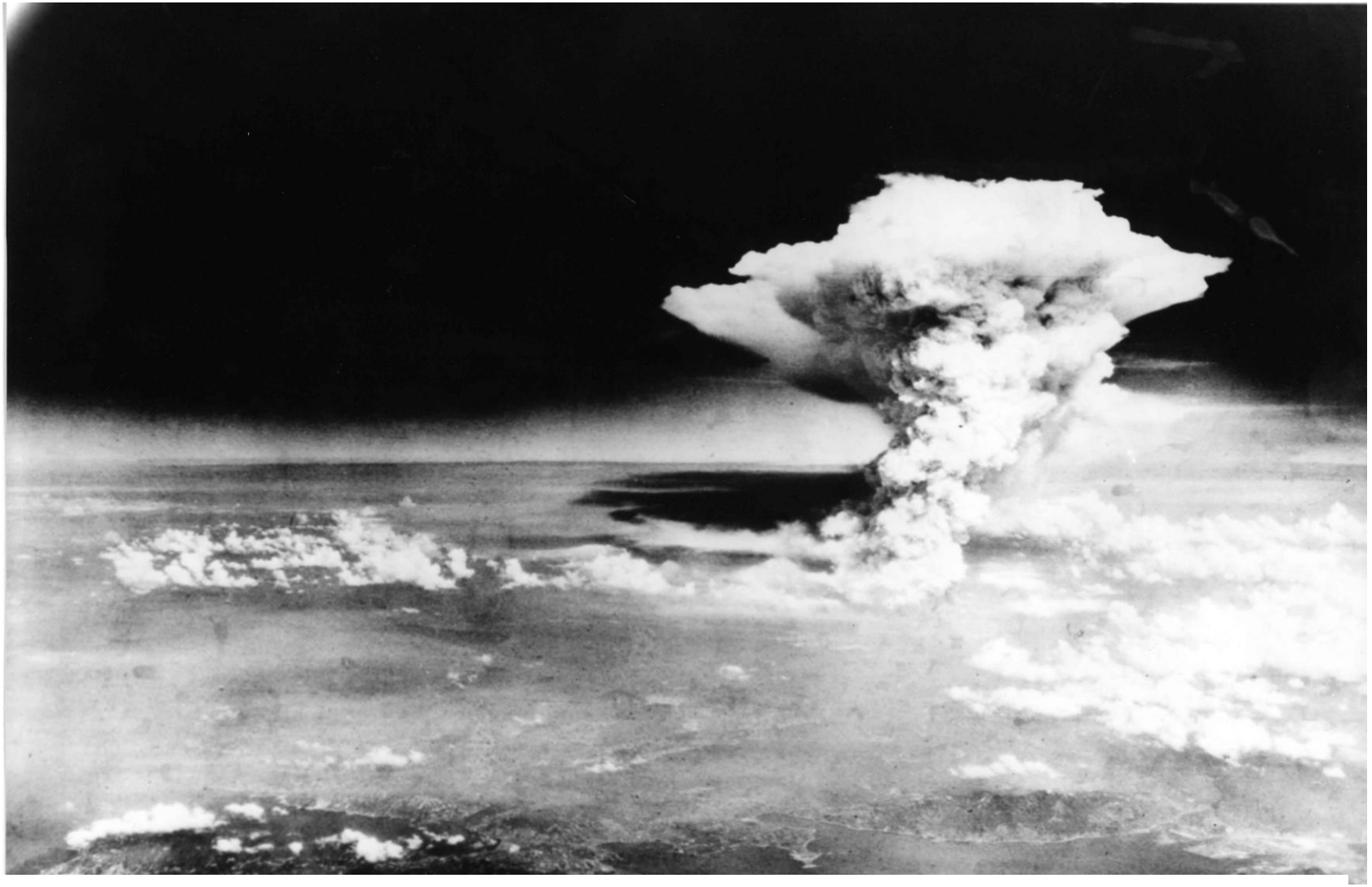
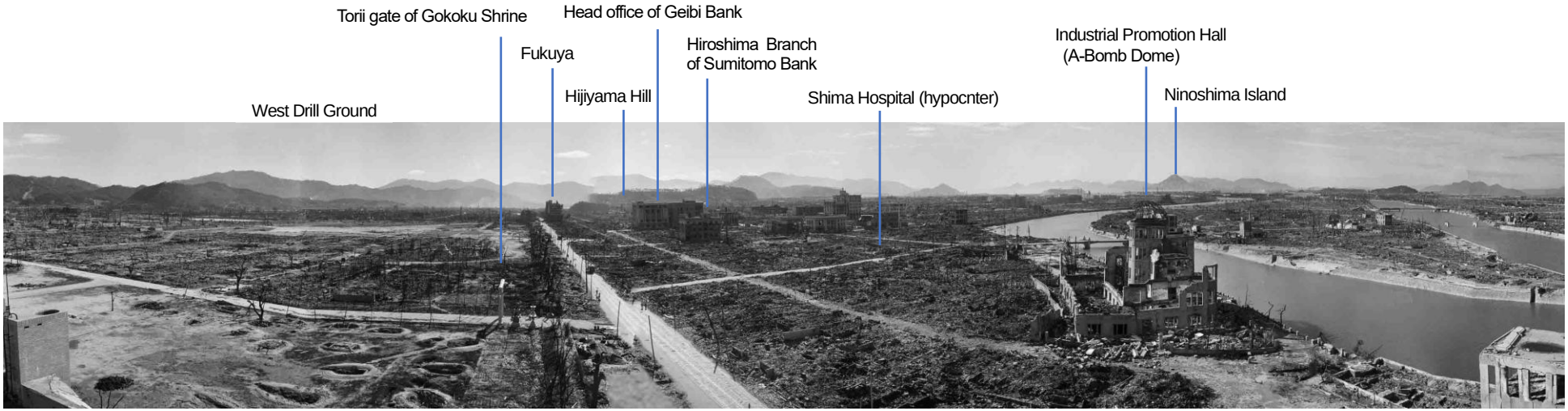
Chapter 4　Atomic bombing



