

Article

## Reconsidering the atomic bombing of Hiroshima and Nagasaki

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### Introduction

It is more than half a century since the greatest holocaust in human history occurred with the atomic bombing of Hiroshima and Nagasaki in August 1945. Now, however, not only the Japanese people, the sufferers, but also the American people, the assaulters, and people all over the world tend or intend to forget those atomic bomb attacks.

On the occasion of the 50<sup>th</sup> anniversary of the end of the Pacific War, the National Smithsonian Museum in Washington D. C. had planned an exhibition of atomic bombs, exhibiting pictures of the victims and various items concerning the bombings. However, this

plan was strongly opposed by groups of veterans and journalists and by Congress, leading to the exhibition being called off. Only the aircraft "Enola Gay" which carried the atomic bomb was exhibited with the words "Beginning of the Atomic Age" and "Never Again." This shows that the American people felt guilty for what they did to Hiroshima and Nagasaki, but they pretended to have done it for unjustifiable reasons: Atomic bombs were used (1) in order to finish the war early and (2) to save the lives of American soldiers and the ordinary citizens of Japan.

This absurd reasoning is also found on the Japanese side. About 10 years ago, in Asahi Newspaper "Editorial", August 6, 1996, the

anniversary day of the atomic bombing of Hiroshima) on the results of questionnaires of 4,700 elementary school children were reported. In comparison with the previous questionnaires conducted nine years earlier, the results were the following: the answer "Dropping atomic bombs is not acceptable from the point of view of humanitarianism" was 55%, which was 15.3% less than before; "There was no alternative" or "It was necessary to bring the war to the end" was 21.9%, or a 7.6% increase.

It is greatly regretful that a number of young people in Japan, even those in Hiroshima and Nagasaki, tend to accept the glossed-over logic of the "necessity of atomic bombs for saving not only American soldiers but also the Japanese people by ending the war earlier," irregardless of the fact that not only were several hundred thousands of people killed but also many people died of diseases and many are still suffering from diseases due to radioactivity exposure. Nevertheless, this logic has survived after the war, not only with respect to Hiroshima and Nagasaki but also with the people of the two greatest nuclear powers, the USA and USSR, and has even spread to other nations such as Britain, France, China, India and Pakistan. This situation is the cause for further complications in international relations, e. g., at the Security Council of the United Nations.

Now the present authors wish to re-study how and why the USA decided to drop atomic bombs on Hiroshima and Nagasaki in order to make those involved repent their cruel deed against humanity and to remember how their fellow humans were killed by the atomic bombs. Based upon the materials available, we describe the damage by the atomic bombs in Hiroshima and Nagasaki, and also the relief and rescue activities by doctors and nurses. We also discuss the ways how the US handled the findings of groups that studied the aftereffects of the atomic bomb attacks.

## 1. Atomic bombing of Japan

The precise number of innocent citizens who perished due to the explosion of the atomic bombs is unknown. However, Hiroshima City estimated that by the end of December 1945 140,000 of 350,000 citizens had been killed by the explosion of the uranium bomb. Similarly, 74,000 of 240,000 citizens were killed by the

explosion of the plutonium bomb in Nagasaki.

In an NHK lecture on "Physics in the 20<sup>th</sup> Century," F. Yonezawa (2003) quoted from a book by S. Nishio (1993) on "Nils Bohr, the father of modern physics." The two leaders of war time USA and Britain, i. e. Roosevelt and Churchill, agreed with each other that the target of the atomic bombs would be Japan. The decision was made in September 1944 at Hyde Park, London. The agreement was made 8 months before the surrender of Nazi Germany. Ms. Nishio kindly sent us the memorandum of this Hyde Park Agreement; the following is the "Aide-memoire of Conversation between the President and the Prime Minister at Hyde Park, 19<sup>th</sup> September, 1944" (cited from Gowing, 1964):

1. *The suggestion that the world should be informed regarding tube alloys, with a view to an international agreement regarding its control and use, is not accepted. The matter should continue to be regarded as of the utmost secrecy; but when a 'bomb' is finally available, it might perhaps, after mature consideration, be used against the Japanese, who should be warned that this bombardment will be repeated until they surrender\*.*
2. *Full collaboration between the United States and the British Government in developing tube alloys for military and commercial purposes should continue after the defeat of Japan unless and until terminated by joint agreement.*
3. *Enquiries should be made regarding the activities of Professor Bohr and steps taken to ensure that he is responsible for no leakage of information particularly to the Russians.*

(bold letters by the present authors)

It is clear that Roosevelt and Churchill agreed to drop atomic bombs on Japan, when they became available, under the condition

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\* The content of this first item is also described briefly in a book "The Spirit of Hiroshima" with the subtitle "An introduction to the Atomic Bomb Tragedy" by the Hiroshima Peace Memorial Museum in 1999. On page 24 of the book:

*"In 1943, Roosevelt and Churchill decided that the US and UK should keep all information about the atomic bombs to themselves. In September 1944, the two leaders confirmed that A-bomb development would be top secret. They also agreed that, should the project be successful, the bomb would, after careful consideration, be used against Japan."*

that Japan be **warned** in advance. In reality, however, **no warning** was given to the Japanese government and as a result, tens of thousands of innocent ordinary citizens of Hiroshima and Nagasaki were killed. This should be called the greatest act of terrorism\* in the world history thus far. It cannot be compared with other holocausts.

Some words concerning "Professor Bohr" in (3) will be given later.

### 1-1. Atomic bombing of Hiroshima

Details concerning the atomic bombing of Hiroshima and Nagasaki are described in two books published by the Hiroshima Peace Culture Foundation (1999a, b) and Nagasaki City (2000). The first of the two from Hiroshima consists of six chapters: (1) Hiroshima before the Atomic Bombing, (2) The Road to the Atomic Bombing, (3) Hiroshima in Ruins, (4) Hiroshima's Revival, (5) The Nuclear Age, and (6) The Journey toward Peace. The second one from Nagasaki consists of three chapters: (1) An Overview of the Atomic Bombing, (2) Testimony of Survivors, and (3) Foreign Atomic Bomb Victims. The last contains chapters on (A) Nagasaki before the Atomic Bombing, (B) Damages caused by the Atomic Bombing, and (C) Toward World Without Nuclear Weapons.

In the present article, we try to re-examine the events leading to the atomic bombing of Hiroshima and Nagasaki, and describe the horrible effects of the bombs, by referring to these books and other materials.

The following is quoted from "The Spirit of Hiroshima" (1999).

*"The Atomic Bombing of Hiroshima" (Chapter 2): A special crew assigned to drop the atomic bomb was formed in September 1944. Colonel Tibbets, an experienced B-29 pilot, was placed in command. At Wendover Base in Utah, B-29s were*

*remodeled to make them lighter and capable of delivering the 4-ton atomic bomb. The crew was given rigorous training in handling the remodeled planes, even practicing the actual drop of an A-bomb model called Pumpkin.*

*In early July 1945, Tibbets and the other members of the crew arrived on Tinian Island, the base for the atomic bombing runs. On July 26, the barrel core that would hold the uranium bomb arrived by heavy cruiser. On August 2, a final order was given specifying August 6 as the date of the bombing, and Hiroshima, Kokura, or Nagasaki as the potential targets.*

*At 1:45 a. m. on August 6 (Japan time), the B-29 Enola Gay, named after Captain Tibbets' mother, departed from Tinian Island with a crew of 12 and the atomic bomb aboard. It was accompanied by two other bombers that would observe and film the explosion. Three weather reconnaissance planes had taken off earlier for Hiroshima, Kokura, and Nagasaki. At about 7:15, a report came in describing the weather in Hiroshima as clear. At that instant, Hiroshima's fate was sealed.*

*At 8:15, the bombardier on the Enola Gay got the T-shaped Aioi Bridge in his sights and pressed the switch of the automatic release equipment. The bomb fell away from the plane. The first atomic bomb used against human beings detonated 43 seconds later, approximately 580 meters above Shima Hospital."*

Thus, the A-bombing on Hiroshima, the first in the world to kill a tremendous number of innocent citizens and children was carried out at 8:15 a. m., 1945. The record continues.

