Lingering Shadows of World War II

By Zia Mian | June 14, 2005

Many events commemorating the 60th anniversary of the defeat of Nazi Germany in the Second World War were held this past May. Yet there has been little or no discussion of some of the most important and enduring legacies of that war, legacies that have cast long shadows ever since. Nationalism, industrial production, the bureaucratic state, and science and technology were harnessed to the cause of war in terrible new ways. It brought us the gas chambers, the systematic bombing of cities, and nuclear weapons. These three forms of modern violence are different in some significant ways, but they shared important features. Among these were centralized authority, extensive compartmentalization of responsibilities, tasks, and knowledge accompanied by strong organizational loyalty, along with scientific rationalization for the policy and technical ways of distancing perpetrators from victims.

Many moral barriers were breached, and not all were by the Nazis. In September 1939, U.S. president Franklin Roosevelt denounced the bombing of cities and appealed to the leaders of Germany, Britain, France, Italy, and Poland to desist. Roosevelt wrote to them that "The ruthless bombing from the air of civilians in unfortified centers of population during the course of the hostilities" had "sickened the hearts of every civilized man and woman, and has profoundly shocked the conscience of humanity." He said:

> "If resort is had to this form of inhuman barbarism during the period of the tragic conflagration with which the world is now confronted, hundreds of thousands of innocent human beings who have no responsibility for, and who are not even remotely participating in, the hostilities which have now broken out, will lose their lives. I am therefore addressing this urgent appeal to every government which may be engaged in hostilities publicly to affirm its determination that its armed forces shall in no event, and under no circumstances, undertake the bombardment from the air of civilian populations or of unfortified cities."

While no American city was ever subject to such bombardment, when America entered the war it joined Britain in the bombing of German cities. Then it bombed Japanese cities. In a recent film *The Fog of War,* former U.S. Secretary of Defense Robert McNamara explains that the U.S. bombing campaign killed 50-90% of the people in 67 Japanese cities. This does not include the use of the atom bomb on Hiroshima and Nagasaki.

The most profound moral threshold that was crossed in the Second World War was in the effort to build the first atomic bomb. Its use in the war, and the nuclear age that followed, showed just how far things had gone. Seven years after India and Pakistan tested their nuclear weapons (on May 11 and 13, and May 28 and 30, 1998), it is worth asking what barriers have been and are being crossed in the subcontinent.

Early Experiments

There is no doubt that the scientists who built the first atom bomb knew they were preparing a weapon of mass destruction. One particular incident sheds light on the scale of destruction these scientists may have been contemplating. In April 1943, the Italian physicist Enrico Fermi proposed to Robert Oppenheimer, the scientific head of the U.S. atomic bomb program, that a nuclear reactor might be used to produce radioactive isotopes not just for the bomb, but in large quantities to poison German food supplies. Oppenheimer found the idea "promising." But, Oppenheimer wrote to Fermi, "We should not

attempt a plan unless we can poison food sufficient to kill half a million men."

Other kinds of violence were unleashed too. As part of the Manhattan Project, scientists were working with unprecedented amounts and kinds of radioactive materials. They needed to know what levels of radiation exposure might be safe and what would be fatal for scientists and engineers on the project, if no one else. They started to create knowledge about radiation effects on health. They started by irradiating animals. But this was only the beginning. In the next thirty years, over 23,000 people in the United States were the subjects for 1,400 radiation experiments, in many cases without their informed consent. When details were released in December 1993, U.S. Secretary of Energy Hazel O'Leary was moved to exclaim that, "The only thing I could think of was Nazi Germany."

On July 16, 1945, the world's first atomic explosion burst over the New Mexico desert. The Trinity test was conducted at a place fatefully called Jornada del Muerto (the Journey of Death). Robert Oppenheimer watched the test and famously declared "I am become death, the destroyer of worlds." The physicist I. I. Rabi had a similar but less known reflection about what scientists, including himself, had wrought:

> "At first I was thrilled. It was a vision. Then a few minutes afterwards, I had gooseflesh all over me when I realized what this meant for the future of humanity. Up until then, humanity was, after all, a limited factor in the evolution and process of nature. The vast oceans, lakes and rivers, the atmosphere were not very much affected by the existence of mankind. The new powers represented a threat not only to mankind but to all forms of life: the seas and the air. One could foresee that nothing was immune from the tremendous power of these new forces."

On August 5, 1945, the United States used its atom bombs to destroy the Japanese city of Hiroshima, and on August 9, the city of Nagasaki. Over 200,000 people died immediately or within weeks from injuries. More died in subsequent months and years; the exact toll is not known. In announcing the first use of the atom bomb, President Harry Truman warned on August 6: "We are now prepared to obliterate more rapidly and completely every productive enterprise the Japanese have above ground in any city… 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."

