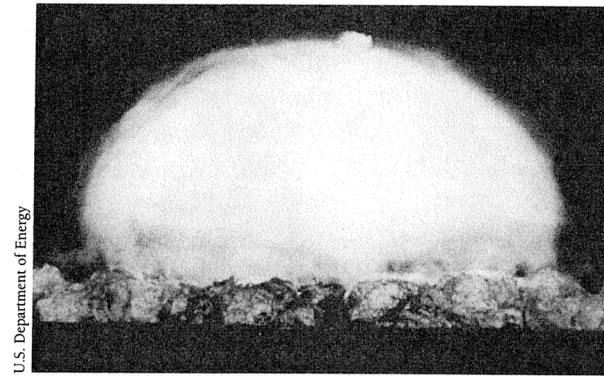


went away with a profound feeling that they had seen one of the great events of history.

Kenneth Greisen: A group of us were lying on the ground just outside of base camp (10 miles from the charge), and received time signals over the radio, warning us when the shot would occur. I was personally nervous, for my group had prepared and installed the detonators, and if the shot turned out a dud, it might possibly be our fault. We were pretty sure we had done our job well, but there is always some chance of a slip.



Eyewitness Accounts of the Trinity Test

General Groves asked many of the eyewitnesses to record their accounts of the Trinity test on July 16, 1945. The following are excerpts from these accounts, which were compiled and sent to Groves by Lieutenant Thomas O. Jones, head of security at Los Alamos at the time.

Edwin M. McMillan: The whole spectacle was so tremendous and one might almost say fantastic that the immediate reaction of the watchers was one of awe rather than excitement. After some minutes of silence, a few people made remarks like, "Well, it worked," and then conversation and discussion became general. I am sure that all who witnessed this test



The Trinity test took place near Alamogordo, New Mexico, on July 16, 1945.

Enrico Fermi: About 40 seconds after the explosion the air blast reached me. I tried to estimate its strength by dropping from about six feet small pieces of paper before, during, and after the passage of the blast wave. Since, at the time, there was no wind I could observe very distinctly and actually measure the displacement of the pieces of paper that were in the process of falling while the blast was passing. The shift was about 2½ meters, which, at the time, I estimated to correspond to the blast that would be produced by ten thousand tons of T.N.T.

Maurice Shapiro: The shock wave from the explosion arrived about one and a half minutes after the flash of light, and I heard it as a sharp report. Although I had expected it, the intensity of the blast startled me. My impression at the time was that an enemy observer stationed about 20 miles from the scene of delivery would be deeply impressed, to say the least.

Robert Serber: The grandeur and magnitude of the phenomena were completely breath-taking.

THE EDUCATION OF A JOURNALIST

Practically everybody at the Trinity test was a scientist except one person, a journalist with the *New York Times* by the name of William Laurence. We were quite far away, 20 kilometers on Compania Hill, so that long after the fire ball, the shock wave followed and made a tremendous rumble. Laurence was terribly afraid and cried out, "WHAT WAS THAT?" So I explained to him that sound takes some time to propagate as compared to light.

— HANS BETHE

"Violence without limit"

In this selection from his novel Los Alamos, Joseph Kanon helps us imagine the Trinity test, watching the unearthly and terrifying light and then the enormous mushroom cloud arise. The main character ponders what this new force, capable of complete annihilation, means.

From *Los Alamos*
BY JOSEPH KANON

By the time he got to Compania Hill, the wind had died down to the still hush before dawn. Busloads of scientists and visitors lined the sandy ridge, talking in groups around the jeeps and trucks like guests at a tail-gate party. Some were looking southeast, toward the small tower in the distance, waiting for the signal flares. The rockets' red glare, Connolly thought, the bombs bursting—a macabre new version of the song. Someone handed him a piece of welding glass and he held it up, the barely visible light disappearing completely behind the tinted square. Was it really necessary? Did anyone know? Some of the scientists had smeared their faces with suntan oil, so their skins gleamed. He recognized Teller, pulling on heavy gloves like a good boy bundling up for the storm. They were twenty miles from the gadget. Could it really burn the air, like the ball of fire over Hamburg, sucking breath out of lungs? Carpet bombing? But this was supposed to be something else.

