

Impact of the manhattan project



**ASSIGN
BUSTER**

How the Manhattan Project changed the world

Nuclear weapons. Some love them, others despise them. Some say their use was necessary to win World War 2, others think that their use was the product of overzealous nations looking for war. There are multitudes of arguments that surround this deadly weapon. The start to the first developed and working nuclear weapon are all tied to the Manhattan project. What forces were behind the decisions to drop the bomb? What were the immediate effects of the bomb? What were the effects years later on the world?

The Manhattan project was the code name for a secret experiment that was conducted in America during the time period of World War 2. A group of refugee scientists which included Enrico Fermi, Leo Szilard, and Albert Einstein, realized nuclear reactions were possible, and could be weaponized. Albert Einstein wrote a letter to Franklin D. Roosevelt, who was the President at that time.

" Some recent work by E. Fermi and L. Szilard, which had 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 prove to be too heavy for transportation by air.

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 the Belgian Congo.

In view of this situation you may think it desirable to have some permanent contract 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 entreat with this task a person who has your confidence and who could perhaps serve in an unofficial capacity. His task might comprise of the following:

a). To approach Government Departments, keep them informed of the further development, and put forward recommendations of 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 a private person who are willing to make contributions for this cause, and perhaps also by obtaining the cooperation of an industrial laboratory which has the necessary equipment.

I understand that Germany has actually stopped the sale of uranium from Czechoslovakia 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 Weizsacker, is attached to the Kaiser-Wilhelm-Institut in Berlin where some where some of America's war on uranium is being repeated."

Einstein

This letter is one that Einstein wrote to FDR, had a hand in creating the Manhattan project. In this letter Einstein clearly outlines that an atomic bomb is theoretically possible, and that the United States should begin research into this new deadly power, and that Germany may be researching it as well. At that time very little was known about the theoretical bomb

other than it would be highly destructive. In 1940, FDR made \$6, 000 available to start research of this new technology. By 1945, at the end of the project, the cost had grown to around \$2 billion. Within those years, 2 years were used to invent a method to make fissionable uranium or plutonium. By summer of 1945, enough fissionable plutonium had been created to make a bomb. The first ever atomic bomb was dropped at 5: 30 am on July 16, 1945, at a test field in Alamogordo air base, 120 miles from Albuquerque, New Mexico. The bomb produced a blast power of between 15, 000 and 20, 000 tons of TNT, and fused the surface of the ground up to 800 yards away to glass. J Robert Oppenheimer said this about the new deadly weapon. “ The atomic bomb made the prospect of future war unendurable. It has led us up those last few steps to the mountain pass; and beyond there is a different country.” (Brainy Quotes 1) A month afterwards, two more bombs that were produced by this project, which were later dropped on Hiroshima and Nagasaki.

Editors of (Encyclopedia Britannica)

Between the time of the bomb just being a concept that some scientists discovered up to the time of the end of World War two there were two Presidents in office. The first was FDR, and the second was Harry Truman. FDR authorized, and started what became the Manhattan project after he received a letter from Einstein telling him of an amazing but scary new technology, but The decision of whether or not the bomb should be used to try and end the war was most likely the hardest thing President Harry Truman ever had to do. The Americans were tired after 4 years of fighting, and the Japanese had a standing army of 2 million strong on there last

islands. Before the 2 bombs were dropped the Allies asked for unconditional surrender, which was turned down by the Japanese military, but there was some indication that a conditional surrender might have been possible.

Truman's answer to why he did it was to save lives. It sounds contradictory but experts say that an estimated 1 million casualties would have happened on the allied side in a Normandy type landing that would have been staged to enter Japan. Truman also said he was in the end saving more Japanese lives as well. Scientists at the time did not realize how dramatic the effects of radiation sickness were, so at that time Truman saw little difference in atomic bombing Hiroshima than fire bombing it. "The atom bomb was no 'great decision.' It was merely another powerful weapon in the arsenal of righteousness." (Brainy quotes)

Some say there were other motives in using this bomb as well. Critics said that the bomb was not only the final shots of World War 2, but the beginning shots of the Cold War.

us history. org page

The approximate casualty numbers are difficult to determine due to the chaos and destruction that ensued the bomb that decimated such things as hospitals and other government installations. The atom bomb named Little boy was dropped on Hiroshima, 135,000 out of the 255,000 existing population became casualties. 66,000 of those 135,000 were wounded fatally while the other 69,000 were injured. These numbers are more than double those from the bomb that was detonated in Nagasaki. The casualty numbers in Nagasaki were 64,000 total, with 39,000 deaths and 25,000

<https://assignbuster.com/impact-of-the-manhattan-project/>

being injuries. The top cause of death from the explosion in Hiroshima was burns at 60%, with fall debris being the second at 30%. The causes of casualties in Nagasaki were 95% burns and 5% other.