4-01 Hiroshima completely destroyed (August 6, 1945)
Photographed by a U.S. reconnaissance plane from approximately 9,000 meters above Nogutsuna Island off the coast of Matsuyama

Atomic bombing

At 8:15 a.m. on August 6, 1945, the B-29 bomber *Enola Gay*, which had taken off from Tinian Island, dropped the first atomic bomb in human history. The uranium-type atomic bomb, code-named Little Boy, detonated at an altitude of approximately 600 meters above Shima Hospital in Saiku-machi (present-day Ote-machi 1-chome), Hiroshima, instantly reducing the city to ashes, killing tens of thousands of people, and inflicting catastrophic damage on all functions of the city. The death toll by the end of that year is estimated at approximately 140,000 (±10,000).

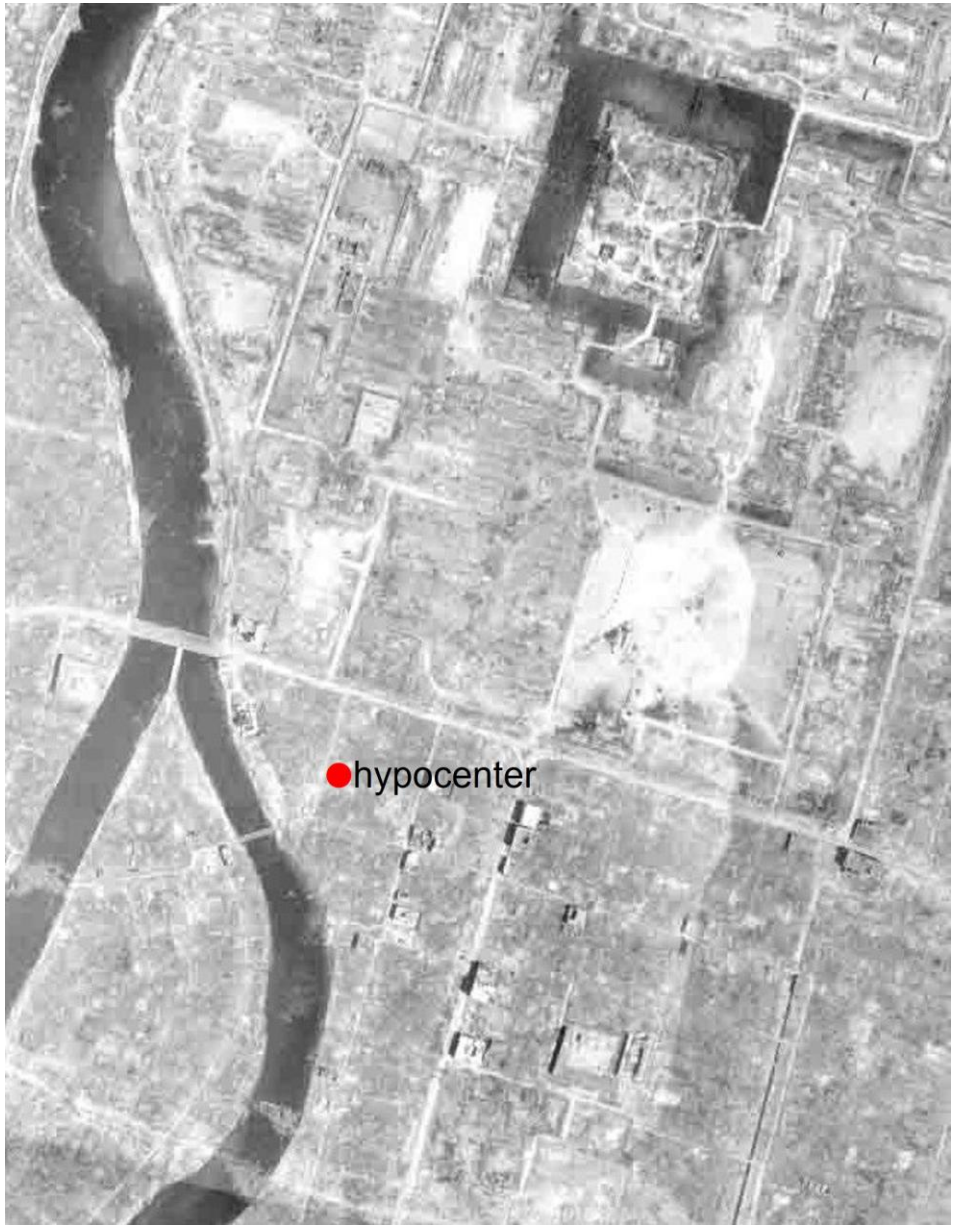


4-02 Hiroshima in ruins (October 5, 1945)

4-03 City area of Hiroshima, before the atomic bombing (April 13, 1945)
