

# Critical Issues Forum

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## BENCHMARK I

Cathedral City High School

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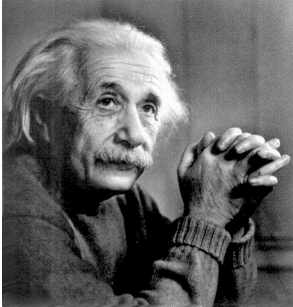
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## The History and Development of Nuclear Weapons in the United States

On July 16, 1945, the United States successfully tested the world's first nuclear weapon and to this day, is the only country to have actually used them as a weapon and not just a test. Development of nuclear weapons began in 1939, under President Franklin D. Roosevelt after having received a letter from world renowned scientist, Albert Einstein.



In his letter, Einstein informed Roosevelt of the efforts of Nazi Germany to build an atomic bomb by purifying uranium-235. Although Einstein believed in pacifism, he encouraged Roosevelt to begin the construction of an atomic bomb in order to combat German efforts at world domination.

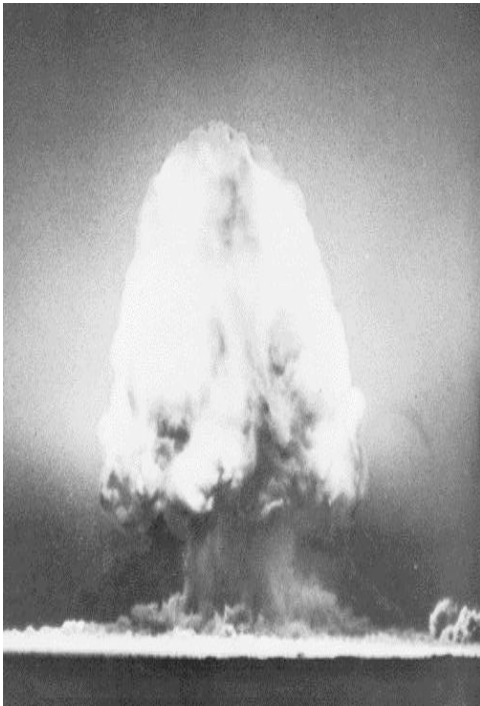
This resulted in the development of what is known as the

“Manhattan Project”, a secret government initiated program during World War II designed to develop atomic bombs for the United States. There were close to 200,000 people working on this project and it involved approximately 40 laboratories and factories. [1]

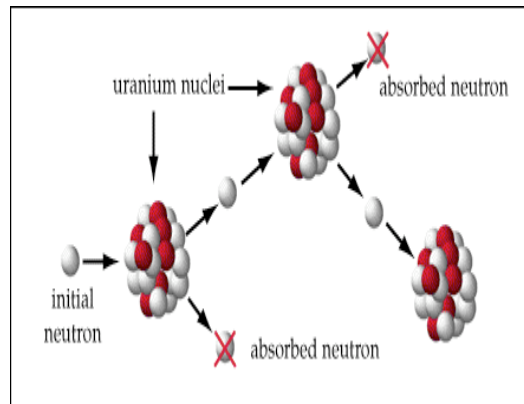
Manhattan Project scientists determined that a process called fission could occur by “forcing a heavy atom to capture an extra neutron in its nucleus”. [3]

In 1945, the Manhattan Project produced the first atomic bomb, “Fat Boy”. It was tested on July 16, 1945 in a

remote area of New Mexico and the test was codenamed Trinity. The Trinity test was successful.