Most of the men had been there all night and were stiff with cold and waiting. Now they grew quiet, fiddling with the squares of welding glass, stamping their feet warm. There was nothing left to say. Cameras had been set up at N 10,000. Here there were only people, knotting together on a sandy grandstand, anxious and expectant, like Romans at a blood sport. Connolly thought about the first time he'd seen the Tech Area—secretaries passing through the fence, men darting in and out of lab buildings as if they were late for class, everyone too busy to stop, an endless film loop. Now, finally, they were at an end, waiting to see their work, all those meetings and calculations, go up in smoke.

Mills handed him a Thermos cup of coffee. "They say you're not supposed to look," he said. "Even this far. What's that?"

"The rocket. Five minutes."

"Jesus, this stuff goes right through you, doesn't it?" he said, agitated.

"Dark glass, everyone," someone shouted down the line.

"The hell with that," one of the scientists said, excited. "I'm going to see this. Even if it's the last thing I see."

"That's a possibility, Howard." A gruff Hungarian voice.

*

Suddenly, there was a pinprick, whiter than magnesium, a photographer's bulb, and he was blinded with light. It flashed through his body, filling all the space around them, so that even the air disappeared. Just the light. He closed his eyes for a second, but it was there anyway, this amazing light, as if it didn't need sight to exist. Its center spread outward, eating air, turning everything into light. What if Fermi was right? What if it never stopped? And light was heat. Bodies would melt. Now a vast ball, still blinding, gathering up the desert at its base of light. The ball grew, glowing hotter, traces of yellow and then suddenly violet, eerie and terrifying, an unearthly violet Connolly knew instantly no one had ever seen before. Eisler's light. His heart stopped. He wanted to turn away, but the hypnotic light froze him. He felt his mouth open in cartoon surprise. Then the light took on definition, pulling up the earth into its rolling bright cloud, a stem connecting it to the ground.

How long did it take for the sound to follow? The hours of light were only a blink of seconds and then the sound, bouncing between the mountains, roared up the valley toward them, tearing the air. He staggered, almost crying out. What was it like near the blast? A violence without limit, inescapable. No one would survive. Then he dropped the piece of welding glass, squinting, and watched the cloud climb higher, rolling over on itself, on and on, its stem widening until the cloud finally seemed too heavy and everything collapsed into the indeterminate smoke. He stared without thinking. Behind it now he could see the faint glimmer of dawn, shy behind the mountain, its old wonder reduced to background lighting.

He turned to Mills, but Mills had dropped to the ground as if he'd been knocked over by the blast, had lost whatever strength it took to stand. His

eyes seemed fixed, mesmerized by their glimpse of the supernatural. Connolly heard shouts, loud whoops and spurts of spontaneous applause, and looked at the crowd. Scientists shook hands or hugged. Someone danced. But it was only a reflex, an expected thing, for then it grew quiet again, solemn, and people just stared at the cloud, wondering what they had seen. He felt an urge to swallow, to make some connection with his body. What had he thought it would be—a bigger explosion? A giant bonfire? All this time on the Hill they had talked in euphemisms. What was it but a larger version of the terrible things they already knew? A sharper spear. A better bow and arrow. But now he had seen it. Not just a weapon. He felt himself shaking. Oppenheimer must have known. Maybe nobody knew. It didn't have a name yet. Not death. People had ideas about death. Pyramids and indulgences and metaphors for journeys. Connolly saw, looking out at the cloud in the desert, that none of it was true, that all those ideas, everything we thought we knew, were nothing more than stories to rewrite insignificance. This was the real secret. Annihilation. Nothing else. A chemical pulse that dissolved finally in violet light. No stories. Now we would always be frightened.

Aiming for Military and Psychological Effects

A Target Committee was established on April 27, 1945, to determine the best techniques and targets in Japan to produce the most effective military destruction and psychological effects on the Japanese Empire. At the initial meeting, sixteen areas were proposed for further study: Tokyo Bay, Kawasaki, Yokohama, Nagoya, Osaka, Kobe, Hiroshima, Kure, Yawata, Kokura, Shimosedka, Yamaguchi, Kumamoto, Fukuoka, Nagasaki, and Sasebo. Weeks later, the results of this study were presented at a second meeting.