*"8:15 a. m., August 6, 1945 (Chapter 3)*

*American air raids on the mainland had already devastated most of Japan's major cities. In preparation for such raids, Hiroshima City was clearing the lanes, opening fire-fighting spaces, and creating a fire break of 100 meters wide running east and west across the center of the city. For these purposes, areas throughout the city were targeted for demolition, and gradually, buildings in those areas were torn down and cleared away.*

*On August 6, a special district guard corps composed mainly of temporarily drafted elderly veterans, many units of community and workplace volunteer citizens corps from around the city and surrounding counties, and the student corps (mobilized students), mostly 12 or 13 years old (first and second-year junior high school students, girls' high school students, and children in the upper grades of elementary schools). They*

\* In a book "Burnt Yet Undaunted" published in 2002, that is the verbatim account of Senji Yamaguchi who is a leading Nagasaki Hibakusha (sufferer), Yamaguchi says:

*"Terrorism is a detestable crime. I firmly believe that the atomic bombing was **the worst act of terrorism in history**. Tens of thousands of people had their lives indiscriminately stripped from them, and two cities disappeared in an instant. Now, more than a half century after the bombings, many people are still suffering from radiation diseases. It truly is the worst example ever."*

(bold letters by the authors)

began demolishing buildings early in the morning.

Most third-year junior high school students mobilized to work in military supply factories were spared because their work sites were in the outskirts of the city. Those who were demolishing buildings, however, were working downtown and out in the open. Of the approximately 8,400 children at their mobilization work sites that day, about 6,300 were killed by the atomic bomb."

As to the casualties and damage, Chapter 3 further continues as follows.

*"The atomic bomb dropped on Hiroshima at 8:15 a. m. on August 6, 1945, exploded 580 meters over the city with a blinding flash, creating a fireball that blazed like a small sun. More than a million degrees Celsius at its center, in one second the fireball reached a maximum diameter of 280 meters, and the surface temperatures in the vicinity of the hypocenter rose to 3,000 to 4,000 degrees C.*

*Fierce heat rays and radiation burst out in every direction, expanding the air around the fireball and creating a super-high-pressure blast. These three factors interacted in complex ways to inflict tremendous damage.*

*The damage inflicted by the atomic bomb was characterized by instant and massive destruction, indiscriminate mass slaughter, and radiation. Radiation damage led to decades of human suffering."*

*"It is thought that approximately 350,000 persons were in Hiroshima when the bomb exploded. This figure includes ordinary citizens, military personnel, and people from surrounding towns and villages who were mobilized for building demolition work. It also includes people from Korea and Taiwan, which were then Japanese colonies, and mainland China. Some of these had been conscripted and forcibly brought to Hiroshima to serve as laborers in the war effort. Other foreigners present in small numbers included students from China and South-east Asia and US prisoners of war."*

The precise number that perished in the bombing is unknown. Several estimates have been made public. Hiroshima City estimates that by the end of December 1945, when the acute disorders had subsided, 140,000 ( $\pm$  10,000) had died."

#### 1-2. Surveys at the hypocenter and the surroundings

According to "The Spirit of Hiroshima", on

the 8<sup>th</sup>, an Imperial Headquarters Survey Team was dispatched.

*"At the war's end, various survey groups in the bombed area suspended their activities temporarily but around the end of August and early September, survey activities by various universities and research bodies resumed. The American government considered it important to cooperate with the Japanese government to learn from the studies launched immediately following the bombing. The Japan-US Joint Commission, which included Japanese researchers, arrived in Hiroshima in October. **The group did not publicize all the results of its study. Publication of results was prohibited then and later by the General Headquarters of the Allied Powers (GHQ) press code.** Until the San Francisco Peace Treaty was concluded in 1951, research activities and reports concerning the bombing were restricted."*

(bold letters by the present authors)

The casualties and damage are revealed by the hypocenter surveys and by the effects of heat rays, blast, super-high-temperature fires, radiation and black rain. The aftereffects were also terrible.

This book then describes the "Recovery from Chaos" in Chapter 4.

*"The atomic bombing plunged the people of Hiroshima to the depths of physical deprivation and psychological despair. Those who had survived the bombing were joined by soldiers and civilians returning to the city from overseas or from rural evacuation sites to find their homes and work-places destroyed. Simple clothing and everyday necessities were almost impossible to find. All faced hunger and runaway inflation, but those who had been exposed were also struggling with various disorders caused by the bomb.*

*During this period of confusion following the bombing, as all of Japan struggled through the tumultuous transition from surrender to life under occupation, the people of Hiroshima began to rebuild their lives, hampered by scarcities of food, money and materials. Nevertheless, on August 5, 1946, exactly one year after the bombing, the people comforted the souls of the dead and vowed to restore the city at a Peace Restoration Festival. The magnitude of the task, however, was staggering."*

Under the title "Children in the Postwar Period" Chapter 4, it follows.

*"Evacuated groups were dismissed from September to November 1945, but many children*

returned from their evacuation sites to find their families dead and food shortages worse than during the war. The number of A-bomb orphans is unknown, but estimates range from 2,000 to 6,500. Some were sheltered by war casualty children's homes, but many, dazed by perpetual grief over their lost families, suffered terrible hardships."

"A-bomb survivor relief. Some survivors still suffer the aftereffects of A-bomb radiation. Relief and rescue operations began immediately after the bombing, but during the occupation, information about the A-bomb was censored and research into A-bomb-related disorders was greatly hampered by a press code enforced by the General Headquarters of the Supreme Commander for the Allied Powers (GHQ). This press code prevented society at large from recognizing the dire circumstances of the survivors\*. Thus,

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\* In the book "Burnt Yet Undaunted" Senji Yamaguchi criticizes the United States of withholding information that could have been useful for medical treatment of survivors:

"On the one hand, all information concerning the atomic bombing was kept secret from the public under the US press code. But then in 1947, the US set up the Atomic Bomb Casualty Commission (ABCC) and began to investigate the effects of radiation. ABCC was a research organization which came into being as the result of a presidential directive. It was established by the US National Academy of Sciences at the request of the Atomic Energy Commission. The purpose of the organization was to investigate the medical effects of radiation and diseases caused by radiation. However, the results were never made public. There is no doubt that this action of the US delayed the treatment of Hibakusha with radiation diseases. In this sense the US was doubly guilty. It makes me furious. If the real effects of radiation had been made known a little earlier, lives might have been saved."

Joseph Gerson, the Program Coordinator of the American Friends Service Committee at Boston, wrote the preface to the book "Burnt Yet Undaunted" based on his experience, as follows.

"In 2000, shortly after United Nations' NGO Millennium Forum in New York, I helped to arrange two leading Japanese Hibakusha, Dr. Shoji Sawada and Junko Kayashige, Rev. Sanai Hashimoto of Japan Council of Religionists for Peace, and US downwinder Claudia Peterson to meet with the Deputy Secretary of the US Department of Energy, the man responsible for overseeing all US government studies on the impacts of radiation. It was one of those formally polite, sometimes honest, and all too frustrating meetings with government officials. Nonetheless, the meeting provided me the opportunity to ask him to clear the record by responding to the Hibakusha's long-time accusations that the ABCC has used them as guinea pigs. I was amazed when he confirmed that **what the Hibakusha have been saying is absolutely correct. The ABCC studies have, he said, been used to study everything, including how best to design new nuclear weapons.**"

(bold letters by the authors)

survivors received no special assistance beyond the Daily Life Security Law and other provisions of the general welfare system.

After the San Francisco Peace Treaty was signed in 1951, campaigns seeking relief for A-bomb survivors gradually gathered momentum. Then, in 1954 a fishing boat, the 5<sup>th</sup> Fukuryu-maru (Lucky Dragon), was exposed to radioactive fallout from a hydrogen bomb test. The Bikini Incident, as it came to be known, greatly strengthened efforts simultaneously enhancing public understanding of the need to offer special assistance to A-bomb survivors. The A-bomb Survivors Medical Care Law was finally enacted in 1957, and the A-bomb Survivors Special Measures Law of 1968 provided higher levels of assistance.

These two measures were integrated in 1994 by the Atomic Bomb Survivor's Support Law, which made the national government clearly responsible for comprehensive assistance to survivors, including health management, medical care, and welfare measures."\*\*

### 1-3. Atomic bomb damage in Hiroshima

Approximately 350,000 people were in Hiroshima when the bomb exploded and about 140,000 were estimated to have been killed immediately by heat rays, blast, and super-high-temperature fires. Furthermore, radiation had serious effects on the survivors. "The Spirit of Hiroshima" describes the following.

"Radiation:

Radiation damage from the bomb varied considerably with distance from the hypocenter and the presence or absence of an intervening object. The initial radiation emitted within a minute of the explosion was lethal within 1 kilometer of the hypocenter. Most in that area died within a few days. Many who appeared uninjured developed disorders and died days or months later.

