

Technological advancements in military impacted warfare



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It is without a doubt that with improvements in technology, weapons have become more lethal, more small, and more stealthy or mobile. The outcome of these changes can be argued as either beneficial or detrimental, but one thing is obvious, and that is that these advances in military technology have made the world more unstable and therefore less secure. Today, the greatest national security threat confronting the United States is the possibility of a WMD falling into the hands of a terrorist organization with intention to set the device off. WMD's are a result of technological advances, and they have had a large impact on the United States' relationships with foreign countries as well as the strategies our government takes when dealing with terrorist groups and other organizations that danger our society's welfare. While WMD's are the greatest threat to our generation today and a greater threat to civilization than ever before due to their lethality, every generation has had to deal with improvements in the technology of weapons development. This has been true throughout the history of the world and throughout our history here in the U. S. Simply put, the use of nuclear weapons in war has been a build up; that is, an accumulation of advancements that have been primarily developing since the American Civil War. With this argument in mind, here are several reasons that reveal how insecure our world has become due to technological advancements in the military.

The American Civil War gave rise to tremendous advances in military technology. During

this time period, many aspects of war were changed; ironclad warships were used instead of wooden boats, the rifled musket replaced the common

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musket (which in turn invented trench warfare as a reaction), and the submarine, the flamethrower, grenades, as well as many other conventional weapons were invented¹. What is the result from this? All these weapons, being more deadly, made warfare a lot more intense, which is why more than 620, 000 Americans lost their lives during those four violent years. Weapons became more lethal, and in turn made the lives of those in war more unsafe and prone to being killed in action. Shelby Foote, a historian who was interviewed about the Civil War, noted about the lethality of weapons, “ It was brutal stuff. The reason for the high casualties is really quite simple: the weapons were way ahead of the tactics. The rifle itself hit through a 53 caliber soft-lead bullet at a low muzzle velocity, and when it hit, the reason why there were so many amputations, if you got hit on the shoulder, it didn’t clip your bone the way a modern steel jacket bullet does, you didn’t have any bone from remaining².” It is obvious that mid-19th century war-time advancements maximized utility, power, and accuracy, but at the same time minimized the safety of the people, and this notion only strengthened as time progressed. Half a century later, the next war, one that encompassed all of the major world powers at the time, proved to be more lethal as well as more damaging to the security of nations across the world.

Many new advancements introduced in World War I made warfare more lethal and dangerous. World War I was the first war in which chemical weapons were used to combat

¹ History. com “ Civil War Technology” <http://www.history.com/topics/civil-war-technology> (accessed February 27, 2011).

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2 Best of Shelby Foote, excerpt from *Shelby Foote: The Man and the Civil War*, co-produced by Chip Taylor, BBTFilms, and Myles Jaeschke (2009) <http://www.youtube.com/watch?v=gBghmvRMIuY> (2: 54-3: 40) (accessed February 27, 2011).

enemies. Brought onto the battlefield by the German Army in September of 1917, mustard gas

was the ideal weapon; it was odorless, afflictive (it took twelve hours to take effect), and blinding. It also introduced a new factor to weaponry: smallness. The chemicals in the gas were very potent and only small amounts were needed to be added to high explosive shells in order to be effective. Effects of mustard gas included internal and external bleeding, blisters “ the size of your palm,” as a doctor in the war, Kingsley Martin, noted, and the destruction of the mucous membrane surrounding the bronchial tubes of the lungs. Within the first year it was used, mustard gas killed thousands of men and left tens of thousands blind, disfigured, or paralyzed. Of British casualties between 1914 and 1918, 24. 7% of the men affected by mustard gas ended up dying, while only 0. 1% of the men affected by Chlorine gas, the gas invented before the war, were found dead³. Men and women in the war were now 25x more likely to die from chemical weapons. Mustard gas was therefore a war invention that made the world a lot more unsafe, but it is only one of many others; World War I was also the first aerial war.

In late 1915, the German Fokker Eindecker, a single-seat monoplane, ruled the skies and destroyed any French or British opposition in its way. What was unique in the Eindecker was the synchronization of the machine gun with the

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rotation of the propeller. Most historians coined the term the “Fokker Scourge” due to the complete German air dominance during this time. Air Force historian and author Walter Boyne noted that, “[The plane] initiated the lethal aircraft⁴.” Men now had to not only combat their enemies at ground level, they also had to combat them in the air; this added a whole new dimension to warfare which previously didn’t exist, therefore ³ John Simkin, “Mustard Gas,” Spartacus International, <http://www.spartacus.schoolnet.co.uk/FWWmustard.htm> (accessed February 27, 2011).

⁴ Andrew Moseman, “The 6 Most Lethal Aircraft in History,” Popular Mechanics, <http://www.popularmechanics.com/technology/aviation/military/4290914> (accessed March 1, 2011).

increasing the chances of dying and in turn making the world more unsafe.

