

# **Atomic Timeline to Abolition**

## **1914-2009**

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**Wednesday, 22 July 2009**

# Three Stories

## 1. The Japanese Story:



# Three Stories

## 2. The American Story:



# Three Stories

## 3. The Untold Story:

New science created three “Weapons of Mass Destruction.”

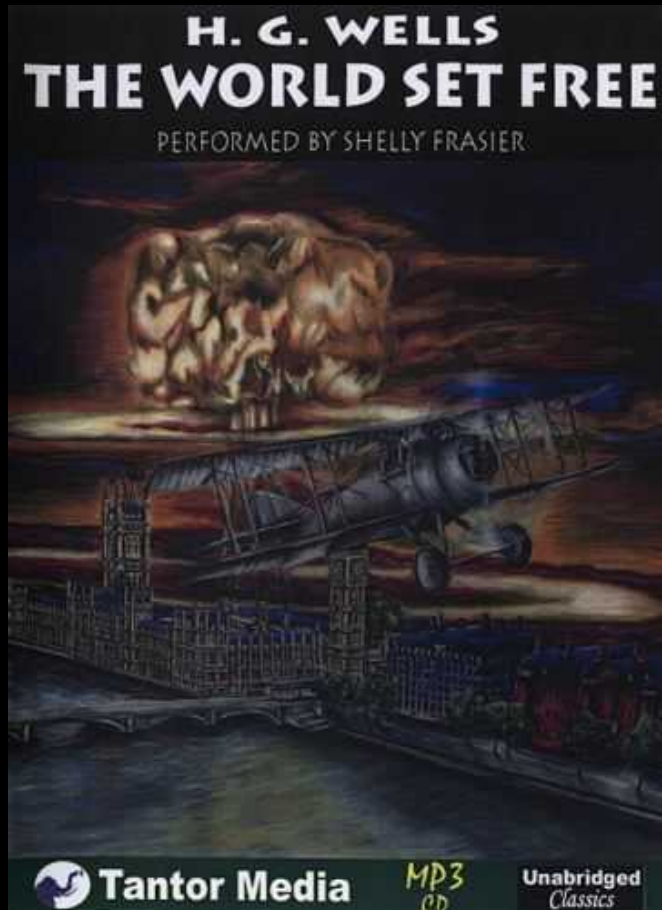
Nuclear

Biological

Chemical



# 1914



H.G. Wells publishes "A World Set Free," which predicts the development of the atom bomb

# 1933

Leo Szilard: "It occurred to me in October, 1933 that a chain reaction might be set up if an element could be found that would emit two neutrons when it swallowed one neutron." This idea became a classified British patent in 1935 before fission was discovered.



# 1938



**December 22 - Otto Hahn sends a paper to Lise Meitner containing experimental results that are interpreted by Meitner and nephew Otto Frisch as nuclear fission.**

# 1939



Albert Einstein  
Old Grove Rd.  
Massa Point  
Peconic, Long Island  
August 2nd, 1939

F.D. Roosevelt,  
President of the United States,  
White House  
Washington, D.C.

Sir:

Some recent work by E. Fermi and L. Szilard, which has been communicated to me in manuscript, leads me to expect that the element uranium may be turned into a new and important source of energy in the immediate future. Certain aspects of the situation which has arisen seem to call for watchfulness and, if necessary, quick action on the part of the Administration. I believe therefore that it is my duty to bring to your attention the following facts and recommendations:

In the course of the last four months it has been made probable - through the work of Joliot in France as well as Fermi and Szilard in America - that it may become possible to set up a nuclear chain reaction in a large mass of uranium, by which vast amounts of power and large quantities of new radium-like elements would be generated. Now it appears almost certain that this could be achieved in the immediate future.

This new phenomenon would also lead to the construction of bombs, and it is conceivable - though much less certain - that extremely powerful bombs of a new type may thus be constructed. A single bomb of this type, carried by boat and exploded in a port, might very well destroy the whole port together with some of the surrounding territory. However, such bombs might very well prove to be too heavy for transportation by air.

-2-

The United States has only very poor ores of uranium in moderate quantities. There is some good ore in Canada and the former Czechoslovakia, while the most important source of uranium is Belgian Congo.

In view of this situation you may think it desirable to have some permanent contact maintained between the Administration and the group of physicists working on chain reactions in America. One possible way of achieving this might be for you to entrust with this task a person who has your confidence and who could perhaps serve in an unofficial capacity. His task might comprise the following:

a) to approach Government Departments, keep them informed of the further development, and put forward recommendations for Government action, giving particular attention to the problem of securing a supply of uranium ore for the United States;

b) to speed up the experimental work, which is at present being carried on within the limits of the budgets of University laboratories, by providing funds, if such funds be required, through his contacts with private persons who are willing to make contributions for this cause, and perhaps also by obtaining the co-operation of industrial laboratories which have the necessary equipment.