The explosion left residual radiation on the

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\*\* In the book "Burnt Yet Undaunted" Yamaguchi says:

"The law constituted a certain advance in that it provided allowances that were similar to State compensation in their nature. However, the four basic demands we had set forth, including condolence money for the diseased and a pension scheme were not included in the law. — Nevertheless, many improvements have been made in the laws supporting Hibakusha since the time of the A-bomb Medical Treatment Law (1957). This is the fruit of our desperate effort, a proof of the strength of our movement."

ground for a long period of time. Consequently, many who entered the city after the explosion to search for family or co-workers, as well as those who entered to participate in relief activities, developed symptoms similar to those resulting from direct exposure. Many died.

*Black Rain :*

After the explosion, fierce firestorms and whirlwinds appeared as the conflagration engulfed the city. Approximately 20–30 minutes after the explosion, heavy rain fell on the north-western areas of the city. Though it was mid-summer, the temperature fell sharply during this rainfall. Those fleeing naked or lightly dressed were chilled and shivering.

Worse still, the large drops of black rain during the first 1–2 hours contained mud and dust stirred up during the explosion, as well as soot from the fires. The black rain was therefore highly radioactive, causing fish in ponds and rivers to die and float to the surface. Most who drank well water in these areas suffered from diarrhea for three months.

*Aftereffects :*

Radiation effects from the A-bomb extended beyond the acute disorders that appeared immediately after the bombing. It caused various disorders for decades and continues to threaten the health of survivors today. In early 1946, burn scars on some survivors began to swell into keloids.

In-utero survivors were born with microcephaly, with its attendant mental and physical disorders. Starting around 1950, the number of leukemia patients soared. Starting around 1955, the incidence of thyroid, breast, lung and other cancers increased. Even today, explanations of the effects of radiation over the years are inadequate. Research and survey efforts continue."

The Japan Confederation of A- and H-Bomb Sufferers Organization (Nihon Hidankyo) publishes a number of booklets and other materials; among them a conspicuous booklet "HIBAKUSHA" which shows many pictures of sufferers at the time of the bombing and afterward. People in the world must see them. On the front page of this booklet it is written :

*"Please recommend this pamphlet to your friends and acquaintances to spread the experience of Hiroshima and Nagasaki."*

The use of atomic bombs was maintained by the US as being necessary to finish the war earlier. However, this booklet states :

*"There was also another hidden aim, viz., to do research and study on the power of an atomic*

*bomb in preparation for the further use of nuclear weapons in the future. This is why Hiroshima and Nagasaki were chosen as targets for conducting living-body tests. For this reason the US kept the damage of the atomic bombing a military secret, and refused to aid the Hibakusha (sufferers) in spite of an offer made by the International Red Cross."*

(bold letters by the authors)

An example of the records of atomic bomb sufferers in Hiroshima is described in detail in a book "On A-bombs" edited by Keiichiro Niwayama (1980). The book of about 400 pages consists of testimonies of survivors who had worked in the regional financial bureau in Hiroshima situated within a 1-kilometer circle from the hypocenter. All suffered from disorders which occurred 2–3 weeks after the bombing, such as high fever, diarrhea, loss of hair, subcutaneous hemorrhage spots on the skin, bleeding from gums and nails. One who was able to get fresh vegetables from his hometown remained in relatively good condition.

#### 1-4. Atomic bombing of Nagasaki

The Guidebook of Nagasaki Atomic Bomb Museum (2000) describes how it was when the plutonium bomb was dropped on Nagasaki :

*"The newspapers of August 8 carried front page articles based on information released by the Imperial Headquarters, informing readers that <On August 6, a small B-29 squadron attacked the city of Hiroshima with a new-based type bomb and inflicted considerable damage.> Only the vague term <considerable> was used to describe the catastrophe. But rumors of the true extent of the devastation were transmitted by a small number of people who came to Nagasaki after surviving the Hiroshima bombing or who passed through the destroyed city on their way back from points east of Hiroshima. Still, no one in Nagasaki understood the meaning of words <new-type bomb> or knew that a single bomb had laid Hiroshima to waste (the word <atomic bomb> was not publicized until Japan's surrender on August 15). Needless to say, no one even imagined that the next day the second mushroom cloud would churn up over the city of Nagasaki."*

*The Urakami district of Nagasaki was the site of Christian missionary work from the latter part of the 16<sup>th</sup> century. The people of Urakami suffered persecution constantly from 1587 when Christianity was outlawed until 1873 when the*

ban was finally lifted. These faithful people began to build a church, placing one brick upon another. Their labors bore fruit with the completion of the grandest church in East Asia in 1914 and twin 26 meter-high spires in 1925. But the explosion of the atomic bomb slapped the spires down and reduced the church to a hollow shell of rubble.

An atomic bomb exploded over Nagasaki on August 9, 1945, three days after the explosion of the first atomic bomb over Hiroshima. The bomb was assembled at Tinian Island on August 6. On August 8, Field Order No. 17 issued from the 20<sup>th</sup> US Air Force Headquarters on Guam called for its use the following day on either Kokura, the primary target, or Nagasaki, the secondary target. That same day, the Soviet Union declared war on Japan. The B-29 bomber "Bockscar" reached the sky over Kokura on the morning of August 9 but abandoned the primary target because of smoke cover and changed course for Nagasaki, the second target, where it dropped the atomic bomb at 11:02 a. m."

The damage due to the bomb was by 1) ferocious heat, 2) heat, 3) fire, 4) heat, 5) blast and 5) radiation, as in the case of Hiroshima. The Guidebook continues.

"A Testimony to the Ferocious Heat: The fireball generated by the explosion assailed the ground below with a tremendous avalanche of heat within a short span of about 3 seconds. The temperature on the surface of the ground is estimated to have been between 3,000 and 4,000 degrees C near the hypocenter, 1,800 degrees C at a distance of one kilometer and more than 600 degrees C at 1.5 kilometers. The flash of heat caused a wide-spread conflagration. Although its damage from heat rays was irregular due to the topography of the Urakami area, people outdoors as far as four kilometers from the hypocenter suffered burns."

"Physical Damage caused by the Heat: In the area near the hypocenter, everything combustible burst into flames as a result of the tremendous flash of heat. Glass melted, ceramic roof tiles bubbled and rocks turned black, leaving permanent evidence of the ferocity of the flash. Although the temperature decreased with distance, clothing, telephone poles and trees as far as 2 kilometers from the hypocenter were burned or scorched."

"Damages caused by fires: The damages caused by the flash of heat and blast were aggravated by subsequent fire. These leveled neighborhoods where the blast had inflicted only

partial damage. In total, 12,900 houses burned to ashes and another 5,509 were partially burned. The fire also increased the number of victims. Many people trapped under fallen debris had suffered only external injuries but died as the fires raged through the city."

"Human Injuries caused by the heat: The heat generated over a short span of a few seconds showered down on unshielded people and caused terrible burns. In particularly severe cases, the skin came off in sheets, revealing the subcutaneous tissues and bones. The burns were fatal within a distance of 1.2 kilometers. In the area near the hypocenter, meanwhile, the heat instantly carbonized human bodies and evaporized their internal fluids."

"Damages caused by the blast: Ordinary wooden houses within a radius of 1 kilometer of the hypocenter were completely destroyed. Even the concrete buildings left standing were reduced to hollow shells. The buildings collapsed in one direction as if pointing toward the hypocenter. The blast wind slapped people against walls and showered them with a torrent of bullet-like glass splinters and debris."

"Human injuries caused by Radiation: The radiation released by the explosion of the atomic bomb penetrated human bodies and destroyed cells in various tissues. The extent of injuries depends on the radiation dose, but the vast majority of all people within a distance of 1 kilometer from the hypocenter died. Since this includes people without external injuries, it shows the destructive capacity of radiation. The damages caused by the atomic bomb did not end at the moment of the explosion. The radiation wreaked deep internal injuries that appeared in subsequent years in various symptoms. The radiation injuries inflicted that summer of 1945 continue to this day to cause suffering."

The testimony by Senji Yamaguchi from the book "Burnt Yet Undaunted"(2002) is referred to.

"The real horror of the atomic bomb is that, on top of the effects of the heat rays and the air blast from the explosion, there is the effect on invisible radiation on the human body. Most of the people within a 1-kilometer radius of the A-bomb died, even if they did not have any external injury. That was due to acute radiation damage. Dr. Shuntaro Hida, Director of the Hibakusha Counseling Center of Hidankyo, who was also A-bombed and served as a doctor just after the explosion, looking back over those days, said that it was an unprecedented mode of death. He had

never seen anything like it before.