A third important invention that took place in World War I was the tank. The tank was developed by the British in order to bring an end to the stalemates in trench warfare. At first, the tanks were unsuccessful, often getting stuck in muddy trenches. But with time, they were improved and ended up helping the British fight the Germans, who lacked a strong tank corps. At the Battle of Cambrai, the British pushed through and successfully breached the German front and captured 10,000 German prisoners as well as hundreds of German weaponry⁵. This shows that tanks could blow through anything and one could no longer hide in the safety of the trenches. Not only could tanks be used on the battlefield, they could also be used in cities; nations in conflict could deploy tanks to enemy cities and tear down the capital.

There are many more parts of weaponry used during the First World War that contribute to the decrease of world security (i. e flamethrowers, bayonets, grenades), but these are not as effective as the aforementioned innovations and cannot be fully described in 8-10 pages. Twenty years later came the Second Great War, which made way for many other inventions that proved to be more lethal and successful at damaging the world's safety.

Technology played a crucial role in determining the outcome in World War II, and advancements in this realm also set the stage for the first nuclear weapons. During this time period, conventional weapons also became a lot more accurate and a lot more mobile. One of the largest military improvements that occurred during this time period was the improvement of submarines, which lead to the use of the infamous U-boats. U-boats were very stealthy; for example, the U-480 submarine had a special rubber coating that deflected early sonar

5 First World War. com, " Weapons of War: Tanks," Michael Duffy, <http://www.firstworldwar.com/weaponry/tanks.htm> (accessed March 2, 2011).

technology, which made it undetectable to enemies⁶. This made naval battle so much more

unstable because U-boats could strike at any moment without being detected. On some occasions, U-boats did attack merchant ships or civilian ships, which introduced a whole new debate over international waters. The Arandora Star, a British Steam passenger ship en route to St. Johns, was torpedoed from a U-47 and as a result 805 civilians were killed. Other <https://assignbuster.com/technological-advancements-in-military-impacted-warfare/>

notable civilian ships that were sunk by U-boats include the Suntien, with a loss of 700 people, the Dorchester, with a loss of 675 people, and the Ceramic, with a loss of 656 people⁷. What is to be derived from all of this is that with the introduction of U-boats in warfare, the lives of not only soldiers but civilians were put at stake, therefore making the world more unstable.

In World War II, the introduction of gas chambers in Jewish extermination camps permitted the state of Germany to use lethal force to commit mass genocide. These gas chambers contained several compartments where Nazis could gas up to 1, 200 people at a time⁸. Words cannot describe the immorality of this form of military technology, lethal on such a grand scale that was previously unheard of. This destroyed Jewish morale among prisoners who had previously thought their lives were safe; in reality, they had entered a world that was the exact opposite. Unfortunately, this form of execution has not ceased to exist; recently, a North Korean concentration camp in a remote town holds thousands of men, women, and children accused of political crimes. The purpose is “to experiment with liquid gas for chemical weapons.” An article by the British paper The Observer includes documents describing the horrible treatment of the

⁶ Jeremy Evans, “Stealth Submarine,” National Geographic, <http://channel.nationalgeographic.com/episode/stealthsubmarine-3948/Overview> (accessed March 4, 2011).

⁷ Guomundur Helgason, “Greatest loss of life - Ships hit by U-boats in WWII,” uboat.net, http://www.uboaat.net/allies/merchants/loss_of_life.html (accessed March 4, 2011).

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8 H. E. A. R. T, " Auschwitz Concentration Camp The Gas Chambers," Holocaust Research Project, [http:// www. holocaustresearchproject. org/othercamps/auschwitzgaschambers. html](http://www.holocaustresearchproject.org/othercamps/auschwitzgaschambers.html) (accessed March 4, 2011).

prisoners. " An officer ordered me to select 50 healthy female prisoners. One of the guards

handed me a basket full of soaked cabbage, told me not to eat it but to give it to the women. I gave them out and heard a scream from those who had eaten them...All who ate the cabbage leaves started violently vomiting blood and screaming with pain. It was hell. In less than 20 minutes, they were quite dead⁹." If this does not show how unsafe the world has become as a result of concentration camps (which included advances in technology like gas chambers and other mechanisms), then what does?

The most prominent advancement in military technology that came about during World War II was the Atomic Bomb. Contrary to popular belief, it wasn't Robert Oppenheimer or Albert Einstein that invented the atom bomb; it was Leo Szilard who conceived the atomic bomb¹⁰. The second atomic bomb that was dropped on Nagasaki supposedly induced the Japanese to raise the white flag, but what was the underlying result from this " victory"? The result was that the world, now having witnessed one of the most powerful weapons to date and its devastating effect, has become more unsafe than it has ever been. This instability is what lead to the Cuban Missile Crisis and today's greatest national threat to American society; the possibility of a WMD falling into the hands of a terrorists.