Violence begets violence and fear. In August 1949 the Soviet Union detonated its first atomic bomb. There was a secret debate within the U.S. government about what should be the appropriate response to the Soviet atomic bomb test, in particular whether the United States should pursue the development of an even more powerful bomb, a hydrogen-bomb based on thermonuclear fusion (India claimed to test just such a bomb on May 11, 1998).

The committee that was set up to consider the possibility of a hydrogen bomb included Robert Oppenheimer, Enrico Fermi, and I. I. Rabi, among others. They concluded that the H-bomb could probably be built within five years, but advised against it. The committee argued that "it is clear that the use of this weapon would bring about the destruction of innumerable human lives … Its use therefore carries much further than the atomic bomb itself the policy of exterminating civilian populations."

Debating the H-Bomb

While it was clear that the atom bomb was a tool for a policy of extermination, the committee was divided however on how to characterize the exterminist nature of an H-bomb. The majority of the committee members argued that, "its use would involve a decision to slaughter a vast number of civilians … Therefore, a super bomb might become a weapon of genocide." The minority view on the committee was that this statement did not go far enough. They argued, "It is clear that the use of such a weapon cannot be justified on any ethical ground which gives a human being a certain individuality and dignity even if he happens to be a resident of an enemy country. The fact that no limits exist to the

destructiveness of this weapon makes its very existence and the knowledge of its construction a danger to humanity as a whole. It is necessarily an evil thing considered in any light."

The advice of the committee was rejected. The political, military, and institutional pressures of the growing nuclear complex and the Cold War prevailed. On November 1, 1952, the United States tested the first H-bomb. The Mike test, at Enewetak Atoll in the Pacific, had an explosive yield of over ten megatons, many hundreds of times more powerful than the bombs that destroyed Hiroshima and Nagasaki and more explosive power than all the bombs dropped by U.S. and British armed forces during the Second World War.

Where the United States led, others followed. The nuclear stockpiles that were manufactured by the United States and Soviet Union, and the smaller nuclear weapon states, quickly surpassed the dangers posed by earlier measures of genocide. By 1960, only 15 years after the end of the Second World War, the United States had a nuclear war plan that would have resulted in the deaths of an estimated 360-525 million people. Robert McNamara, as then defense secretary, argued in 1962 that a "reasonable" goal for nuclear war against the Soviet Union could be the destruction of 25 per cent of its population (i.e. the death of 55 million people) and more than two-thirds of its industrial capacity.

Recent calculations have shown that McNamara's criteria of killing 25 per cent of the Russian population would now require only 51 modern U.S. nuclear warheads. Estimates of current arsenals in 2005 suggest that the United States has about 5,300 operational nuclear warheads (and other 5,000 on reserve), while Russia has 7,200 warheads, China has about 400, France has 350, and Britain has 200 warheads. Israel is believed to have up to 200 nuclear weapons. It is estimated India and Pakistan have so far less than 100 warheads each.

There is little solace to be had in the relatively smaller arsenals of India and Pakistan, the newest nuclear weapon states. A nuclear war between Pakistan and India in which each used only five of their nuclear weapons (each of which typically has the same yield of the bombs that destroyed Hiroshima and Nagasaki) would likely kill about three million people and severely injure another one and a half million.

The Nuclear Future

It is clear now that for the United States and a handful of other like-minded states, nuclear weapons have a role to play in the 21st century. While some states pursue a nuclear weapons capability, U.S. nuclear weapons designers and military planners are pushing for new weapons designs and missions. There are arguments for new bunker-buster nuclear weapons, for more reliable nuclear weapons (that will last longer), and for nuclear weapons that will be customized in their effects.

Stephen Younger, director of the Defense Threat Reduction Agency and former associate laboratory director for nuclear weapons at Los Alamos National Laboratory, has argued that in the post-Cold War world, the United States needs new kinds of low-yield nuclear weapons because it faces "new threats," and the continued U.S. "reliance on high-yield strategic (nuclear) weapons could lead to self-deterrence, a limitation of strategic options." Paul Robinson, the former director of Sandia National Laboratory and chairman of the policy subcommittee of the strategic advisory group for the commanders-in-chief of the U.S. Strategic Command has proposed developing a special low-yield "To Whom It May Concern" nuclear arsenal, directed at third world countries. This is by no means the first time such suggestions have come from U.S. weapons laboratories. In 1970, Harold Agnew, director of Los Alamos National Laboratory, suggested that "if people would prepare the right spectrum of tactical weapons, we might be able to knock off this sort of foolishness we now have in Vietnam and West Asia or any place else".

The United States is renewing its embrace of a nuclear arsenal in the post-Cold War world, knowing that this more deeply embeds nuclear weapons in national and international structures of political and military thinking and action. The deep-seated reasons

for this folly may lie in the bomb itself. The American novelist E. L. Doctorow observed that "We have had the bomb on our minds since 1945. It was first our weaponry and then our diplomacy, and now it's our economy. How can we suppose that something so monstrously powerful would not, after years, compose our identity?"

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