[1] Trinity Test Explosion



[3] Fission

## **Interview with an Expert on Nuclear Bunkers**

### **How do you feel about nuclear nonproliferation in the world today?**

- Mixed feelings; can be used for extreme good or extreme evil
- No radicals will harbor easy access to nuclear weapons
- Ethically, can we tell other countries to give up their weapons?
- No countries should destroy their weapons; once they have weapons of that force, a large enough number of people who have a stockpile can stop radicals, like a bully on a yard, as though they have a bigger stick (people who can control themselves)

### **How do you think nonproliferation would affect the United States in terms of strategy and defense?**

- We would have to put much more research into our defense because we would have to have better missiles and better diplomacy
- Could feed and educate the people in the countries of the terrorists (if the people are happy, terrorists have no chance because they rely on the people)

### **How do you feel about nuclear proliferation and nonproliferation in the African continent—namely the countries of South Africa and Nigeria?**

- Not as frightening as the Middle East in this time
- Difference is that the Middle East using religious reasons; Africa is just trying to control territory (wants land)
- The likelihood of Africa using weapons outside the continent is unlikely because the people are busy leading their lives

**About how safe are the nuclear bunkers in terms of the protection against attacks on the United States?**

- The bunkers are livable for about ten years
- They are underground
- They are safe if the people can get to them in time

**Do you think it would be easy or difficult to obtain access to a nuclear bunker in the US?**

- It is extremely difficult to access a nuclear bunker
- The only people who know the location are the top people in the government
- The location of bunkers are passed on from president to president

**The nuclear bunkers are accessible to what range of people? Who would be protected and who wouldn't?**

- They are only available to the top people in Washington D.C. and their immediate families
- They have an unbelievable mass of computer power (and fresh air and food)

## Summary

According to Harvey, nuclear nonproliferation can be either positive or negative. The beneficial aspect of nonproliferation is that the change would cause it to be more difficult for radicals to gain access to nuclear weapons. The downside to getting rid of nuclear weapons would be that the safe countries that do hold nuclear weapons would not be able to “keep radicals in check.” Radicals seem to be phased by the prospect of an all-out war; they cannot commit any truly extremist act while countries such as Great Britain and the United States have the power to retaliate and punish. Yet despite both consequences of nonproliferation, Harvey raises the moral question of if we have an ethical right to instruct other countries to get rid of their weapons.

In regards to Harvey’s view on the United States purging their weapons, she believes that the United States would have to escalate their efforts in strategy and defense. Once the United States loses their supremacy in their weapons stock, they would require a better view on their intelligence concerning other countries and the status of terrorists. The United States, though, should not have to be troubled by the threat of radicals if they utilize the money used for weapons to aid the needs of those in other countries. If the poor do not need the aid of the supportive radicals, they would not find reason to sustain the radical’s cause. The lower classes of deprived countries tend to be the support and foundation of radicals, and if their needs were to be met, then their support would not sway to the radicals and the radicals would slowly be obliterated. All the United States would need to do is aid that foundation—feed the hungry, educate the poor—and the threat of terrorism wavers.

The same concept applies to the threat of African countries. According to Harvey, African countries are too busy leading their lives, whereas in the Middle East, they use religious influence to justify their causes. Furthermore, in Africa, the possibility of the countries utilizing their nuclear weapons is slim, seeing as their primary concern is to gain control of their territories. Africa’s troubles lie within their borders, and not with the problems of other countries in other continents.

As a designer of nuclear bunkers, Harvey acquired extensive knowledge on the subject of the nuclear bunker. The nuclear bunkers, which protect the occupants against a nuclear attack and the effects of the fallout, are found underground and shelter the occupants for as long as ten years, holding enough food for the inhabitants and computer systems for the continuation of connectivity and technology. The nuclear bunker’s location is also one of the best kept secrets in American intelligence; only a handful of officials are aware of the locations and the locations are passed down from president to president. In spite of this data, the bunkers would only be safe as long as the people are able to move into the bunkers before the nuclear weapons hit their targets. Moreover, the bunkers are safety zones for only the top politicians and government officials and their immediate families. Everyone else would face imminent mortality in face of the nuclear holocaust.

## What Happened at Hiroshima and Nagasaki

In an effort to truly witness and understand the bombings at Hiroshima and Nagasaki, we viewed the following two films and have addressed our findings in the form of two movie synopses.

### The Atomic Cafe

As time goes on, history tends to take on a different perspective based on the ideas of the time. Today, only sixty years after the atomic bombings of Hiroshima and Nagasaki, most people find the actions taken by the United States government to be appalling considering the effects the bombings had. The Atomic Café, however, takes into perspective the view Americans of the 1950's.

