The lack of imagination

The war in the Pacific began in 1941, and by late 1942 Japan had been forced into defensive positions on all fronts. By 1944, the United States was carrying out intensive bombing raids on the mainland, and with the fall of Okinawa it was clear that Japan's defeat was only a matter of time. Nazi Germany surrendered to the Allies on May 7, 1945. On July 16, the Manhattan Project successfully tested a plutonium-type atomic bomb at Alamogordo. In the Potsdam Declaration of July 26, the US, Britain and China demanded that Japan surrender. But, following the firm policies of the military, the Japanese government ignored them.

The investigative team in Hiroshima

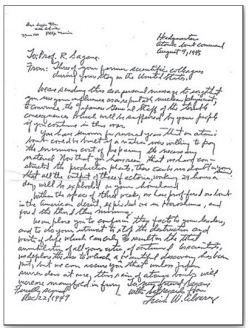
At 8:15 on the morning of August 6, "Little Boy" was dropped on the city of Hiroshima. It was the first ever uranium-type atomic bomb to be detonated. In an instant, Hiroshima was reduced to ashes. The next day, Yoshio Nishina went there with an investigative team from the army and navy. From the exposure on X-ray films at the Red Cross hospital, Nishina concluded that it had been a nuclear explosion. But the Japanese government persisted in its silence, and at 11:02 a.m. on August 9 the plutonium-type bomb "Fat Man" was dropped on Nagasaki. Late that night, the government decided to accept the Potsdam Declaration. Thus the awful nightmare of World War II came to an end.

But were the people who built this hideous weapon able to imagine what it would do to the world? It was because of their lack of imagination, and their refusal to contemplate the hellish aftermath, that Hiroshima and Nagasaki suffered the horrific and unprecedented tragedy of annihilation by nuclear bomb.

Episode

Ryokichi Sagane and "Fat Man"

Concerning the friendship between two scientists from America and Japan



The letter to Ryokichi Sagane

On August 9, 1945, the atomic bomb called "Fat Man" was dropped on Nagasaki. At the same time an observation probe was dropped by parachute. It landed 50km from where the bomb detonated, in a rice field in the outskirts of the city of Isahaya, and was soon picked up by the Japanese navy. Inside they found a letter, written in pencil and folded lightly. The discovery of the probe was kept completely secret.

The incident became public the next month, when the letter was handed over to its addressee at the former naval base at Sasebo. The letter was addressed to Ryokichi Sagane, who had previously worked in Ernest Lawrence's lab at the University of California and was later to become a Chief Scientist at RIKEN. It was unsigned, but at the top it said, "From: Three of your former scientific colleagues during your stay in the United States." The text of the letter read, "We are sending this as a personal message to urge that you use your influence as a reputable nuclear physicist, to convince the Japanese General Staff of the terrible consequences which will be suffered by your people if you continue in this war. … Now that you have seen that we have constructed the production plants [for making atomic bombs], there can be no doubt in your mind that all the output of these factories, working 24 hours a day, will be exploded on your homeland. … We implore you … to do your utmost to stop the destruction and waste of life which can only result in the total annihilation of all your cities, if continued. As scientists, we deplore the use to which a beautiful discovery has been put, but we can assure you that unless Japan surrenders at once this rain of atomic bombs will increase manyfold in fury."

Later, it became known who the authors of the letter had been. One of them was Luis Alvarez (who was to win the Nobel prize for physics in 1968). In 1949 Alvarez met with Sagane and signed the letter. Theirs was a precarious friendship that managed to survive the extreme circumstances of the end of the war.

Ryokichi Sagane and Luis Alvarez

- Little Boy killed 140,000 people (237,000 if later fatalities are included), and Fat Man killed 73,000 (135,000).
- Lawrence played a key role in the Manhattan Project by using electromagnetic separation to enrich uranium in a cyclotron. Lawrence had previously had a strong relationship with Nishina, but ironically the war pitted the two against each other as they worked on their respective countries' nuclear weapon projects.
- "I made one mistake in my life, when I signed that letter to President Roosevelt advocating that the atomic bomb should be built. But perhaps I can be forgiven, because we all felt that there was a high probability that the Germans were working on this problem and would use the atomic bomb." (Albert Einstein)
- Ryokichi Sagane was the fifth son of Hantaro Nagaoka.
- It is now 2005, and sixty long and heavy years have passed since the atomic bombings in 1945. Cries of "No more Hiroshimas! No more Nagasakis!" have been in vain, and mankind has not abolished nuclear weapons.