People who went to the hypocenter area on the day after the explosion also died, even though they had no skin burn or injuries. Purple spots came out on their bodies, the inside of their mouths went rotten and they had very high fever. About 2 weeks later, after they had lost their hair, they began to die, one after the other. Dr. Hida wondered why they died, even though their clothes were not damaged. These symptoms, which at the time he thought some kind of infectious disease, were actually the result of acute radiation damage.

Other effects of the radiation struck Hibakusha much later. Deaths from leukemia started to increase around 1950, peaking around 1952 to 1954. In the summer of 1956, I too experienced a decline in my leukocyte count. My liver became swollen and I was hospitalized for about 50 days.

It was 10 years after the war when the real cause was discovered. The press code issued in September 1945 by the General Headquarters of the Supreme Command of the Allied Forces (GHQ) prohibited not only reporting on the atomic bombs but also research and analysis by Japanese researchers on the damage caused by the A-bombs. They were worried that information would be leaked to the Soviet Union. However, it held back research on radiation sickness. Many Hibakusha passed away without finding any effective remedy.

I got to know many patients when I was delivering buns to the shop at the Medical School of Nagasaki University. I had a very close friendship with one man who had leukemia. We felt familiar enough to speak together freely about our families. As he was dying, his stomach swelled up. The sight of his wife and children crying and hanging onto his bed is burnt into my memory. Every time a close friend passed away, I was filled with resentment toward the A-bombs. I was pierced by feelings of anger.

Other delayed effects of the radiation came in waves. There was an increase in the number of thyroid cancers from around 1955, breast and lung cancers from around 1965 and stomach and colon cancers from around 1975. Hibakusha would say to each other "Who will be next?" We still live in fear under the shadow of sickness. We never know when it will strike."

## 2. Rescue activities

### 2-1. Relief and rescue activities in Hiroshima and Nagasaki

How relief and rescue were offered to the survivors is described in "The Spirit of Hiroshima" as follows.

*"The A-bomb devastation instantly engulfed the city. Streaming with blood, people fled the threatening flames and black smoke in whatever direction looked safe.*

*Victims overflowed out of hospitals and relief stations. Agonized cries from the injured in damaged air-raid shelters and burnt ruins, shouts for family members, and calls for help continued through the night, as person after person died.*

*City Hall, the Prefectural Government Office, police stations, and all government buildings were destroyed, their functions completely extinguished. Communication and transportation were paralyzed, throwing the city into confusion.*

*Immediately after the bombing the Army Marine Headquarters in Ujina (commonly known as "Akatsuki Corps") began their own relief activities, fighting fires, rescuing persons, transporting the injured to Ninoshima Island. Many other relief corps subsequently rushed to Hiroshima from the Kure Naval Base and neighbouring regions.*

*The next day (the 7<sup>th</sup>), the Hiroshima Security Regiment Headquarters was established, led by the Akatsuki Corps. The military, the government, and the people united to carry out full-scale relief and restoration activities."*

*"However, the bodies rapidly decomposed, filling the air with their stench, cremation became an even more difficult task. Crematoria were hastily constructed throughout the city, and an endless line of corpses were brought in. Firewood was quickly exhausted but the grim task continued using light and heavy oil."*

*"Emergency Relief Station on the Otagawa River Embankment: Since the Hiroshima Second Army Hospital was reduced to ashes, that same day tin and straw mats were collected and tents erected on the western side of the Otagawa River embankment to accommodate the injured. In the immediate aftermath of the bombing, a great number of injured seeking treatment crowded into the relief station and filled it to overflowing. The injured crowded into hospitals, and medical institutions in and around the city were filled to overflowing. The Hiroshima Red Cross Hospital was badly damaged. It was a*



*fire-gutted shell, and 85% of the staff, including nurses and students, were killed or injured. Medical supplies soon ran out. Nevertheless, all the hospital staff devoted themselves to providing whatever treatment they could."*

In Nagasaki, similar relief and rescue activities were carried out. The Guidebook of Nagasaki Atomic Bomb Museum describes the following:

*"The atomic bombing inflicted a crushing blow on Nagasaki's existing medical treatment system. The surviving doctors and nurses began relief activities, but the lack of equipment and supplies made it impossible to provide even first-aid. Relief trains meanwhile traveled into the still-burning neighborhoods near the hypocenter and carried victims to hospitals in nearby towns. A naval hospital relief team entered the city in the evening, and during the night, rescue teams comprised mainly of volunteer guard and fire fighting brigades from the neighboring towns arrived to assist the victims."*

Besides those victims who were immediately killed by the atomic-bomb explosion and those who survived for some time, but were killed, by the flash of heat, fires and blast, many people suffered from different kinds of damages caused by radiation. They were: (1) acute disorders including nausea, diarrhea, fever, subcutaneous hemorrhage or stomatitis; (2) leukemia; (3) thyroid cancer; (4) atomic bomb cataract; (5) microcephaly; (6) breast, stomach, lung, or colon cancers.

As described previously, to hide what really happened and how terrible the effects of the atomic bomb explosions were the US refused the aid offered by the International Red Cross.

## 2-2. Doctors' and nurses' activities

The experiences and testimonies of medical doctors who observed the atomic bombing and engaged in the relief and rescue activities in Nagasaki are found in two books (Shirabe and Yoshizawa, 1982; Akizuki, 1991). Akizuki (1991) wrote the following:

*"It was a fine day without a piece of cloud. On August 9, at 8:30 a. m. I started to see outpatients. They were approximately 30, among them was Mr. Yokota who was an engineer of Mitsubishi Weapons Company. He gave me some scientific knowledge and said that the bomb dropped on Hiroshima was awful, probably an atomic bomb. At 10:30 since an air-raid alarm came, the patients and we all had to go to the shelter, but the alarm was cancelled 30 minutes*

*later. I went back to the examination room, then heard the roaring of a bombing plane. We all laid down on the floor near the beds, then after a while a flash came with a terrible shock on us and on the building of the hospital. I realized that I was all right and the nurse Murai stood up but found that many people lay on the floor covered with blood."*

Akizuki then started relief and rescue activities with nurses in the ruin and fire. His hospital was 1,800 m away from the hypocenter but rather safe with little effect from fire. People who were half-naked were coming to the hospital asking for help. Although they looked half-naked, their hair burnt and skins were peeling off and hanging down as if they were clothed. Some of them cried for water and went down to the valley near the River Honhara. It was almost impossible to describe the horrible damage of people and the whole city. **It was hell.** Due to the lack of equipment and supplies doctors, working with nurses, had great difficulties in relieving and rescuing the survivors, and just had to watch them die.

There are some documents by nurses who were in Hiroshima at the time of the atomic bombing. Ohara and Moriyama (2002) made a survey using the method of Oral History with the nurses who engaged in the relief and rescue activities in Hiroshima from August 6 to 15. The authors conducted interviews with six nurses; three were nursing students and two were nurses at the Hiroshima Red Cross Hospital but working at the Army Hospital. According to their reports, the following was what they experienced. The following is the English translation of their reports.

*"Air-raid alarms had been repeated on August 5 to 6, and each time nurses in charge led the patients to the shelter and back to the hospital. The rescue nurses went to the appointed hospitals when air-raid alarms were given and returned home when the alarms were cancelled. Thus, they were not able to rest during the night, and then the day August 6 came. At 7:31, since the warning for the air-raid was cancelled, the nurses were at routine work at their own hospitals. Suddenly at 8:15, a terrible sound and blast following the flash of light attacked the city without air-raid alarms. They did not know what to do, but were concerned about the patients. As time passed, many people came to the hospitals and the nurses were greatly shocked by their terrible appearances. Nevertheless, they*

*realized that they had to carry out their duties as nurses, trying to relieve the injured citizens, forgetting feelings of shock and fear. However, due to the lack of equipment and supplies the relief activities were limited. They could only wash the wounds of the injured who continuously died. Many survivors asked for water, but died immediately upon drinking it. Therefore, the nurses had to operate crematoria. After 3–4 days, as the wounds of the survivors became infested with maggots, the nurses had to remove the maggots. Until the end of the war on August 15, all relief work by the nurses had to be carried out under the fear of further air-raids.”*

### 3. Why did the USA dropped atomic bombs on Japan?

Two days after Nagasaki, President Truman sent a letter to Senator Richard Russel of Georgia (Schaffer, 1996) stating :