In preparation for air raids, the demolition of buildings had been undertaken to create firebreaks running east-west through the center of the delta area.

4-04 City area of Hiroshima, after the atomic bombing (August 11, 1945)
In the area that looks white, within about two kilometers from the hypocenter, buildings were completely destroyed or burned down.

4-05 Center of the city before the atomic bombing (April 13, 1945)



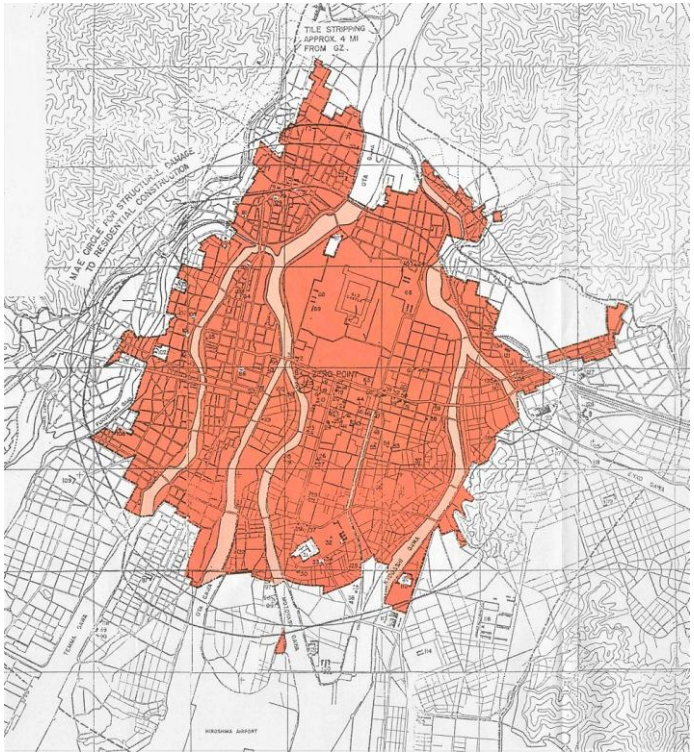
4-06 Center of the city after the atomic bombing (August 11, 1945)
Except for reinforced concrete buildings, no structures remained standing.

Destruction

At the instant of the explosion of the atomic bomb, extremely high pressure was generated at the blast point, expanding the surrounding air to cause a shockwave. It is estimated that the pressure of the blast was 11 tons per square meter at 500 meters from the hypocenter and that the speed of the blast reached about 280 meters per second at 100 meters from the hypocenter.