Henry pg 12

The burns caused by the bomb were called “ flash burns”, because they were caused in tenths of a second. These burns are very similar to severe sunburn. The burns only occurred on exposed or lightly clothed skin. These burns were reported to have occurred up to 13, 800 feet away from ground zero in Nagasaki. There was even a confirmed case of a newspaper that was 1 ½ miles away from the explosion had only its black letters burned out of the paper

. Henry pg 17

Injuries caused by radiation included epilation(loss of hair), bleeding into the skin, inflammation of the throat and mouth, diarrhea, fever, and vomiting. Platelet (coagulation agents) numbers were also reduced, which caused any bleeding to be more prolonged than normal. Deaths from radiation poisoning started about 1 week after exposure, peaked in weeks 3 and 4, then they were nonexistent by week 7 to 8.

Henry pg 24

One man (William o. Morse) sent a letter into a paper saying “ the bomb is precisely what war is today. . . a senseless, dirty, brutal operation”. This kind of outright bluntness and honesty was rarely seen in other people, who were more subtle than outright saying that the Japanese deserved to die. A few
<https://assignbuster.com/impact-of-the-manhattan-project/>

weeks after the first bomb was dropped, a poll was taken of the American public's reaction to the bomb, and 85 percent said that dropping the bomb was a good idea.

Diana Steele

After the war the Soviet Union wanted a guarantee that such slaughter wouldn't happen in the Soviet Union again, so they set out to spread Communism to the countries around them. Joseph Stalin, the leader of the Soviet Union at the time, was ruthless.

"Death solves all problems - no man, no problem".

(Brainy quotes 3)

America could not sit by idle as this happened, so this is how the Cold War was started. The Cold War was the biggest concern of our government for the next 50 years. Also, Germany was divided into four sections, each to be de-Nazified and democratized. Russia elected a communist regime in the east, to create a buffer so Russia could not be invaded. Winston Churchill called this the "Iron Curtain". The war also created the UN. Examination of the period between World War 1 and World War 2 showed a lack of international communication and spirit. A strong body of nations like Woodrow Wilson had envisioned was required to keep countries from ripping each other apart, thus the UN was born.

Nuclear weapons have been with us since the 1940's, and will most likely be with us till the extinction of humanity. All of these things stemmed from Einstein's idea of a research group for this new nuclear technology, that

<https://assignbuster.com/impact-of-the-manhattan-project/>

became the Manhattan project. The bomb was created under the watch of FDR, then Harry Truman, who decided to drop the bomb. The bomb resulted in being more horrible than predicted, and wrecked havoc where it was dropped. Even today whenever war is mentioned, nuclear weapons almost always come to mind, and are something that is feared deeply.

Citations

Primary resources

1 Brainy Quotes. 1 Bookrags media network. web page. 5/1/14

http://www.brainyquote.com/quotes/authors/j/j_robert_oppenheimer.html

2. 1 Brainy Quotes. 1 Bookrags media network. web page. 5/1/14

http://www.brainyquote.com/quotes/authors/h/harry_s_truman.html

3. 1 Brainy Quotes. 1 Bookrags media network. web page. 5/1/14

http://www.brainyquote.com/quotes/authors/j/joseph_stalin.html

4 Einstien, Albert. F. D. Roosevelt August, 2, 1939.

http://www.livebinders.com/play/play_or_edit?id=387006

szilard couldn't convince enrico that the a bomb was possible and he wouldn't conduct experiments. He then turned to albert einstein. Einstein then turned to president roosevelt with the issue, and urged him to take action

.

<https://assignbuster.com/impact-of-the-manhattan-project/>

secondary resources

1. Diana Steele. *users. dickinson* . 1. dickinson. web site. 3/3/2014.

<http://users.dickinson.edu/~history/product/steele/seniorthesis.htm>

This secondary source gives information about how certain people and the general population reacts to the use of this weapon.

2. Editors of Encyclopedia Britannica. *Encyclopedia Britannica* . 7.

Encyclopedia Britannica, may 12, 2006. web. 3/4/14.

<http://www.britannica.com/topic/362098/history>

From this article i am obtaining information pertaining to the scientists who started the manhattan project and what the project accomplished.

3. Henry Lewis Stimson. *columbia* . 1. Columbia University in New York, letter. 3/3/2014.

http://www.atomicarchive.com/Docs/MED/med_chp10.shtml

august 6, 1945 a special b-29 called enola gay dropped the first atomic bomb ever on hiroshima. the government censored reports coming from hiroshima coming to america.

4.(Hitoshi Takayama). atomic bomb museum. 1. Hiroshima Peace Memorial Museum, 2006. Medium of publication. 3/3/14.

. <http://atomicbombmuseum.org/index.shtml>

5. n. e. *atomic archive* . 1. AJ Software & Multimedia , N. d. web. 3/4/14. 5.

<https://assignbuster.com/impact-of-the-manhattan-project/>

This source give information about treaties after the bomb and the destructive effects it had on the world.

[http://www. atomicarchive. com/Docs/MED/med_chp10. shtml](http://www.atomicarchive.com/Docs/MED/med_chp10.shtml)

This is a secondary source. I am gathering information about the casualty number, cause of death, and mortality rate.

7. ushistory. org. ushistory. org. 1. 2014). web page. 3/3/2104

<http://www. ushistory. org/us/51g. asp>

America was very weary of the war by the time the atomic bomb was finished. The allies first asked the japanese for surrender, but without mention of a new or very devastating bomb. after the 2 bombs were dropped the japanese surrendered 5 days after.

<https://assignbuster.com/impact-of-the-manhattan-project/>