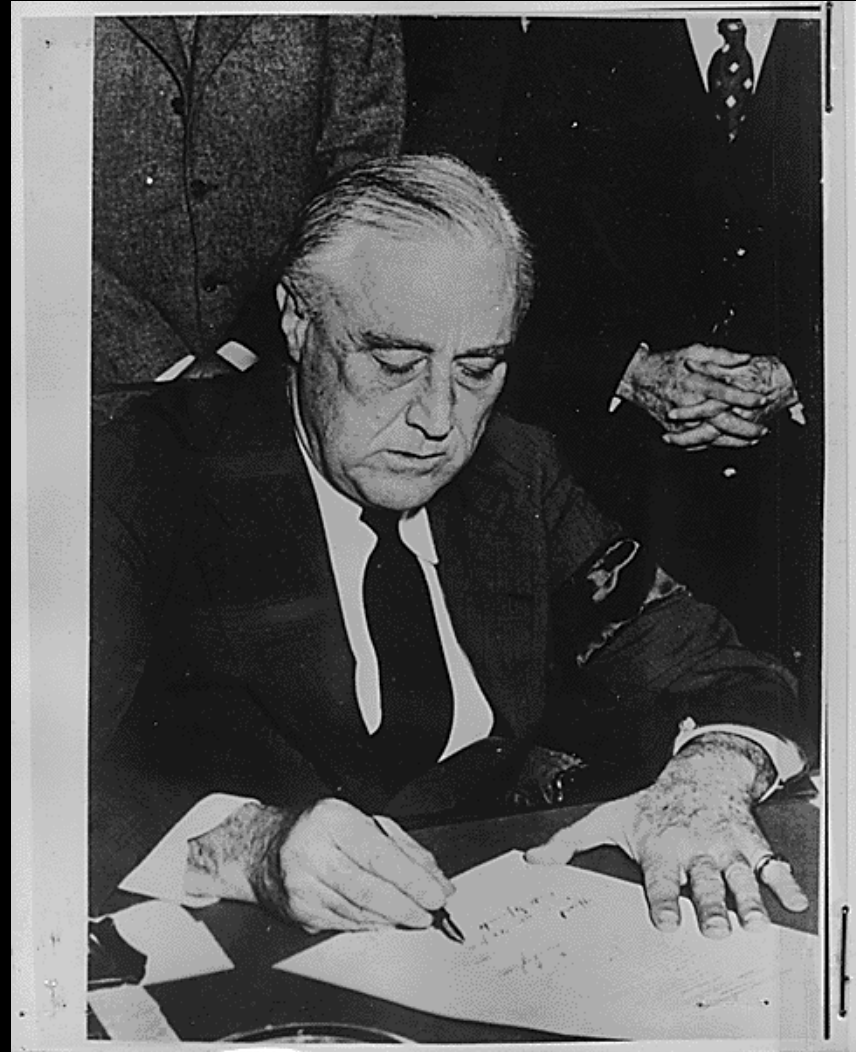
I understand that Germany has actually stopped the sale of uranium from the Czechoslovakian mines which she has taken over. That she should have taken such early action might perhaps be understood on the ground that the son of the German Under-Secretary of State, von Weizsäcker, is attached to the Kaiser-Wilhelm-Institut in Berlin where some of the American work on uranium is now being repeated.

Yours very truly,  
*A. Einstein*  
(Albert Einstein)

**August 2 - Szilard, Eugene Wigner, and Edward Teller obtain a letter from Einstein on the possibility of a uranium weapon; President Roosevelt receives the letter on October 11, 1939 from Alexander Sachs, who was an unofficial adviser to the President.**



# 1941



**December 6 - President Roosevelt authorizes the Manhattan Engineering District. The secret U.S. project to build an atomic bomb, later to be called the Manhattan Project, is put under the direction of the Office of Scientific Research and Development.**