Within 2 kilometers, wooden houses were almost all destroyed by the blast. Some reinforced concrete buildings remained standing, but the windows were all shattered, and the interior was burned out by the subsequent fires.

Surface temperatures on the ground at the hypocenter reached 3,000°C to 4,000°C. Almost all of the 45,000 buildings within about 2 kilometers of the hypocenter were completely destroyed and burned down. Of the 76,327 buildings in the city, 91.9% suffered catastrophic damage, and 13 km² of the city area burned down.



4-07 Map of the area burned by the atomic bomb

4-08 Hiroshima Castle, completely destroyed (November 1945)
Hiroshima Castle, located about one kilometer northeast of the hypocenter, was completely destroyed by the shockwave and blast of the atomic bomb. The main tower, designated a National Treasure, collapsed. The Omote-gomon (front gate) and other structures also collapsed and were burned down by subsequent fires. The Chugoku Military District Headquarters inside the castle as well as major army units in the surrounding area such as the First Infantry Replacement Unit suffered extensive damage.

4-09 Ruins at the site of the castle tower after the bombing (photographed from the south) (Autumn 1945)
Collapsed timbers lie scattered on the foundation of the castle tower.

4-10 Hiroshima Gas head office on the left bank of the Motoyasu River, 200 meters from the hypocenter (October 1945)

Effects on people

About 0.2 seconds after the atomic bomb detonated, the surface temperature of the fireball reached 7,700°C. People within 3.5 kilometers of the hypocenter suffered burns from the heat rays on the exposed parts of their bodies. In particular, those within about 1.2 kilometers who were unshielded suffered severe internal injuries, and most of them died instantly or within days.

4-11 Exhausted evacuees sitting on the ground at the west end of Miyuki Bridge, approximately 2.2 kilometers southeast of the hypocenter. A police officer from the Ujina Police Station was giving them first aid. In the background to the left is the Ujina Police Station's Senda Police Box.
(August 6, 1945, between around 9:30 a.m. and 11:00 a.m.)

At the time of the bombing, many people who had been mobilized from schools, companies, and local communities were also in the city. Among them were mobilized students, both boys and girls from middle schools and girls' high schools, and the national volunteer corps from communities and workplaces. They were outdoors without anything to protect them. According to a 1959 survey conducted by the City of Hiroshima and the association for the mobilized student victims in Hiroshima Prefecture, 9,111 students were engaged in building demolition work, and nearly two-thirds of them, 5,618, died. Those who did not participate in the demolition work due to illness or other reasons felt guilty for having survived and suffered deep psychological trauma.

A large amount of radiation including neutrons and gamma rays emitted by the nuclear fission of the atomic bomb penetrated deep into people's bodies, destroying cells and severely harming the health of the survivors. The effects of the atomic bomb continue to this day.

4-12 Burned patients, accommodated and treated at the Hiroshima First Municipal Elementary School (a higher elementary school, present-day Danbara Junior High School) at about 2.6 kilometers from the hypocenter (1945)

Unprecedented Chaos

During the war, the City of Hiroshima established support systems and designated evacuation sites in each community in anticipation of air-raid damage. However, the city was utterly helpless against the unimaginable destruction caused by the atomic bomb. In this situation, the Army Marine Headquarters, which had suffered minimal damage, immediately dispatched its units into the city for firefighting, rescue and relief activities. The special district guard corps, national volunteer guards, police stations and others also launched rescue activities. Medical personnel also arrived from Okayama, Tottori and other prefectures.

Food aid for victims began on August 6, the day of the atomic bombing. In the surrounding towns and villages, people cooked rice and made rice balls to be distributed to the victims. Seriously injured people were accommodated at town halls and schools. On August 17, soon after the war ended, the number of people accommodated in Saeki County had reached approximately 20,000. Canned food was released from the Army Provisions Depot, and clothing and other items from the Army Clothing Depot. On August 20, all prefectural government departments moved from their burned-out building to the Toyo Kogyo headquarters in Fuchu, adjacent to the city, and worked with the city government to start reconstruction efforts.

