVE THAT NONE ARE VALID AT ALL**

- **The Korean War (1950-1953)**
- **Suez (1956)**
- **Berlin Crisis of 1960**
- **The Cuban Missile Crisis?  
(1962)**
- **Israeli Nuclear Weapons and  
the 1973 “October War”**
- **Were nuclear weapons  
essential to fortify NATO and  
other alliances?**