# 1942



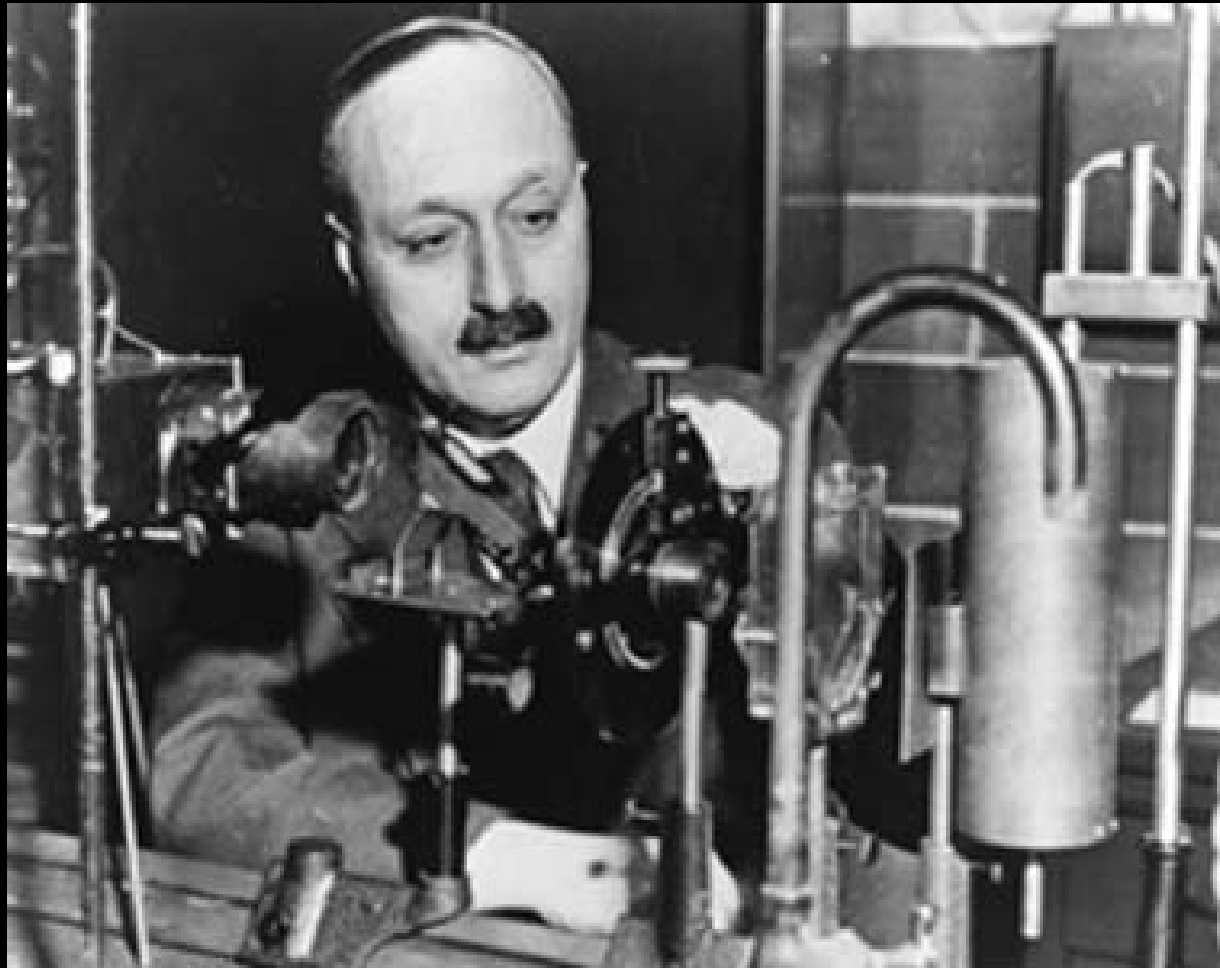
September 23 - Brigadier General Leslie Groves is put in charge of the Manhattan Project. He recruits J. Robert Oppenheimer as Scientific Director.

# 1944



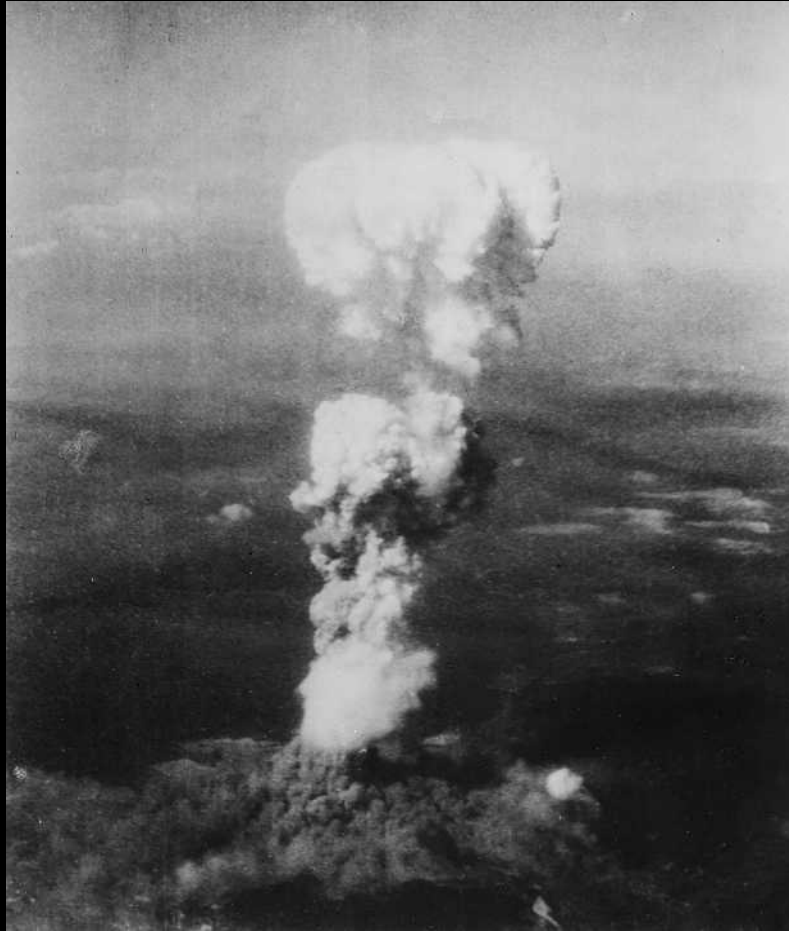
**August 26 – Niels Bohr presents his memorandum on international control of nuclear weapons to Roosevelt.**