Summary of Target Committee Meetings

May 10 and 11, 1945

Declassified government document

MEMORANDUM FROM MAJOR J. A. DERRY AND

DR. N. F. RAMSEY TO GENERAL L. R. GROVES

Status of Targets

A. Dr. Stearns described the work he had done on target selection. He has surveyed possible targets possessing the following qualifications: (1) they be important targets in a large urban area of more than three miles diameter, (2) they be capable of being damaged effectively by a blast, and (3) they are likely to be unattacked by next August. Dr. Stearns had a list of five targets which the Air Forces would be willing to reserve for our use unless unforeseen circumstances arise. These targets are:

(1) Kyoto—This target is an urban industrial area with a population of 1,000,000. It is the former capital of Japan and many people and industries are now being moved there as other areas are being destroyed. From the psychological point of view there is the advantage that Kyoto is an intellectual center for Japan and the people there are more apt to appreciate the significance of such a weapon as the gadget. (Classified as an AA Target)

(2) Hiroshima—This is an important army depot and port of embarkation in the middle of an urban industrial area. It is a good radar target and it is such a size that a large part of the city could be extensively damaged. There are adjacent hills which are likely to produce a focusing effect which would considerably increase the blast damage. Due to rivers, it is not a good incendiary target. (Classified as an AA Target)

(3) Yokohama—This target is an important urban industrial area which has so far been untouched. Industrial activities include aircraft manufacture, machine tools, docks, electrical equipment and oil refineries. As the damage to Tokyo has increased additional industries have moved to Yokohama. It has the disadvantage of the most important target areas being separated by a large body of water and of being in the heaviest anti-aircraft concentration in Japan. For us it has the advantage as an alternative target for use in case of bad weather of being rather far removed from the other targets considered. (Classified as an A Target)

(4) Kokura Arsenal—This is one of the largest arsenals in Japan and is surrounded by urban industrial structures. The arsenal is important for light ordnance, anti-aircraft and beach head defense materials. The dimensions of the arsenal are 4100' X 2000'. The dimensions are such that if the bomb were properly placed full advantage could be taken of the higher pressures immediately underneath the bomb for destroying the more solid structures and at the same time considerable blast damage could be done to more feeble structures further away. (Classified as an A Target)

(5) Niigata—This is a port of embarkation on the N.W. coast of Honshu. Its importance is increasing as other ports are damaged. Machine tool industries are located there and it is a potential center for industrial despersation [sic]. It has oil refineries and storage. (Classified as a B Target)

(6) The possibility of bombing the Emperor's palace was discussed. It was agreed that we should not recommend it but that any action for this bombing should come from authorities on military policy. It was agreed that we should obtain information from which we could determine the effectiveness of our weapon against this target.

B. It was the recommendation of those present at the meeting that the first four choices of targets for our weapon should be the following:

- a. Kyoto
- b. Hiroshima
- c. Yokohama
- d. Kokura Arsenal

KYOTO SPARED: SHRINE OF JAPANESE ART AND CULTURE

With President Truman's warm support I struck off the list of suggested targets the city of Kyoto. Although it was a target of considerable military importance, it had been the ancient capital of Japan and was a shrine of Japanese art and culture. We determined that it should be spared.

— HENRY L. STIMSON



U.S. Air Force

B-29 Superfortress bombers dropped the two atomic bombs on Japan in 1945. Enola Gay, pictured above with its crew, dropped "Little Boy" on Hiroshima on August 6. Bockscar (below) dropped "Fat Man" on Nagasaki on August 9.



U.S. Air Force

"A very sobering event"

Colonel Paul W. Tibbets was in charge of the 509th Composite Group's first mission to Japan, dropping the atomic bomb known as "Little Boy" over Hiroshima. The following excerpt includes his eyewitness account of the mission.

From *Operational History of the 509th Bombardment*

At 0245 Tinian time on Monday, 6 August 1945, Col Tibbets and crew took off in the Enola Gay. The crew consisted of the following people: SSgt George R. Caron, tail gunner; Sgt Joe S. Stiborik, radar operator; SSgt Wyatt E. Duzenbury, flight engineer; PFC Richard H. Nelson, radio operator; Sgt Robert H. Shumad, assistant engineer; Maj Thomas W. Ferebee, group bombardier; Capt Theodore J. Van Kirk, navigator; Col Paul W. Tibbets, pilot and commander; Capt Robert A. Lewis, copilot; Lt Jacob Beser, radar countermeasures officer; and weaponeers, Captain William S. Parsons (US Navy) and Lt Morris R. Jeppson. The two other 509th planes that accompanied the *Enola Gay* included the instrument aircraft, the *Great Artiste*, piloted by Major Charles Sweeney and a third B-29, equipped with photographic equipment, commanded by Major George Marquardt.