*“I know that Japan is a terribly cruel and uncivilized nation in warfare but I can’t bring myself to believe that, because they are **beasts**, we should ourselves act in the same manner . . . . I certainly regret the necessity of wiping out whole populations because of the <pigheadedness> of the leaders of a nation and . . . . I am not going to do it unless it is absolutely necessary. My object is to save as many American lives as possible but I also have humane feeling for the women and children in Japan.”*

The statement could be said to be full of deception. It tries to illogically justify the reasoning for the attacks by atomic bombs on Hiroshima and Nagasaki. International law could not be applied to their attacks because, according to Truman, Japanese ordinary citizens were practically combatants. Schaffer (1996) also describes what Truman said as follows ;

*“The final decision of where and when to use the atomic bomb was up to me. Let there be no mistake about it. I regarded the bomb as a military weapon and never had any doubt that it should be used. — I ordered the Atomic Bomb to be dropped on Hiroshima and Nagasaki. It was a terrible decision. But I made it. And I’d made it to save 250,000 boys from the United States and I’d make it again under similar circumstances. It stopped the Jap War.”*

When Roosevelt died in spring 1945, the new president was said to have begun his term wondering if he had the ability to take Franklin Roosevelt’s place. That was why,

almost immediately, Truman had to make a series of very significant choices in which he was aided, but also limited, by a succession of earlier policies and by distinguished, even awe-inspiring officials, such as Stimson. He also had to take command of American public opinion.

In order to justify the dropping of atomic bombs, there has been a stereotyped explanation : (1) it was a retaliation for the Pearl Harbor attack; (2) it was necessary to minimize the casualties of American soldiers by finishing the war earlier.

With respect to (1), Mears (1948) describes the following :

*“In the first emotion following the shock of the disaster, Americans were inclined to accept the attack as a bolt from the blue, almost as inevitable as an act of God with no conceivable rational explanation. Pearl Harbor became the symbol of treachery, and the Japanese people became the focus for all our conflicting hates and fears, our insecurity and rage. As a foundation for future peace, however, a too-simple explanation might well prove disastrous. For the fact that the causes for Pearl Harbor were much more complex than we admitted officially was made obvious during the progress of the official investigations.*

*In the official report, the Army claimed that their official policy toward Japan had been of a contradictory, dual nature which the Army report called a <Do, Don’t technique.> This policy, the report said, was to make no open military moves against Japan, but to impose a series of progressively severe economic sanctions. By this policy, the report said, the Japanese were encouraged toward war and helped to arm themselves, while their own military preparation was still inadequate. Moreover, the report said, the seriousness of the disaster at Pearl Harbor was due in large degree to the fact that on November 26, Secretary Hull had presented Japan with an <ultimatum> — or what the Japanese thought was an ultimatum — without notifying the War Department.”*

There is the report of a conference between the President and Secretary Hull, Secretary Knox, Secretary Stimson, General Marshal, and Admiral Stark, at which they discussed the question (Mears, 1948) :

*“How we should maneuver them (the Japanese) into the position of firing the first shot without allowing too much danger to ourselves.”*

As for explanation (2), Alperovitz (1995)

concluded that the use of the atomic bombs was not necessary for the war victory against Japan, by introducing the words of the Fleet Admiral, William D. Leahy and D. D. Eisenhower. Leahy recorded in his private diary :

*"It is my opinion at the present time that a surrender of Japan can be arranged with terms that can be accepted by Japan and that will make fully satisfactory provisions for America's defense against future trans-Pacific aggressions."*

The memory of Leahy's secretary, Dorothy Ringquist, is also quoted by Alperovitz (1995). The day Hiroshima was bombed Leahy said :

*"Dorothy, we will regret this day. The United States will suffer, for war is not to be waged on women and children."*

He complained bitterly :

*"Truman told me it was agreed that they would use it, after military men's statements that it would save many, many Americans lives by shortening the war, only to hit military objectives. Of course, then they went ahead and killed as many women and children as they could which was just what they wanted all the time."*

Mears (1948) pointed out that at the time of the Yalta meeting, Soviet Russia was not at war with Japan due to the nonaggression pact. However, Britain and the USA arranged it so that at a certain date, Soviet Russia would break the treaty and invade Japan through Manchuria. Both nations considered that breaking the treaty was not against international law. As a result, the USA dropped an atomic bomb on Hiroshima and Soviet Russia declared war against Japan on August 8<sup>th</sup> and started its invasion on the 9<sup>th</sup>. On the same day, August 9<sup>th</sup>, the US dropped another atomic bomb on Nagasaki. Thus, Russia obtained the Japanese land and fortune in Manchuria as a gift from Britain and US.

According to Alperovitz (1995), "the diary by Stimson, the Secretary of the Army, is the basic document; it shows what was really in Mr. Stimson's mind at any given time as no files or correspondence can do. . . . ." The following is an example :

*"May 15, 1945: The trouble is that the president has now promised apparently to meet Stalin and Churchill on the first of July and at that time these questions will become burning and it may be necessary to have it out with Russia on her relations to Manchuria and Port Arthur and various other parts of North China, and also the relations of China to us. Over any such tangled*

*wave of problems the S-I secret\* would be dominant and yet we will not know until after that time probably, until after that meeting {the Potsdam conference}, whether this is a weapon in our hands or not. We think it will be shortly afterwards, but it seems a terrible thing to gamble with such big stakes in diplomacy without having your master card\* in your hand."*

Alperovitz (1995) concluded that using the atomic bomb was not for finishing the war with Japan but for gaining political and military superiority over Soviet Russia after the war.

There are two possible reasons for that the US dropped atomic bombs on Hiroshima and Nagasaki, based upon information from various sources, namely (1) racial prejudice, and (2) the need to test the effect of atomic bombs to continue further development of nuclear armament. These are in addition to maintaining superiority in international and domestic relations, particularly against Soviet Russia.

### 3-1. Racial prejudice

Mears (1948) pointed out that the US accused the nation of yellow people when they tried to do the same as the nations of white people, such as invading other nations in Africa, Asia, because the nations of yellow people have no right to do the same as those of white people, by describing the following :

*"In condemning the Japanese today, we condemn them for <violence and greed.> In their first education, however, they learned—as the colonial peoples had learned before them, by contrasting the idealistic expressions of principle with the harsh facts of colonial practice — to accept humanitarianism, and equality of opportunity or race, as merely another sort of <legal fiction> like the rules of international law. The Western Powers talked about <equality,> but they practiced race discrimination, and demanded special privileges on the basis of race, power and <treaty rights.> They talked about <free competition> and <free enterprise,> but they practiced exclusive domination of backward areas; gained valuable concessions by financial pressure of force; controlled tariffs — not only their own domestic tariffs, but those of dominated areas — for their own special advantage. They talked in*

\* A-bomb

*terms of <sovereign equality,> but they manipulated local governments by financial-commercial pressure, and by force ; and insisted on living according to their own law."*

Mears (1948) also describes the official relations between the United States and Japan in the period from the middle of the 1920s on to Pearl Harbor as follows :

*"You cannot find in the record that there was ever any genuine attempt to solve basic problems, such as immigration restrictions and trade discrimination. Our exchanges with the Japanese representatives, especially in the grave days before Pearl Harbor, were characterized throughout by evasions and legal fictions."*

At the time of the Meiji Restoration in the 1860s, America and European powers had a plan to invade Japan as well as China to have colonies in the Far East. When the war between China and Japan ended in 1895, Japan had to give up the reparation from China to take Peninsula of Port Arthur by the Tripartite Intervention of Russia, France and Germany. In 1899, the US Secretary of State called on European nations to exclude Japan from the policy of "Opening the door" in China. Japan then, with a fear for its national safety against invasion from Russia, declared the Russo-Japan War and defeated Russia in 1905. However, although the US was of great help to Japan, it became afraid of the possibility that Japan would join the nations of white people in the US policy of "Opening the door." In 1911, the US navy staff established a theoretical basis for a possible war with Japan, called "War Plan Orange," aiming at the "Unconditional surrender" of Japan. Based upon this plan, the US hereafter exerted strong pressure on Japan by a variety of possible measures, finally provoking Japan toward war.

The blame by the US public opinion that Japan attacked Pearl Harbor without war declaration is not necessarily reasonable. Wars are usually begun without declaration, such as those wars between the USA and Spain or between the USA and Mexico. Therefore, an American scholar of international law, at the time of the Russo-Japan War, expressed his view that it was not cheating if a war was started without declaration (Ikude, 1996, in Japanese).