# 1945

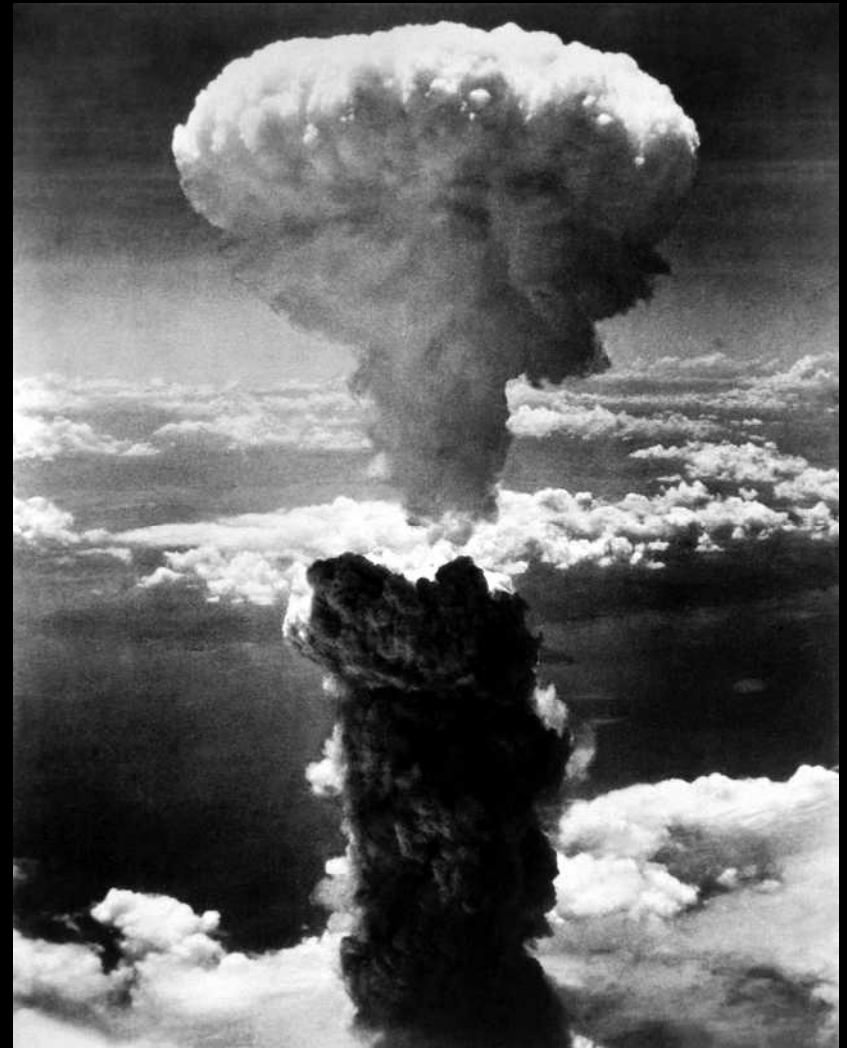


June 11 - The Franck Report is sent to Secretary of War Stimson. Among other things, it recommends international control.