As the crew approached the mainland of Japan, the weather was clear for the visual drop requirement. Col Tibbets described the final minutes before the drop:

We made the final turn to 272 degrees magnetic course for 14 minutes (72 NM). Ferebee checked the bomb sights and said "I have the aiming point in sight." Van Kirk checked and agreed. The crew put on the dark goggles and turned on the tone for the instrument plane to know exactly when the bomb was released. Two small corrections were made and we finally released the bomb.

At precisely 0815:17 Japan time, the Enola Gay released the first atomic bomb over the target of Hiroshima. The Little Boy uranium bomb fell from 31,600 feet, detonating 43 seconds later, 600 yards in the air over the city. In a millisecond, a force of 20,000 tons of TNT was released, generating a

fireball of heat equivalent to 300,000 degrees Fahrenheit. The temperature of the ground beneath the burst reached an estimated 3,000 to 4,000 degrees Centigrade and the heat rays caused flash burns up to 13,000 feet away. Nearly 80,000 people were killed instantly, and almost every building within a 2-mile radius was obliterated.

Immediately after the release Col Tibbets said:

I made the required 155-degree turn away from the target and found my goggles made it so dark that I could not see the instruments, so I took them off. The tail gunner called, "Here it comes." I had a peculiar taste (electrolysis) in my mouth and saw a bright hue. The first shock wave hit with a force of 2½ Gs, followed by a 2-G shock and a smaller third shock wave. It was a very sobering event, as we turned back over the target to take camera photos of the area. A boiling, tumbling, rolling cloud rose up from the ground. The cloud went up rapidly and was 10,000 feet above us and climbing by the time we had turned around. Down below all you could see was a black, boiling nest. I didn't think about what was going on down on the ground—you need to be objective about this. I didn't order the bomb to be dropped, but I had a mission to do.

"Massive pain, suffering, and horror"

Atomic bombs were introduced to the world when the Little Boy bomb was dropped on Hiroshima, Japan, on August 6, 1945. Historian Tsuyoshi Hasegawa describes the utter devastation of the bomb in Japan in contrast to the sense of "overwhelming success" in Washington, D.C., as President Truman warned the Japanese to "expect a rain of ruin."

From *Racing the Enemy: Stalin, Truman, and the Surrender of Japan*
BY TSUYOSHI HASEGAWA

Little Boy exploded 1,900 feet above the courtyard of Shima Hospital, 550 feet off its target, Aioi Bridge over Ota River, with a yield equivalent to 12,500 tons of TNT. The temperature at ground zero reached 5,400°F, immediately creating a fireball within half a mile, roasting people "to bundles of smoking black char in a fraction of a second as their internal organs boiled away." Thousands of such charred bundles were strewn in the streets, sidewalks, and bridges. A man sitting on the steps of a bank waiting for it to open vaporized, leaving only his shadow on the granite steps.

The blast that followed the explosion destroyed thousands of houses, burning most of them. Of 76,000 buildings in Hiroshima, 70,000 were destroyed. Fire broke out all over the city, devouring everything in its path. People walked aimlessly in eerie silence, many black with burns, the skin peeling from their bodies. Others frantically ran to look for their missing loved ones. Thousands of dead bodies floated in the river. Everywhere there was "massive pain, suffering, and horror," unspeakable and unprecedented. Then the black rain fell, soaking everyone with radiation. Those who survived the initial shock began to die from radiation sickness. According to one study conducted by the cities of Hiroshima and Nagasaki, 110,000 civilians and 20,000 military personnel were killed instantly. By the end of 1945, 140,000 had perished.