In fact, there is much evidence that the Pearl Harbor attack in December 1941 was not a surprise attack. In his recollections, American

General A. C. Wedemeyer described the situation of the outbreak of the war between Japan and the US in detail (Seno, 1997, in Japanese). Namely, President Roosevelt anticipated the attack by Japan against the US because Japan had been provoked in many ways. Secretary of the Army Stimson had an idea of how to provoke Japan to initiate war. The final aggression of the US against Japan was so-called "Hull Notes" which included mainly that (1) Japan should admit their defeat against China, by the withdrawal of all troops from China ; (2) Japan should withdraw from French-India ; (3) the nation of Manchuria should be abolished and should promise the US that only the government of Shan-Kai-Shi should be approved ; (4) the Anti-communism Treaty between Japan, Germany and Italy should be abrogated.

Thus, the pressure from the US against Japan, starting from "War Plan Orange" to the "Hull Notes" could be said to have laid the path for the attack on Pearl Harbor. This also led to anti-humanity attack by the atomic bombs. An army general expressed his basic attitude and feelings against Japan saying that they had impulses and feelings to use atomic bombs on Japan which had attacked USA territory but never against Germany which had not. According to a survey on the general opinion of ordinary US citizens in December 1944, 20% of the citizens wanted to kill all the Japanese people (Masuda, 1997). Apparently, they were educated or brainwashed to believe that the Japanese people were not human beings as they were – this is genuine racial prejudice. The comments given by Harry S. Truman are a representative example (from "The A-Bomb and Humanity" Japan Confederation of A- and H-Bomb Sufferers Organization, 1997) :

*"(After confirming the Soviet entry in the war on Aug. 15) "Fini Japs when that comes about*

*(If we use the atomic bomb, I) Believe the Japs will fold up before Russia comes in."*

### 3-2. Manhattan Project

The book "The Spirit of Hiroshima" describes the following under the subtitle "**The Manhattan Project and the Birth of the Bomb.**"

*"Jewish physicist Leo Szilard, fearing that Hitler's Nazi Germany might obtain an atomic bomb, wrote a letter to US President Roosevelt*

urging him to develop an "extremely powerful bomb of a new type." The letter was signed by the famous physicist Albert Einstein. In response, Roosevelt established the President's Advisory Committee on Uranium in October 1939 and began a basic feasibility study.

In June 1942, Roosevelt approved development of both a uranium and a plutonium bomb. The Manhattan Project was launched under army supervision in August. Major General Leslie R. Groves was placed in command in September.

In March 1943, Major General Groves established a research facility in Los Alamos, New Mexico, and appointed J. Robert Oppenheimer director. In top secrecy, utterly isolated from the outside community, scientists gathered and began their research.

At the beginning of the war, the Germans were ahead of the Americans in research on nuclear fission, but by 1942 they had abandoned their A-bomb project. The US government, even after confirming this fact, withheld this information from the scientists and continued pushing development of the bomb.

The enrichment of uranium and the production of plutonium required a large-scale factory, making the cooperation of major corporations indispensable. Chemical, metal, electric, automotive oil, and construction — nearly all the largest companies in many fields participated. By the end of 1945, approximately \$2 billion had been invested. At its peak, the Manhattan Project employed over 120,000 people. It called forth the combined resources of the nation as a whole, and the resulting integrated effort by industrial, military, and academic organizations changed the nature of scientific inquiry. This was the start of "big science," a mainstream approach today.

The project produced one uranium and two plutonium bombs. However, the structure of the plutonium bomb was rather complex, so it required testing. On July 16, 1945, a plutonium bomb was placed on a 30-meter steel tower and detonated. The event, known as the Trinity test, was carried out in the desert near Alamogordo, New Mexico. It was the world's first atomic bomb test, and a success. The result was conveyed in code to President Truman, who was attending the Potsdam Conference in the outskirts of Berlin at the time."

Under the subtitle "**Preparing to Drop the Atomic Bomb**", "The Spirit of Hiroshima" continues as follows.

"Selecting Targets for the Atomic Bombs: In

1943, Roosevelt and Churchill decided that the US and UK should keep all information about the atomic bombs to themselves. In September 1944, the two leaders confirmed that A-bomb development would be top secret. They also agreed that, should the project be successful, the bomb would after careful consideration, be used against Japan.

In February 1945, Roosevelt died, and Vice-president Harry Truman became president. Only then did Truman learn about the attempt to manufacture an A-bomb. The first Target Committee meeting was held on April 27, and it was decided that the A-bomb targets should be military cities **with little previous bomb damage so that the effect could be accurately evaluated**. The city should be large enough that the damage would be limited to the confines of the city. With these criteria, 17 cities were considered.

On May 31, the newly organized Interim Committee decided that 1) the A-bomb should be used against Japan as quickly as possible, 2) it should be used against munitions factory surrounded by workers' homes, and 3) **it should be used without prior warning**. Later, four cities — Kyoto, Hiroshima, Kokura and Niigata — were selected as potential targets, and **conventional bombing in these cities was forbidden**.

Later, Kyoto was removed from the list, and Nagasaki was added. Kyoto was removed because it had been for centuries the seat of the Imperial Court. It was thought that if the A-bomb were dropped on a city so central to Japanese pride, it would be more difficult to obtain the cooperation of the Japanese people during the occupation after the war. Furthermore, in August, it was decided that Niigata was too far and too small, so it was eliminated as well.

The US, from intercepted and decoded Japanese radio messages, knew that Japan had been negotiating with the USSR since the middle of June to offer a framework for peace. With the completed A-bomb at his disposal, Truman believed he could force Japan to surrender even without Soviet participation in the war. Therefore, to limit Soviet influence in East Asia after the war, he hurried to drop the A-bomb before the USSR joined the war.

On July 25, nine days after successful test, Truman issued the order to drop the bomb. The following day, July 26, the Potsdam Declaration was announced, demanding Japan's unconditional surrender. **On the 28<sup>th</sup>, the Japanese government announced that it would ignore the Potsdam Declaration, and the use of the**

***A-bomb became a certainty.***

(bold letters by the present authors)

**3-3. Jewish physicists**

As described in "Spirit of Hiroshima," a Jewish physicist urged US President Roosevelt to produce A-bombs before Germany. In fact, anti-Semitism was behind the Manhattan Project, according to the present authors' view. After 1933 when Hitler took the power in Germany, his government decided to expel Jewish scientists, fundamentally based upon the view of "anti-Semitism" which had long existed throughout whole Europe. However, it was a great loss of intelligence in Germany, as most of them became refugees and went to the USA where they were welcomed at many universities. Nobel-Prize winning scientists who left Germany during 1933-45 were, for example, {physics} Albert Einstein, Otto Stern, or Max Born and also Leo Szilard born in Hungary ; {medical science and biochemistry} Fritz Haber, Richard Willstätter, Heinrich Wieland, Otto Meyerhof, Hans Krebs, or Fritz Lipmann (based on the data of Beyerchen, A. D., translated into Japanese by K. Tsuneishi, 1980).

The brain drain from Germany is evident from a comparison of the number of the Nobel-Prize winners in Germany and the US between A: 1901-39 (for 38 years) and B: 1943-55 (for 13 years) (Table 1, Maruyama, 1990 ; Masuda, 1996). This was not only a loss of eminent scientists from Germany but also a great benefit for the US and for the Manhattan Project. Germany was thought to have an atomic bomb project, but it in fact did not. Szilard and Einstein were extremely afraid of the possibility that Germany would be able to produce atomic bombs earlier than the US because Germany had the brilliant physicist Werner Heisenberg. However, Heisenberg had no interest in atomic bombs (Heisenberg, 1980). Here a few words are needed to describe the genius German physicist Werner Heisenberg.