# 1945



August 6 - Hiroshima



August 9 - Nagasaki

# 1946



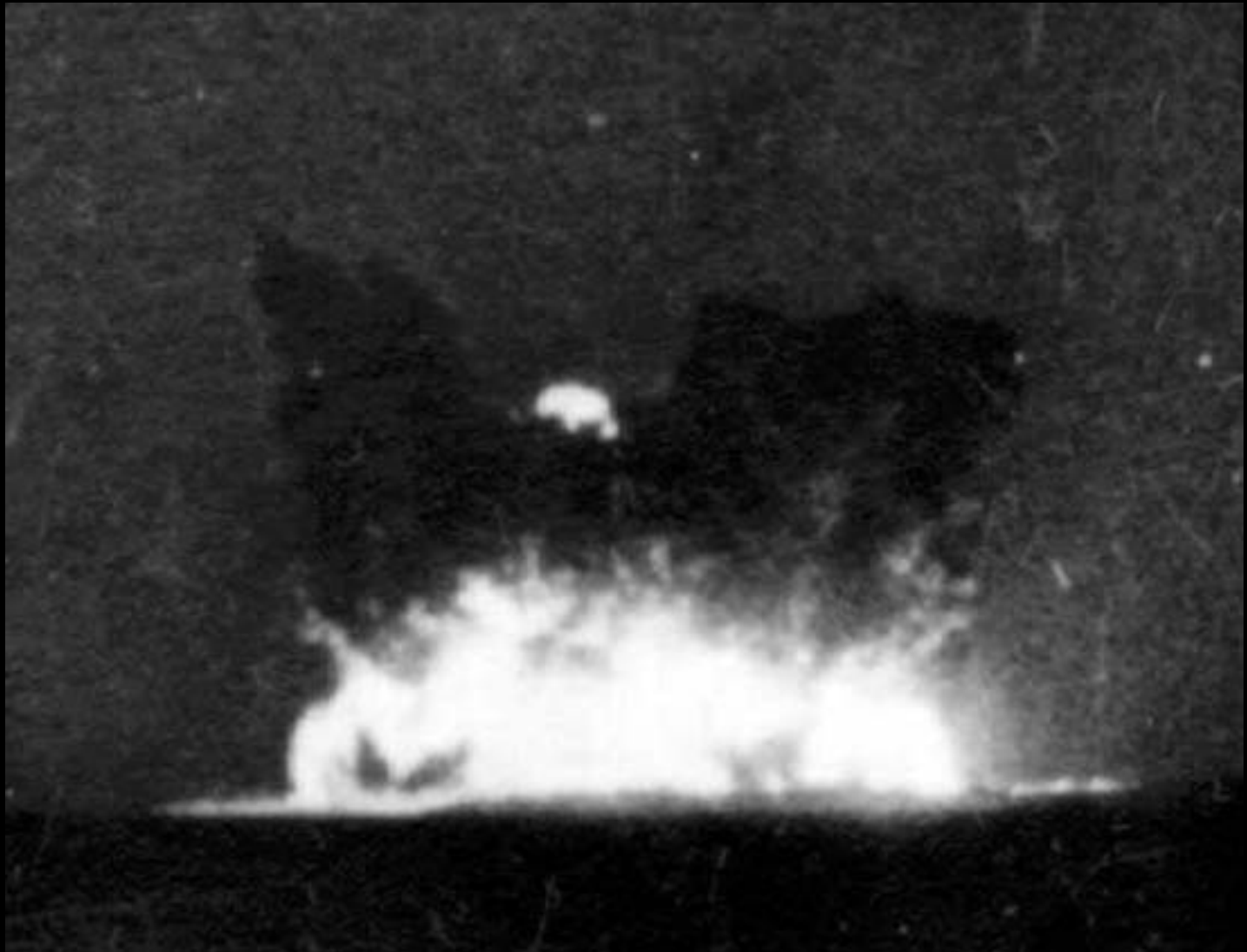
**June 14 - Bernard Baruch presents the Acheson-Lilienthal plan to internationalize the atomic energy. It is rejected by the U.S.S.R.**

# 1949



**August 29 - Soviet Union detonates its first atomic bomb, Joe 1, at Semipalatinsk in Kazakhstan. It is a copy of the Fat Man bomb and has a yield of 21 kilotons.