On August 6, four days after leaving Plymouth, Truman was having lunch with the Augusta crew when Captain Frank Graham of the White House Map Room handed him a report with the message "Big bomb dropped on Hiroshima August 5 at 7:15 P.M. Washington time. First reports indicate complete success which was even more conspicuous than earlier test." The president beamed. He jumped to his feet and shook hands with Graham. "Captain," he said, "this is the greatest thing in history." He told Graham to take the message to [James] Byrnes, who was seated at another table. Byrnes read the message and exclaimed, "Fine! Fine!" A few minutes later the second message arrived, which reported "visible effects greater than in any test." Truman signaled the crew in the mess hall and announced: "We have just dropped a new bomb on Japan which has more power than twenty thousand tons of TNT. It has been an overwhelming success!" Truman and Byrnes then went to the officers' wardroom to announce the news.

Meanwhile, Eben Ayers in the White House released a previously approved message from the President: "A short time ago an American air-

plane dropped one bomb on Hiroshima and destroyed its usefulness to the enemy. That bomb has more power than 20,000 tons of T.N.T." The statement went on to say that the Japanese had begun the war by attacking Pearl Harbor, and that the bombing of Hiroshima was retribution for that act. The statement declared that "the bombs are now in production and even more powerful forms are in development." Truman's message ended with a dire warning:

It was to spare the Japanese people from utter destruction that the ultimatum of July 26 was issued at Potsdam. Their leaders promptly rejected that ultimatum. If they do not now accept our terms they may expect a rain of ruin from the air, the like of which has never been seen on this earth. Behind this air attack will follow sea and land forces in such numbers and power as they have not yet seen and with the fighting skill of which they are already well aware.

A LONG FORTY-THREE SECONDS

It took forty-three seconds from the time the bomb left the airplane to the time it exploded. Everyone was counting to forty-three. "One-thousand one, one-thousand two..." I was fortunate, I had a watch. But I think we had all concluded that it was a dud. We were nervous, counting fast or something because all of a sudden we saw the bright flash inside the airplane and knew that the bomb had exploded.

— THEODORE "DUTCH" VAN KIRK, NAVIGATOR ON THE ENOLA GAY

"Miss Yamaoka, you look like a monster"

Immediately after the detonation of the Little Boy atomic bomb, the people of Hiroshima remembered two sensations: a bright light, pika, and a loud noise, don. As historian Richard B. Frank relates in several first hand accounts, this pika-don was indelibly etched into the memories of the Japanese survivors, or hibakusha. The effects of the heat and fires were so devastating that many survivors were, like Miss Yamaoka, burned beyond recognition.

From *Downfall: The End of the Imperial Japanese Empire*
BY RICHARD B. FRANK

Upon hearing the changed pitch of the engines as the *Enola Gay* banked violently into its evasive turn, many looked up to see the "dazzling gleam from its mighty flank, and...a fleecy white cloud trail across the blue sky." Little Boy detonated at 8:16, after a forty-three-second fall to an altitude of 1,900 feet over the courtyard of the Shima Hospital, 550 feet southeast of the Aioi bridge aiming point. The power of the bomb later was calculated as equivalent to 12,500 tons of TNT. It created a blinding pulse of light for perhaps only a tenth of a second, but the center of that pulse reached 5,400 degrees Fahrenheit.

On a hillside two kilometers northwest of the city, P. Siomes, a German Jesuit missionary, was gazing out the window toward Hiroshima when "a garish light which resemble[d] the magnesium light used in photography" filled the whole vista. Behind it surged an intense heat wave. He jumped to the window but saw only "brilliant yellow light" and heard only a "moderately large explosion." An Imperial Army medical-investigation team reported that the flash appeared yellow to those nearby and blue to those farther away. Distant witnesses described it as a red radiant sunset. Two words became fixed to the event: *pika* and *don*—*pika* meaning a glitter, sparkle, or bright flash of light; *don* meaning a boom or loud sound. Many who had been close in later recalled hearing no sound of an explosion and spoke only of the *pika*; those like Father Sioimes who saw the flash and heard a rumble called it the *pika-don*, flash-boom.

Close in, the *pika* signified more than brightness. At a stone bridge about four hundred yards from ground zero, an American officer later found the etched shadow of a man with one foot in the air pulling a laden two-wheeled cart. The man's shadow had shielded the blacktop from the heat, but elsewhere the surface melted to tar and absorbed dust. The only vestige of another man idling at a bank building was his shadow on the granite. Both had been vaporized at or near the speed of light, passing from being to nothingness faster than any human physiology can register. Among those who died from the bomb, they were the lucky ones and presumably knew nothing.

