Katie Prescott

History of Science and Technology

I pledge my honor that I have abided by the Stevens honor system.

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Nuclear Arms: Mutually Assured Destruction

The decision to develop the atomic bomb and drop it on Hiroshima and Nagasaki took years of planning, research, and testing. This task changed many attitudes towards science, as well as set the world on a “new and dangerous path” (*The Bomb*) that led to a thermonuclear age, and significant destruction of nature. The most important question now is whether or not the development of nuclear arms was worth the costs. It is my belief that, as atrocious as these weapons are, they were necessary to end the war, but have started us down a path of mutually assured destruction.

A social construct is defined as a social mechanism created and developed by society. There are many people who do not think that science is a social construct, that it is fixed and known; however, there is evidence across many time periods that suggest that science is just as susceptible to being a social construct as religion or family dynamics. A paradigm shift occurred from the dramatic change in the attitude towards physics and chemistry from that of scientific inquiry to doing whatever necessary to beat the Nazis and win the war. This is exactly what happened when the Manhattan Project was commissioned. Even after the war was over in Europe, Oppenheimer and other scientists at the Los Alamos lab decided they had a moral obligation to continue working on the atomic bomb in order to demonstrate to the UN the potential destruction of nuclear weapons (*The Day After Trinity*). It was as if another paradigm shift was occurring, they continued their work for the science, not realizing the importance it would have on winning the war in the pacific. After the completion of the atomic bomb, and the bombing of Hiroshima and Nagasaki, the world was started on a destructive and dangerous path the likes of which was never seen before.

Just as progress was a central theme of the scientific revolution, it is a central theme in this nuclear revolution. When the Soviets were working on their own version of nuclear weapons, the United States was thrown into a nuclear arms race. In order to win this race, the United States had to be constantly progressing their innovative technology and techniques for nuclear fission. This progress led us to the creation of the Hydrogen bomb, a weapon 600 times more powerful than the first atomic bomb (*The Bomb*). Progress forced us into yet another shift, as science became the focal point for defense in the United States. The thermonuclear age influenced the United States military to create 31,000 nuclear weapons in the name of defense (*The Bomb*). The Cold War, and the corresponding arms race against the Soviet Union have opened a door that cannot be closed; a door that has the potential to destroy the world as we know it.

Many scientists and historians continue to pose the “what if…” questions; what if we did not start the Manhattan Project in the first place and the atomic bombs were never completed, and would Japan have surrendered had the atomic bombs not been dropped. With these questions, people are likely attempting one of two things; to justify nuclear weapons by saying things would have been worse, or to criticize the decisions of those in history by saying it was not necessary. The reality is in the facts at the time. Truman had no prior knowledge of the Manhattan Project until he was sworn into office after the death of Roosevelt. By then, the project was beginning testing an atomic bomb, and the wars were quickly escalating. It was pragmatic for Truman to end the war quickly, with minimal loss of American life. It is estimated that an invasion of Japan, the only alternative, would prolong the war by at least another year, and cost thousands of more lives (Hamshari). Truman had to make the impossible decision, which seemed to have already been made by his predecessor; it was as if no one could stop the dropping of the atomic bombs.

Unfortunately, there was no way to determine what the long-term effects could have been after dropping the atomic bombs. Hindsight bias makes it difficult to imagine making the decisions Truman had to make, and there is no way to know for sure what could have been, had events played out differently. All we can do now is attempt to halt the spread of nuclear weapons and technology, and end the era of mutually assured destruction.

Works Cited

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