**

# 1952



October 3 - First British atomic bomb, "Hurricane," was tested at Monte Bello Islands, Australia, with a yield of 25 kilotons.



# 1960



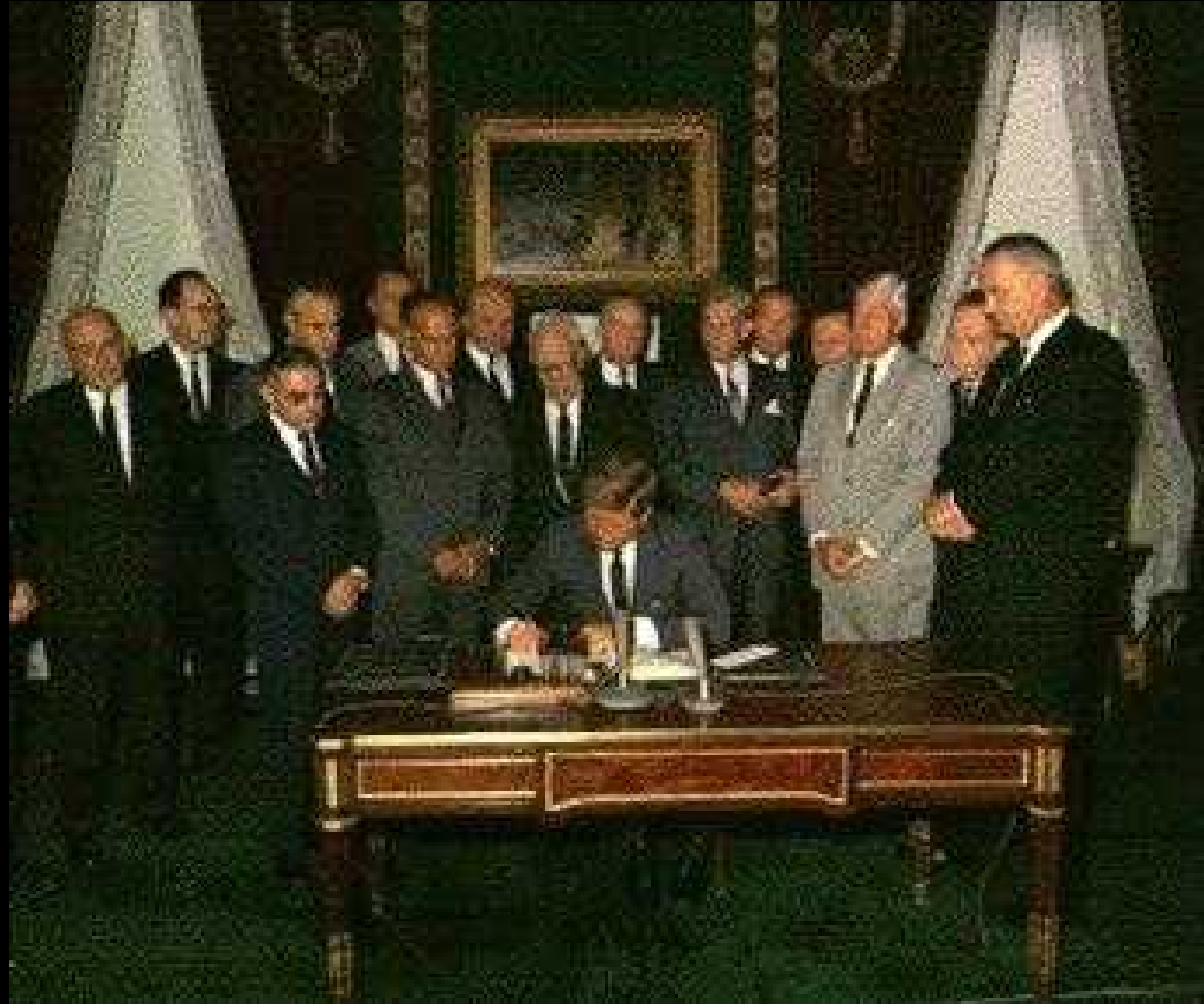
February 13 - The first French nuclear test occurs at Reganne, Algeria, in the Sahara Desert. It has a yield of 60-70 kilotons.