In the past 10 years, developments in military technology have advanced dramatically. It is without a doubt that chemical, nuclear, biological, and radiological weapons have all become more lethal throughout the progression of their existence. It is also undeniable that these WMD's have become more mobile as well as more widely available. The reason WMD's have become

9 Antony Barnett, " Revealed: the gas chamber horror North Korea's gulag," The Observer, <http://www.guardian.co.uk/world/2004/feb/01/northkorea> (accessed March 1, 2011).

10 Paul Heckel, " Who Invented the Atomic Bomb?" Pandab, <http://www.pandab.org/who-invented-the-atomicbomb.htm> (accessed March 1, 2011).

more available is because all nations want to obtain these more lethal weapons for their own

national security, so when more countries produce nuclear weapons, there are more sources for potential buyers who would want to obtain the nuclear devices with intention of harmful use against the U. S or any other country for that matter. Former president George Bush, in the National Security Strategy of the U. S, agreed with this idea, saying that " Shadowy networks of individuals can bring great chaos and suffering to our shores for less than it costs to purchase a single tank. Terrorists are organized to penetrate open societies and to turn the power of modern technologies against us¹¹." In essence, what Bush is saying is that WMD's are so lethal and so widely available that America's safety is at stake with these weapons being so widely available.

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In recent years, both Pakistan and North Korea have gone nuclear, and because their governments are unstable, the control of their nuclear weapons is less predictable; these weapons can be called loose nukes. Loose Nukes are defined by Citizens for Global Solutions as “ poorly guarded nuclear materials, weapons or technology that can fall into the wrong hands.” The Global Solutions article then goes to say that in Russia, many nukes are not well guarded so they could therefore easily be accessed by terrorist groups who could use the weapon against the United States. Dr. A. Q Khan, who is known as the father of the Pakistani nuclear program, even confessed to having proliferated nuclear weapons to a black market which included Libya, Iran and North Korea¹². How can the world truly be safe if the creators of weapons of mass destruction are selling and dealing weapons for the simple interest of money? While nuclear weapons have made the world more unsafe, there are many preemptive measures being taken to

¹¹ George Bush, “ The National Security Strategy of the United States of America,” [http:// www. informationclearinghouse. info/article2320. htm](http://www.informationclearinghouse.info/article2320.htm) (accessed February 28, 2011).

¹² Citizens for Global Solutions, “ The World’s Nuclear Problem,” Global Solutions, [http:// archive2. globalsolutions. org/issues/worlds_nuclear_problem](http://archive2.globalsolutions.org/issues/worlds_nuclear_problem), (accessed February 28, 2011).

reduce this insecurity. Dr. Henry A. Kissinger, in a speech on May 25, 2010 before the Senate

Foreign Relations Committee, said, in his avid support of the New Start treaty, that there is a need for the continuation of the reduction of stockpiles of nuclear weapons. " It is necessary for

U. S leadership in nonproliferation, risk reduction, and arms reduction goals¹³." It is the support for treaties like The New Start, the Nuclear Test Ban Treaty in the 1960's, and the many arms control agreements in the 1970's that will help limit the widespread acquiring of WMD's and help make the world a safer place in time of unstable progression.

In conclusion, throughout the progression of time, weapons have become more and more lethal, small, and stealthy; these three characteristics are proven to have aided the world in becoming more unstable. In only a century and a half, humans have gone from using rifles on the battlefield to using biological weapons and long-range missiles. At the rate at which humankind is progressing, it is essential to world security that all nuclear nations collaborate to settle treaties on arms-reductions in order to lessen the proliferation of WMD's and to secure the nuclear devices we have now, which would in turn cut the supply of nukes available to terrorist organization¹⁴. A high demand from terrorists with little to no supply of nuclear weapons would leave these organizations hopeless with no power to back them up, and in turn, a safer society would be created. Nuclear devices have become a threat to security, but are also the only thing protecting us from other nuclear countries. It is this paradox we must live with and combat for our existence. It is also for these reasons that advancements in military technology have made the world we live in a very unsafe one. ¹³ Henry A.

Kissinger, Statement Before the Senate Foreign Relations Committee On the <https://assignbuster.com/technological-advancements-in-military-impacted-warfare/>

New Start Treaty, May 25, 2010, <http://henryakissinger.com/speeches/052510.html> (accessed February 28, 2011).

14 Evan B. Montgomery, "Understanding the Threat of Nuclear Terrorism", CSBA, <http://www.csbaonline.org/publications/2010/04/understanding-the-threat-of-nuclear-terrorism/>, (accessed February 28, 2011). -Note, from this paper only the first two pages were used to discuss the "supply" and "demand" parts of nukes.