The light waves traveled in straight lines so that persons farther away showed patterns of burns perfectly reflecting their exposed surfaces. For a radius of two miles, the flash inflicted "primary burns," noted a detailed study, "[which] are injuries of a special nature and not ordinarily experienced in everyday life." Among those not vaporized, the skin characteristically took on a dark brown or black hue, and most victims died in agony within a few minutes or hours. Nearly all objects, not only flesh, took on this tone, so that Hiroshima's ruins appeared "brown, the color of unfired pottery."

The *pika-don* caught Michiko Yamaoka, a fifteen-year-old mobilized high-school student, ambling toward her job as a telephone operator, about eight hundred meters from what became the hypocenter, the theoretical point directly below where the bomb burst. She understood that "Japan was winning, so we still believed. We only had to endure." In the bright sunlight, she put her hand above her eyes to glance up to the faint sound of an aircraft, then Little Boy exploded. "There was no sound. I felt something strong. It was terribly intense. I felt colors. It wasn't heat. You can't call it yellow, and it wasn't blue." She sensed the heat wave envelop her as the blast lifted her up and tossed her aside. She lay under rocks, unable to see but able to hear "moans of agony and despair." Then she heard, "Fire! Run away! Help! Hurry up!" The heat wave had ignited a firestorm that overran the injured and the trapped, hugely increasing the death toll. Yamaoka's mother found her, and soldiers dug her out as crackling flames encroached near, charring her skin and clothes and leaving her hair "like a lion's mane." Nearby were people trying to push intestines back into their bodies; headless bodies; legless bodies; seared, swollen faces. She encountered a friend and called out. The friend at first did not respond, then she exclaimed: "Miss Yamaoka, you look like a monster."

Only then did she know how badly she had been burned.

Shin Bok Su was a Korean and a Hiroshima resident since 1937. Her family had emerged from its shelter with the all clear, then "PIKA!" a brilliant light and then "DON!" a gigantic noise," then blackness. She heard her mother-in-law call out and found her lying protectively across a thirteen-month-old son but trapped by fallen debris. She finally freed them, but the terrified older woman bolted away. Her husband appeared, and they began frantically digging to find their other two children as the fires marched toward their house; finally, soldiers tugged them away. They spent the night on city sports fields with people dying all around them. The next day, they returned to the site of their once large house, where fires still burned, as did "the corpses of my children. When I approached, I saw a line of buttons from my son's white shirt. Akiko, my girl, was curled up next to Takeo. Flames were still licking up from them."

For Dr. Hachiya, in an instant a vision of shimmering leaves vanished; the garden shadows disappeared; a stone lantern brilliantly ignited; a blast removed his clothes and inflicted multiple wounds. With his injured wife, he fled into the street, tripping over the head of a dead officer crushed beneath a massive gate. "Excuse me, excuse me, please!" he cried hysterically to the dead man. Motionless in the street, their stunned gazes beheld their neighbors' house sway and then crash with a rending sound into the street, followed shortly by a swirl of dust as their own house collapsed. Hachiya staggered to his workplace, the Ministry of Communications Hospital, a modern building. He passed others—all completely silent—walking with arms held out, forearms dangling. A young girl who also witnessed this behavior described more graphically how she saw

three high school girls who looked as though they were from our school; their faces and everything were completely burned and they held their arms out in front of their chest like kangaroos with only their hands pointed downward; from their whole bodies something like thin paper is dangling—it is their peeled off skin which hangs there, and trailing behind them the unburned remnants of their puttees, they stagger exactly like sleep walkers.

Hachiya and his wife found the streets deserted except for the dead. Some looked as if they had been frozen by death while in the full action

of flight, others lay sprawled as though some giant had flung them to their death from a great height.