# 1961



October 31 - U.S.S.R. explodes the world's largest nuclear bomb, with a yield of 58 megatons.

# 1963



**August 5 - Limited Test Ban Treaty signed by the U.S., U.S.S.R. and the U.K., prohibiting tests of nuclear devices in the atmosphere, in outer space, and underwater.**

# 1964



October 16 - China explodes its first atomic bomb at the Lop Nur test site. It was an uranium 235 implosion fission device named "596" and has a yield of 22 kilotons.

# 1968



**July 1 - Non-Proliferation Treaty opened for additional signatures.**

# 1972



**May 26 - President Nixon and General Secretary Brezhnev sign the Anti-Ballistic Missile (ABM) Treaty and the Strategic Arms Limitation Treaty (SALT) in Moscow.**

# 1974



May 18 - India sets off a low-yield device (8 kilotons) under Rajasthan desert.

# 1974



**November 24 - President Ford and General Secretary Brezhnev sign the Vladivostok Accord, agreeing to limit the number of strategic launchers (2400) and MIRV launchers (1320).**



# 1979



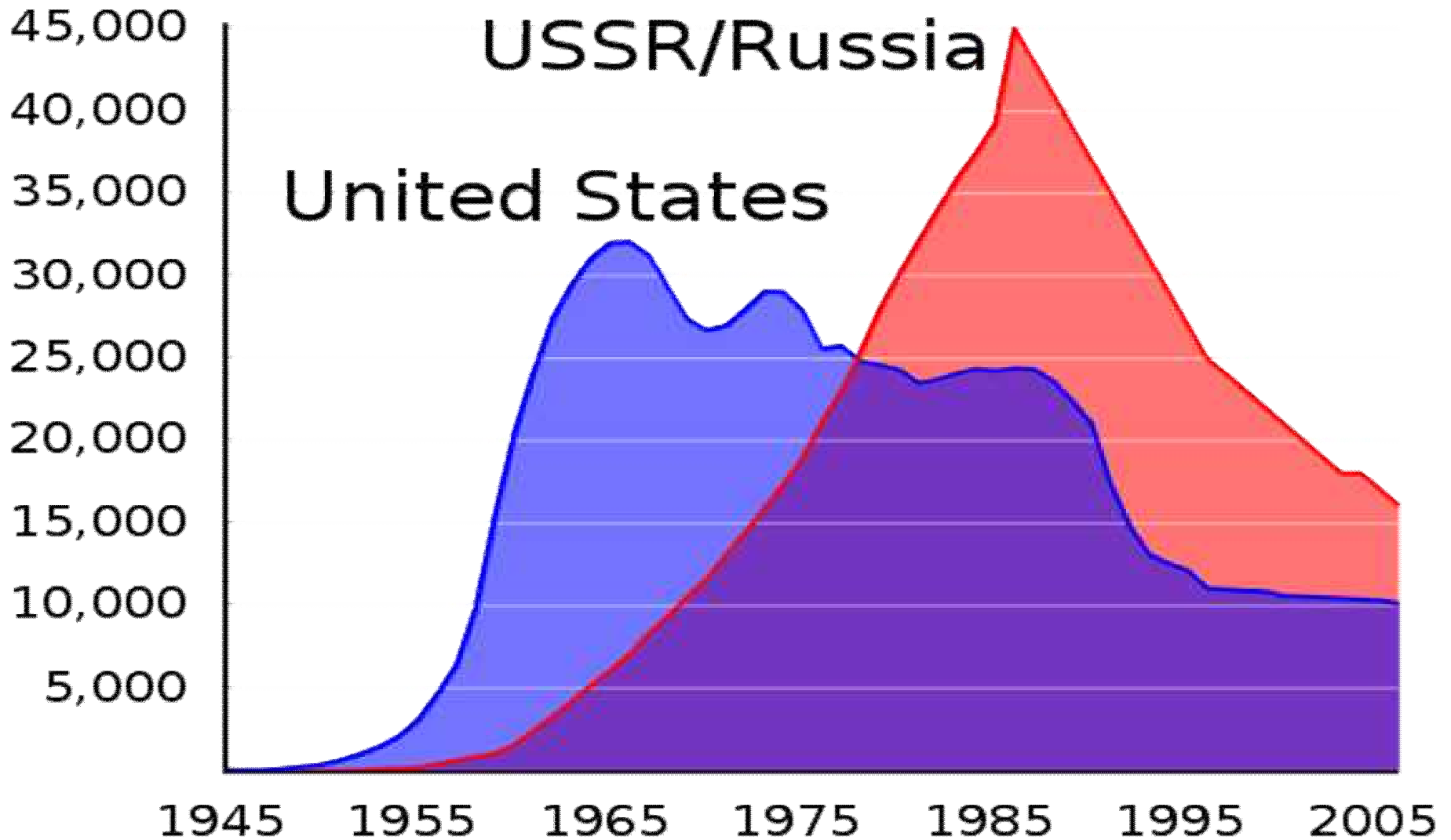
**June 18 - SALT II Treaty is signed in Vienna, Austria, by Brezhnev and President Carter.**

Limited delivery systems to 2,4000, banned development of new ballistic missile programs; never ratified by US due to Soviet Invasion of Afghanistan, but observed until 1986 when Ronald Reagan withdrew.

1974-US **28,965**; USSR 17,385 = 46,350

1978-US 24,826; USSR **25,393** = 50,219

1986-US 24,401; USSR 45,000 = 69,401      Total = **70,481**



# 1987



**December 8 - President Reagan and General Secretary Gorbachev sign the Intermediate-Range Nuclear Forces (INF) Treaty. It eliminates all land-based missiles with ranges between 300-3,400 miles.**

# 1991



**July 31 - President Bush and President Gorbachev sign the Strategic Arms Reduction Treaty (START I). The Treaty calls for the elimination of almost 50 percent of the nuclear warheads carried by ballistic missiles.**

# 1993



**January 3 - Bush and President Yeltsin sign the Strategic Arms Reduction Treaty (START II), which reduces their nations' arsenals of long-range nuclear weapons to 3,000-3,500 and eliminates all MIRVed land-based missiles over the next ten years.**

# 1998



**May 11 - India conducts three underground nuclear tests, its first in 24 years. One of the tests is a thermonuclear weapon.**

**May 13 - India conducts two more nuclear tests.**

# 1998



**May 28 - Pakistan conducts five nuclear tests in response to India's nuclear tests.**

**May 30 - Pakistan conducts its sixth nuclear weapons test. The explosion is in the 1 to 5 kiloton range.**

**1999**

# 1995



**May 11 - 178 nations renew the Non-Proliferation Treaty.**



# 2001



**December 13 - The United States announces that it will withdraw from the 1972 Anti-Ballistic Missile treaty.**

# 2002



**May 24 - Strategic Offensive Reductions Treaty (SORT - Moscow Treaty) is signed between the U.S. and Russia. Each nation would be limited to 1,700 to 2,200 strategic nuclear warheads apiece.**

# 2009



**April 5 – "world without nuclear weapons," 1) strong deterrence until abolition, 2) conclude START III by 5 Dec 2009, 3) ratify CTBT, 4) Fissile Material Treaty, 5) strengthen NPT, 6) finish Threat Reduction program in Russia in 4 years.**

**-President Barak Obama**

**June 10 -- "If those who made the atomic bomb and used it are ready to abandon it -- like, I hope, other nuclear powers officially and unofficially owning them -- of course we will welcome and facilitate this process in all ways,"**

**-Prime Minister Vladimir Putin**

# 2009



**July 6 -- from 1,700-2,200 warheads in 2012 to 1,500-1675 in 2016; from 1,600 delivery vehicles in 2012 to 500-1,000 in 2016**

## U.S. NUCLEAR WEAPONS COMPLEX

Three national labs and five manufacturing, assembly, and disassembly facilities collectively employ 37,000 staff



SOURCE: National Nuclear Security Administration

**Questions**

# **A Security of Sense**

**Brien Hallett  
University of Hawai'i**

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Beppu, Oita, Japan  
Wednesday, 22 July 2009**

When one thinks about nuclear issues and policy, the first question one needs to ask is how does one come to or gain a "sense of security?"