{Werner Heisenberg, 1901-76}

Heisenberg was always against the Nazis,

but was sent to Britain after the war because he was thought to have been sympathetic to the Nazis, because he had remained in Germany. Heisenberg was born in Würzburg and entered the University of Munich in 1920, studying theoretical physics under A. Sommerfeld. He was strongly impressed by lectures on quantum theory by Nils Bohr at the University of Göttingen. In 1923, after obtaining his doctorate, he became an assistant to Professor Max Born at the University of Göttingen, and then studied in Copenhagen under Bohr in 1924-25. He became professor at the University of Leipzig in 1927, and then took the chair after Erwin Schrödinger at the University of Berlin and also became the head of the Physical Department of the Kaiser-Wilhelm Institute. His "Uncertainty Principle" is well-known (Dictionary of Physics, Baifukan, 1986). In 1942 he became a member of "Die Mittwochsgesellschaft" (Wednesday Club) consisting mostly of professors of the University of Berlin from a variety of disciplines, generals and politicians (Nakazawa et al., 2002). As one of the few natural scientists, Heisenberg gave a lecture on "Stars," explaining the fundamentals of nuclear physics, at a regular meeting of the club on July 12, 1944, a week before the assassination attempt on Hitler. Some members of this club were involved in the conspiracy. Among the members of the Wednesday Club, the Finance Minister of Prussia, Johannes Popitz, the former Ambassador to Rome, Ulrich von Hassel, and a leading economist and professor of politics at Berlin University, Jens Jessen, were directly involved in the conspiracy. Supported by other members of the club, Professor Eduard Spranger (1882-1963) and General Ludwig Beck (1880-1944), an assassination attempt was made by Claus S. von Stauffenberg on July 20, 1944, at the Führer's Headquarters "Wolfsschanze" in East Prussia but failed. All the people involved in the conspiracy were immediately arrested and killed except for Professor Spranger by petition from the Japanese Embassy in Berlin because Spranger was once a visiting professor at the University of Tokyo. Although Heisenberg was strongly against Hitler, he was not involved in the conspiracy because he knew that the plan would not succeed. After the war, he became the head of the physics department at Max-Planck Institute. However, particularly due to the objection of

Table 1 Change in the number of Nobel-Prize winners in Germany and the US in the 20<sup>th</sup> century (Maruyama, 1990 ; Masuda, 1996)

	1901-39 (for 38 years)	1943-55 (for 13 years)
Germany	35	5
USA	14	29

Jewish scholars, Heisenberg was refused to participate in international conferences. This clearly shows how strongly the Jewish scientists hated the Germans.

{Nils Bohr, 1885-1962}

When we discuss the atomic bombs in relation to nuclear physics, the name of Nils Bohr, a Danish nuclear physicist, should not be forgotten. Heisenberg once visited Bohr in Copenhagen, in order to discuss the possibility of producing atomic bombs (from the recollections of Heisenberg, quoted from Nishio, 1995). In Germany, since the project was thought to require a tremendous amount of money and time, there was no serious engagement in it, whereas the nuclear physicists from Germany who sought refuge in the US were deeply involved in the project.

Bohr was a world-renowned nuclear physicist, having his own institute in Copenhagen, which was visited by many physicists from all over the world including Japan. His institute was like a shelter from the Nazis, partly because Bohr himself was of Jewish origin and against the Nazis. When Hitler invaded Denmark in 1942, Bohr left Copenhagen for Sweden, then for Britain where he and his family were welcomed. At first, Britain was more interested in the study of atomic bombs than the US. British physicists were supposed to have collaborated with the Americans, but soon the US did not need any help. Bohr was informed of the project and recognized its tremendous significance. Bohr visited Los Alamos in December 1943 and met the director of the Manhattan Project, Robert Oppenheimer. Bohr expressed how he despised Hitler who wished to conquer all of Europe. He also talked with Oppenheimer about the problems of atomic bombs. Bohr then visited London with desire to have atomic bomb project made known not only to Britain but also to Soviet Russia to maintain good relations among the three countries after the war. Bohr met Churchill and then Roosevelt and talked about the problems of the project. However, the atomic bomb project was not seriously discussed by Roosevelt and Churchill at the Quebec Conference. It was in the autumn of 1944, when the two leaders met in Hyde Park without Stalin that they reached an agreement that the atomic bombs would be dropped on Japan.

### 3-4. Why the US had to drop atomic bombs on Japan

The Manhattan Project used \$2 billion and employed over 120,000 people. Therefore, the US government had to demonstrate that the investment was worthwhile. For this purpose, the effectiveness of atomic bombs had to be demonstrated. If successful, the American people would approve further studies on atomic bombs to enable an advantage over Soviet Russia. The atomic bombings can thus be said to have been vital experiments using innocent ordinary citizens of Hiroshima and Nagasaki, to compare the effectiveness of uranium and plutonium bombs. Truman decided that the US and the UK would test the effect of the bombs on Japan, but not on Germany although they were still fighting against Nazi Germany in autumn 1944. There were many US citizens from Germany and Japan, but apparently Anglo-Saxon Americans had prejudice against Oriental people.

According to "The A-Bomb and Humanity" (Japan Confederation of A- and H-Bomb Sufferers Organizations), US Secretary of War and Supreme Commander of the atomic bomb operation, Henry L. Stimson said:

*It was to bring the Japanese surrender at the earliest possible date, before the Russians, who had already entered Manchuria, reached the mainland of Japan."*

US Secretary of State, James F. Byrnes was said to express his view:

*"Mr. Byrnes did not argue that it was necessary to use the bomb against Japan in order to win the war. His view was that it would make Russia more manageable—."*

All of these comments clearly indicate that the use of atomic bombs was necessary to maintain US military priority against USSR, by showing their tremendous power against humans.

### 3-5. Trinity

From results of the Manhattan Project, a test explosion of the atomic bomb was carried out in New Mexico on July 16, 1945. The experiment was called "Trinity" by Oppenheimer, taken from a poem "Batter my heart, three-person'd God" by the British poet John Donne (1572-1631) (Nakazawa, 1995). Trinity was successful, the power of the bomb was much greater than Oppenheimer and Major General Groves had anticipated. However, Oppenheimer said that scientists now knew their

“sin.” Nevertheless, the bombs were dropped on Hiroshima and Nagasaki.

{Oppenheimer}

Oppenheimer, born in April 22, 1904 as the son of Jewish parents, was an extremely brilliant boy. He displayed an array of multi-talents, not only as a physicist, as evident from his doctorate document at Princeton University “physicist, sailor, philosopher, horse-rider, linguist and cook.” He first studied at Harvard University, then at Cambridge University in England, and obtained his doctorate at the University of Göttingen. He also studied at Leyden University, The Netherlands, and became assistant professor at the University of California, Berkeley. He later became interested in politics and had friends who were thought to be communists. That was why his appointment as director of the Manhattan Project met with objection, but General Groves extinguished the objection.

After the start of the H-bomb development in 1950 at the time of the war in Korea, Oppenheimer was excluded from official positions because of his political attitude.

#### 4. Sensible Americans

Alperovitz (1995) reports that Leahy’s disgust at the idea of attacking “women and children” is consistently stated in virtually every report we have of his attitude. Leahy characterizes the use of the atomic bomb as “**barbarous.**” This book also introduces other military leaders. MacArthur’s pilot, Weldon E. Rhoades, privately noted in his diary :

*“General MacArthur definitely is appalled and depressed by this Frankenstein monster (the bomb). I had a long talk with him today, necessitated by the impending trip to Okinawa. He wants time to think this thing out, so he has postponed the trip to some future date to be decided later.”*

Eisenhower’s comments are also introduced in the book :

*“Moreover, its use violated the normal standards of warfare by wiping out entire populations, mostly civilians, in the target cities... Certainly what happened at Hiroshima and Nagasaki will forever be on the conscience of the American people.”*

Eisenhower attracted attention from Truman by stating that it was a matter of “moral responsibility” of the US, as introduced by historian Stephen Ambrose as follows :

*“There was one additional matter on which Eisenhower gave Truman advice and was ignored. It concerned the use of the atomic bomb. Eisenhower first heard of the bomb during the Potsdam Conference ; from that moment on, until his death, it occupied, along with the Russians, a central position in his thinking.*

*When Stimson said the United States proposed to use the bomb against Japan, Eisenhower voiced <my grave misgivings . . . > Three days later, on July 20, Eisenhower flew to Berlin, where he met with Truman and his principal advisors. Again Eisenhower recommended against using the bomb, and again was ignored.”*

Mears (1948) wrote the following : It was a conspiracy of the US that Japan was provoked to attack Pearl Harbor, and the use of atomic bombs on Hiroshima and Nagasaki was done for a political purpose against the USSR. Therefore, the USA cannot be said to have been fair and stainless ; it had no right to judge Japan for its war crimes.

The book by Mears was published in 1948 but its translation and publication in Japan were prohibited by General McArthur. After the end of the American occupation, in 1953, her book, translated into Japanese, was published by Bungei-Shunju, but it did not attract the attention of the Japanese people (Takahashi, 1995). The translator of this book, Momoyo Hara stated the following in her “Translator’s epilogue.”