4-13 The west building of Fukuromachi Elementary School was a three-storied reinforced concrete building. As it remained standing at about 460 meters from the hypocenter, it was used as a first-aid station. On the wall of the staircase on the first floor, many messages were written so that people could find each other. (October 6, 1945)

Many medical personnel, including doctors and nurses, fell victim to the atomic bombing. Injured people flooded into the Hiroshima Red Cross Hospital and the Hiroshima Communications Hospital, which remained standing. Many other people received treatment at temporary first-aid stations set up at elementary schools and other places. From August 6 until the first-aid stations were closed on October 5, the number of survivors who had received treatment had reached a total of 315,910, as many as the prefectural government could count. Many people who entered the city for rescue activities or to look for their family members continued to fall ill and die due to the effects of residual radiation.

4-14 Relief food supplies were brought to the East Police Station, temporarily used as the prefectural government office. (August 9, 1945)

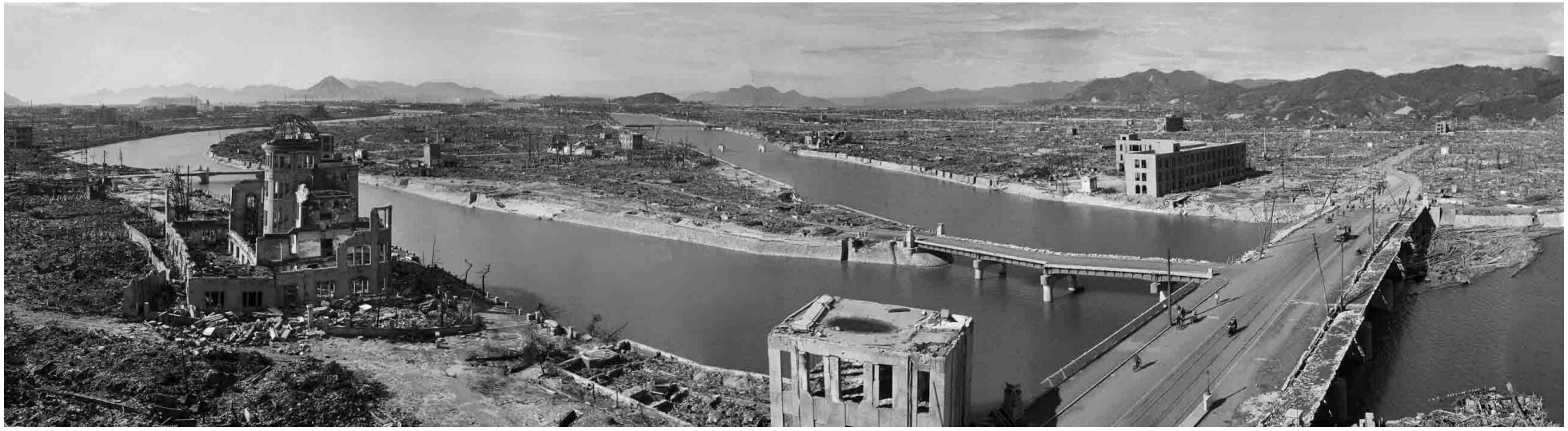
The number of refugees and injured people who left the city on foot or by rail, truck, ship or other means exceeded 200,000. Many were accommodated in remote areas such as Shobara and Tojo (now part of Shobara) to the north, and Otake and Iwakuni to the west. In addition to first-aid stations and schools, people were accommodated at assigned private homes.

4-15 People entering the city for relief activities.
The building on the left is the head office of Geibi Bank (now Hiroshima Bank). The building on the right is the Hiroshima Branch of Sumitomo Bank. (August 7–9, 1945)

As the city was full of dead bodies burned by the atomic bomb, clearing of bodies became a serious issue. On August 7, the day after the bombing, it was decided that the bodies had to be collected as soon as possible. It was also decided and ordered that the bodies would be cremated on site or buried, that prisoners would be mobilized to assist, and that Buddhist priests would be called from rural areas to recite sutras for funerals. Many people who died at home were cremated by their families.

4-16 Bodies being cremated. Those who were accommodated at the Fukuya department store and died there were cremated in the vacant lot on the south side of the store. (August 10, 1945)

4-17 The area around the Nakajima district before the atomic bombing (c. 1938)
Hiroshima's downtown district, Nakajima-honmachi (present-day Peace Memorial Park), seen from the roof of the Chamber of Commerce and Industry building. On the far left is the Industrial Promotion Hall (A-Bomb Dome). The wooden bridges running east-west, connecting to the T-shaped Aioi Bridge on the right, were removed in 1938



4-18 The Nakajima district area after the atomic bombing.
The T-shaped Aioi Bridge was the target of the bomb. In the background on the right is the reinforced concrete building of Honkawa Elementary School, which remained standing. (October 5, 1945)