## A Sense of Security:

the only thing we have to fear is fear itself—  
nameless, unreasoning, unjustified terror  
which paralyzes

-Franklin D. Roosevelt

## Security by Non-Security:

"the sturdy child of terror, the twin  
brother of annihilation"

-Winston Churchill

Does one gain a "sense of security" from overcoming one's fears, as Roosevelt suggested in 1932; or does one gain a sense of security by terrifying oneself as Winston Churchill suggested in 1950.

Churchill on "DETERRENCE" "Safety will be the steady child of terror, and survival the twin brother of annihilation. (p110, Barash 1987) Brodie War and Politics p377, n1 "... that by 'a process of sublime irony' the world was facing a situation "where safety will be the sturdy child of terror, and survival the twin brother of annihilation.'" New York Times, 2 March 1955.



Atomic bombs have **NOT** been  
**USED** since 1945.

Therefore, since 1945, the policy has  
been:

**Use by Non-Use**

## Use by Non-Use



*"There is nothing more urgent confronting the people of all nations than the banning of all nuclear weapons under a foolproof system of international control."*

**—President Harry S. Truman**

President Harry Truman said that atomic bombs were absolutely essential for American Security. REPEAT FOR EACH OF THE PRESIDENTS.

Disk 82-Sokendai Tokyo Dec 2008 –Nuclear Age Foundation Stuff-  
"return\_to\_sanity\_2008.pdf"

Krieger, David. 2008. A Return to Sanity: United States Leadership for a Nuclear Weapons-Free World: A Briefing for the New President. Santa Barbara, CA: Nuclear Age Peace Foundation. Page 2

## Use by Non-Use



*"We are in the era of the thermonuclear bomb that can obliterate cities and can be delivered across continents. With such weapons, war has become, not just tragic, but preposterous."*

**—President Dwight D. Eisenhower**

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## Use by Non-Use



*"Total war makes no sense...in an age when the deadly poisons produced by a nuclear exchange would be carried by the wind and water and soil and seed to the far corners of the globe and to generations unborn."*

**—President John F. Kennedy**

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## Use by Non-Use



*"The survivors, if any, [of an all-out nuclear war] would live in despair amid the poisoned ruins of a civilization that had committed suicide."*

**—President Jimmy Carter**

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## Use by Non-Use



*"A nuclear war cannot be won and must never be fought. The only value in our two nations possessing nuclear weapons is to make sure they will never be used. But then would it not be better to do away with them entirely?"*

**—President Ronald Reagan**

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Use by Non-Use

First Contradiction:

Scientific “Weapons of Mass  
Destruction” have no military  
use.

Use by Non-Use

First Contradiction:

Biological Weapons Convention, 26  
March 1975

Chemical Weapons Convention, 29  
April 1997

Nuclear: not yet outlawed



Use by Use

Second Contradiction:

What are the real  
"Weapon of Mass  
Destruction" since  
1945?

Small Arms



KLA Serbian Terrorists (Kosovo Liberation Army)

<http://www.badeagle.com/journal/archives/KLA%20terrorists.jpg> Accessed 8 Dec 08

## Use by Non-Use

Third Contradiction:

### The Nuclear Equivocation:

1. Do not actually use.
2. Do use psychologically to instill fear.

Use by Non-Use:

De + terrere = from fear

1. That humans are only "Rational Actors."

2. That Discipline, Training, Leadership cannot overcome fear.

19 May 2009: Henry Kissinger, George Schultz,  
Sam Nunn, William Perry



<http://www.daylife.com/photo/02My6WEbXCcMT> Accessed 7 July 2009

Former US Secretary of State Henry Kissinger (L) stands alongside former Secretary of Defense William Perry (R) and former Senator Sam Nunn (2nd R) as former Secretary of State George Schultz (2nd L) speaks to the media outside the West Wing of the White House in Washington on May 19, 2009, after meeting with US President Barack Obama to discuss key priorities in US nuclear non-proliferation policy.

## Three Pragmatic Reasons:

1. There are no targets.

Neither state nor non-state  
actors.

## Three Pragmatic Reasons:

2. Precision munitions are more accurate and effective.

## Three Pragmatic Reasons:

3. U.S. already has  
preponderance of useable  
military power.

Sea and Air lift

## Use by Non-Use + Three Pragmatic Reasons

Conclusion:

U.S. (and the world) would  
be more secure with  
absolute abolition.



# Questions



In Logic:  
Use by Non-Use

Proposition:

National

In Logic:  
Use by Non-Use

Proposition:

National

28 June 2009: I decided not to give this slide "Nuclear Age Talk09.ppt" show at APU, but to do a new on "The Emperors New Clothes.ppt"