*“I submitted a written petition to GHQ to obtain their permission to translate and publish Mears’ book. Further I visited CIE to ask for permission, but the man in charge was greatly embarrassed, turned back and murmured that I should give up my wish. McArthur was said to give the reason as follows : although he hated censorship or limitation of freedom of expression, he judged by his extensive examination of the book that it was propaganda and threatened public security, therefore there was no legitimate significance to publishing it in Japan. This book justified the invasion by Japan in the past and slandered the historical records of the US, resulting in the intervention of American occupation policy.”*

The illegal use of the atomic bombs was criticized by the Pacific Fleet Admiral William D. Leahy, General Douglas MacArthur and General D. D. Eisenhower, as described above. It is also important to note that Japan had already displayed signs of surrendering. In fact, the Supreme US Commander in the Far



East, Douglas MacArthur said the following ("The A-Bomb and Humanity," Japan Confederation of A- and H-Bomb Sufferers Organization):

*My staff all shared the judgement that Japan was so near to collapse and a surrender might occur at any time.*

*My military judgement is that the bomb is unnecessary. Japan is preparing to surrender.*

## 5. The International Court of Justice

The NHK Special documentary entitled "Nuclear weapons were thus judged," reported on the process of discussions on the resolution "Should the use of nuclear weapons in order to threaten other nations be permitted by international law?"

The resolution had been adopted to be presented at the International Court of Justice at the General Assembly of the United Nations in 1994, initiated by a housewife in New Zealand. She had a chance to see slides showing pictures painted by atomic bomb survivors of Hiroshima, and made up her mind to work toward a world without nuclear weapons. With her friends, she appealed to ambassadors to the United Nations. The resolution was finally presented to the Court of Justice in Hague by Malaysia and Indonesia. The court consisted of fourteen judges, i. e. six from Europe, two from North and South America, two from Africa, two from Asia (Shigeru Oda from Japan), and with the chief judge from Algeria.

First, the mayors of Hiroshima, Hiraoka and of Nagasaki, Ito, were asked to be witnesses. They talked about the damage and casualties on August 6 and 9, 1945 and about the serious after-effects which plague the survivors. The chief judge expressed his gratitude for their touching speeches. However, the Japanese government officer expressed the attitude of Japanese government that the use of nuclear weapons was not against International Law, although it did not fit the spirit of the Law. He cautiously added that the testimonies expressed by the mayors of Hiroshima and Nagasaki were independent of the view of the Japanese government.

The judges then expressed their views. Judge Oda from Japan expressed objection against the judgement by the Court on nuclear weapons because the problem was of political nature, not the subject of legal judgement.

After intense discussions, the Court reached a conclusion: 1) The threatening use of A-bombs violates the law of war settlement by military power, and particularly the International Law of Humanity; 2) judgment could not be made whether or not the threatening use of nuclear weapons would be legal under the present international situations when a nation faces a threatening situation for its self-defence.

Conclusion 2 was subjected to a vote by the judges and the result was the following.

Pro (illegal): Madagascar, Hungary, China, Germany, Russia, Italy and Algeria

Con (others): USA, France, Britain (because "legal" is not in the wording)

Japan (expression is vague)

Sri Lanka, Sierra Leone, Guinea "illegal" is not clearly stated).

In the final vote by the chief judge, the Pro group was defeated by the Con. It is very regretful that the Judge Oda of Japan took the side of the US, Britain and France. He should have expressed how atomic bombs were anti-human, as the judge from Japan, the only country which suffered from atomic bomb attack by the USA.

## Conclusion

The US aggressively maintains that the use of atomic bombs was necessary to bring the Pacific War to an early end. It is clear from the facts described in the present article and in other sources that this insistence is a deception. A strange collaboration between the governments of the US and Japan has supported this deception and covered it. It seems to be a strong racial prejudice in the public opinion of the US which has assumed a form of patriotism, whereas the Japanese people have strangely forgotten the anti-human atomic bomb attacks by the US, probably due to school education which does not seem to give precise information on the atomic bombings on Hiroshima and Nagasaki. The majority of Japanese adults have no special interest in atomic bombs and seem to consider the atomic bombing to be only the stuff of history.

We protest against the big powers holding nuclear weapons, the US, Britain, France, Russia, India, China, Pakistan and call upon

them to seriously re-consider nuclear disarmament. They should abolish their own nuclear weapons before they try to force other nations to abandon theirs. The Japanese government should lead the movement for a world without war and nuclear weapons, and demand the abolishment of nuclear weapons. For this purpose, school education should be re-considered and accurate information should be given to the children and young people of Japan.

Even today, a number of survivors suffer from the aftereffects of atomic bombs. Their trying situation is described in several books and materials, such as those by Yamaguchi (2002) or Takahashi (1995).

There is an organization of survivors, the "Japan Confederation of A- and H-Bomb Sufferers Organization" which has been active in helping sufferers and appealing to the world about their situation. We should listen to the call of the Hibakusha, "**Hibakusha Declaration for the 21<sup>st</sup> Century.**" **Their appeal is: "No More Hibakusha!"** Over the last half century, the Hibakusha have overcome their pain, spoken out about the realities of the damage of the atomic bombing and conveyed their call "No More Hibakusha!" to the world.

The Hibakusha also call out: "Abolish Nuclear Weapons Now! The world carried over some 30,000 nuclear weapons into the 21<sup>st</sup> century. The US and other nuclear-weapon

Table 2 Chronological road to the atomic and hydrogen bombings (from The Spirit of Hiroshima, 1999a)

1933	January	The cabinet led by Adolf Hitler takes power in Germany
	March	Japan withdraws from the League of Nations; Germany follows in October
1934	August	Hitler becomes leader of the Nazi Party
1937	July	Marco Polo incident, war begins between Japan and China
	November	Italy joins the Japan-Germany Anti-Comintern Pact
1938	March	Germany annexes Austria
1939	August	Germany and the Soviet Union sign a nonaggression treaty
	September	Germany invades Poland (World War II). Britain and France declare war on Germany
1940	June	German forces enter Paris and occupy the northern half of France. Italy joins the war
	September	Japan, Germany and Italy form a three-member coalition
1941	June	Germany and Italy declare war on the Soviet Union
	December	Japan attacks Pearl Harbor; Germany and Italy declare war on the USA; The Pacific War begins
1942	May	Nazi persecution of the Jews begins
	December	USA succeeds in building the world's first nuclear reactor
1943	September	Italy surrenders
1944	June	Allied forces land at Normandy
	September	Germany begins use of the V-2 Rocket Roosevelt and Churchill meet at Hyde Park to decide to use atomic bombs on Japan
	November	The US launches B-29 air raids over Japan
1945	February	The Yalta Conference is held
	April	Soviet forces enter Berlin; American forces land in Okinawa
	May	Germany surrenders unconditionally
	July	Potsdam Declaration. The US conducts the world's first nuclear test at Alamogorda, New Mexico. The manufacture of atomic bombs is completed by the US
	August 6	Hiroshima is destroyed by an atomic bomb
	8	The Soviet Union declares war on Japan
	9	Nagasaki is destroyed by an atomic bomb
	15	Japan surrenders unconditionally
1946	June	The US conducts a nuclear test at Bikini
1949	September	The USSR announces its success in the testing of an atomic bomb
1951	November	The US conducts a nuclear test in the Nevada desert with the participation of ground forces
1952	October	Britain conducts the first nuclear test at Monte Bello Island
	November	The US conducts the first hydrogen bomb test at Eniwetok Atoll
1953	August	The USSR conducts its first hydrogen bomb test
1954	August	The US conducts a hydrogen bomb test (Bravo) at Bikini Atoll. Japanese fishing boat the Daigo-Fukuryu-Maru (No. 5 Lucky Dragon) is exposed to radioactive ashes.

states still cling to these weapons and maintain the nuclear deterrence policy. The dropping of the atomic bombs by the US constitutes a serious crime against the human community. The tragedy of nuclear war must not be repeated. The US must recognize that it committed a crime against humanity in violation of international law and apologize. — The government of Japan has never held the US responsible for having dropped the bombs. On the contrary, it has aligned itself with the US in its attempt to put off the achievement of nuclear abolition to an indefinite future. We cannot accept the fact that the Japanese government cooperates with the US in the implementation of its nuclear policy and supports the nuclear umbrella. This actually makes Japan a nuclear-armed country.”

We support the “Hibakusha Declaration for the 21<sup>st</sup> Century” and agree with the appeal :

*“Those who died, the greatest victims, can rest in peace as the Cornerstone for Peace only when nuclear weapons disappear from the earth.”*

They appeal to the government to act to realize a better world.

The chronological road to the atomic and hydrogen bombs is summarized in Table 2.

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