After viewing The Atomic Café, it difficult to blame Americans for their opinion on nuclear bombs, after all, they did not understand the consequences of radiation poisoning, or even what that is. The government circulated numerous propaganda posters and advertisements that were somewhat amusing but at the same time horrifying because of how lightly the bombs were taken.

“Duck and Cover” was a popular saying of the time. School children were given the allusion that



they would be safe just by huddling under a desk should a bomb go off.

Families were encouraged to build their own bomb shelter in the backyard. The Atomic Café clearly demonstrates the horrifying truths of the time and the consequences of ignorance. This documentary will move one to feelings of shock, and anger that any human being could

ever bring such pain to another human.

### **White Light, Black Rain**

The bombings of Nagasaki and Hiroshima lead to some of the most severe consequences ever to occur in history. This documentary shows real footage of what happened on both days and uses real survivors to reveal why this tragedy should never happen again.

The survivors were only children or young adults at the time and did not understand why this had to happen to them. Many suffered from radiation poisoning, received little governmental aid, and were shunned by their own communities even to this day; these innocent people suffer from discrimination in Japan.

As global tensions rise, the stories that the survivors tell are becoming increasingly important in teaching the future generations what happens when one does not fully understand the consequences of their actions. The possibilities of strengthening arms control and even a complete disarmament need to seriously be considered as well as the circumstances under which nuclear bombs are constructed.

## **Glossary**

Brinkmanship- the practice, especially in international relations, of taking a dispute to the verge of conflict in the hope of forcing the opposition to make concessions

Cold War- the hostile yet nonviolent relations between the former Soviet Union and the United States, and their respective allies, from around 1946 to 1989

Cuban Missile Crisis- the closest the United States came to a nuclear war

Deterrence- to discourage somebody from taking action or prevent something from happening, especially by making somebody feel afraid or anxious

Albert Einstein- German scientist and winner of the Nobel Prize in 1921

Fat Man- the atomic bomb which was detonated over Nagasaki, Japan

Fission- process by which an atomic nucleus is split into two smaller particles

Fusion- process by which two atomic nuclei fuse to form a single nucleus

Hiroshima- city in Japan that was targeted on August 6, 1945, by the United States for a nuclear assault

Intercontinental Ballistic Missile- long-range missile

International Atomic Energy Agency- an organization set up within the United Nations to promote safe and secure nuclear technologies

John F. Kennedy- President of the United States during the Cuban Missile Crisis

Little Boy- atomic bomb that was detonated over Hiroshima, Japan

Manhattan Project- WW II United States nuclear weapons project

Nagasaki-city in Japan that was targeted on August 9, 1945, by the United States for a nuclear assault

Non-Proliferation Treaty- treaty aimed at limiting the spread of nuclear weapons, effective as of March, 1970

Nuclear Disarmament- reduction and elimination of nuclear weapons

Nuclear Fallout- radioactive air particles

Nuclear Free Zone- area where there is nothing nuclear (weapons, power, uranium, etc.)

Plutonium- radioactive element

Radiation- energy given off from one thing and absorbed by another

Treaty of Pelindaba- an agreement made by 49/53 members of the Organization of African Unity to not research or develop or stockpile nuclear weapons

Uranium- radioactive element

Weapons of Mass Destruction- a weapons that can kill large numbers of people at one time

## Works Cited

[1] The Manhattan Project. 2009 <<http://gk12.rice.edu/trs/science/Atom/man.htm>>.

[2] Einstein Photo. 2009 <<http://www.geocities.com/researchtriangle/campus/6791/einstein12.jpg>>.

[3] The Manhattan Project. 2009 <<http://gk12.rice.edu/trs/science/Atom/fission.htm>>.

[4] International Documentary Film Festival. 2009  
<<http://www.cphdox.dk/D1/ft.lasso?s=2006114&ser=397&e=1>>.