The hospital quickly became packed with the dying and injured. They came seeking "so much as a glimpse of a white robed doctor or nurse," wrote Hachiya. Broken bodies literally filled every space; the floors and grounds soon became coated with feces, urine, and vomitus. A coworker, Dr. Hanaoka, arrived to report that he saw reservoirs filled to the brim with people who looked as though they had been boiled alive. Another colleague, Mr. Katsutani, bore more eyewitness descriptions of horrors, the worst of which were the injuries to soldiers he passed, their skin burned from the hips up, "their flesh wet and mushy" where the skin peeled, "and they had no faces! Their eyes, noses and mouths had been burned away, and it looked like their ears had melted off." Little Boy caught thousands of soldiers doing morning calisthenics. It totally flattened the headquarters of the Second General Army at Hiroshima Castle, and an intercepted message later disclosed that the entire army staff, from Field Marshal Hata on down, had been injured. The bomb killed the commander of the Fifty-ninth Army, Lieutenant General Yoji Fuji, whose "burnt sword was found alongside his charred remains."

"For all we know, we have created a Frankenstein!"

The announcement that an atomic bomb had been used against Japan was very startling. Historian Paul Boyer describes the unfolding of the news with the first radio announcements at noon followed quickly by commentary on the new state of the world.

From *By the Bomb's Early Light*
BY PAUL BOYER

The first to hear the news that distant Monday were those who happened to be near a radio at midday—housewives, children, the elderly, war workers enjoying a vacation day at home:

This is Don Goddard with your news at noon. A little less than an hour ago, newsmen were called to the White House down in Washington, and there they were read a special announcement written by President Truman.... This was the story of a new bomb, so powerful that only the imagination of a trained scientist could dream of its existence. Without qualification, the President said that Allied scientists have now harnessed the basic power of the universe. They have harnessed the atom.

As the sultry August afternoon wore on, the news spread by word of mouth. The evening papers reported it in screaming headlines:

ATOMIC BOMB LOOSED ON JAPAN
ONE EQUALS 20,000 TONS OF TNT
FIRST TARGET IS ARMY BASE OF HIROSHIMA
DUST AND SMOKE OBSCURE RESULT.

On his six o'clock newscast, Lowell Thomas of CBS radio, already assuming that everyone had heard the story, began in his folksy, avuncular voice:

That news about the atomic bomb overshadows everything else today; and the story of the dropping of the first one on Japan. The way the Japanese describe last night's raid on Hiroshima indicates that this one bomb was so destructive that the Japs thought they had been blasted by squadrons of B-29s.

Meanwhile, over at NBC, the dean of radio news commentators, H. V. Kaltenborn, was preparing the script of his 7:45 P.M. broadcast. The first draft began by describing the atomic bomb as "one of the greatest scientific developments in the history of man." Hastily, Kaltenborn penciled in a punchier opening: "Anglo-Saxon science has developed a new explosive 2,000 times as destructive as any known before."

Continuing in his stern, professional voice, Kaltenborn struck a somber note: "For all we know, we have created a Frankenstein! We must assume that with the passage of only a little time, an improved form of the new weapon we use today can be turned against us."

Kaltenborn was far from alone in perceiving the nightmarish possibilities. Science may have "signed the mammalian world's death warrant," warned the *St. Louis Post-Dispatch* on August 7, "and deeded an earth in ruins to the ants." A Milwaukee Journal editorial on the same day speculated about "a self-perpetuating chain of atomic destruction" that, like "a forest fire sweeping before high winds," could obliterate the entire planet.

In a broadcast that evening, Don Goddard added a chilling concreteness to these ominous forebodings:

There is reason to believe tonight that our new atomic bomb destroyed the entire Japanese city of Hiroshima in a single blast.... It would be the same as Denver, Colorado, with a population of 350,000 persons being there one moment, and wiped out the next.

Thus in the earliest moments of the nuclear era, the fear that would be the constant companion of Americans for the rest of their lives, and of millions not yet born in 1945, had already found urgent expression.

The carefully orchestrated government press releases, illustrated with a set of officially approved photographs, only partially allayed the gathering fear and uncertainty. Hiroshima itself was enveloped in an eerie silence that the outside world only gradually penetrated. "As for the actual havoc wrought by that first atomic bomb," said Lowell Thomas on August 7, "one earlier report was that the photographic observation planes on the job shortly after the cataclysmic blast at Hiroshima had been unable to penetrate the cloud of smoke and dust that hung over that devastated area." An air force spokesman in Okinawa said Hiroshima "seemed to have been ground into dust by a giant foot."