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Research Paper

Nuclear Close Calls

Nuclear weaponry was a defining aspect of the Cold War. On July 16, 1945, the first nuclear test took place at the Trinity Test Site in Alamogordo, New Mexico (Burton). At 5:29 a.m. the bomb called Gadget was detonated using a 100 foot steel tower, and had been more powerful than scientist J. Robert Oppenheimer had originally thought (Burton). The test was equivalent to around 21 kilotons of TNT and evaporated the tower it was hoisted on, left a five foot deep by 30 feet wide hole, and left the sand below it melted (Burton). Not even a month later, on August 6, 1945, at 8:15 a.m. the B29 bomber nicknamed “Enola Gay” dropped Little Boy and detonated 1,800 feet above the city of Hiroshima; Fat Man was dropped over Nagasaki (“The Atomic Bombs that Ended the Second World War”). The development and eventual use of the nuclear bomb changed the course of global politics and warfare. The world knew the power that these weapons held and the threat that if they were to be used, omnicide could occur. There were many instances during the Cold War when nuclear weapons were almost fired, and the world almost ended.

On January 23, 1961, a B-52 bomber was flying over North Carolina carrying two Mk 39 hydrogen bombs which were 4 megatons each; 260 times more powerful than Little Boy (Pilkington). The plane had taken off from Seymour Johnson Air Force base in Goldsboro for a routine flight, when the plane encountered trouble and fell into a tailspin (Pilkington). The bombs became separated from the plane and one fell into a field near Faro, North Carolina, and

the other into a meadow near Big Daddy's Road (Pilkington). After examining the bomb that landed in Faro, it was found that three of the four safety switches had failed to operate properly, and it was one fail switch away from detonating (Pilkington). Had the bomb gone off, fallout would have reached past Washington, Baltimore, Philadelphia and all the way to New York City (Pilkington). It was concluded that the bombs did not contain the correct amount of safety for being airborne on the B-52 (Pilkington).

The Cuban Missile Crisis was perhaps the closest the US and USSR had been to nuclear war. On October 27, 1962, an American destroyer had encountered a Soviet submarine near Cuba (Wilson). The US destroyer, the USS Beale, had dropped depth charges that were non-lethal as a signal to the sub to surface (Wilson). Later, more US ships had shown up and dropped more depth charges, which the Soviet sub had not known were non-lethal and had assumed they were under attack (Wilson). The captain of the sub, Valentin Savitsky, ordered the crew to prepare the ten kiloton nuclear torpedo for firing and to target the USS Randolph, the aircraft carrier leading the depth charges (Wilson). For the torpedo to be sent, all three of the senior officers on the sub had to agree to launch, and one of the officers, Vasili Alexandrovich Arkhipov, chose not to agree to launching the torpedo (Wilson). If the torpedo had been launched, a counter attack would be launched from the US with targets in Eastern Europe; there would have been launches of missiles across the globe and WWII would have erupted (Wilson).

One instance of the United States almost dropping nuclear bombs happened in North Korea in 1969. The United States had a spy plane flying around the Korean peninsula, and a North Korean jet shot it down (Shuster). President Richard Nixon and National Security Advisor Henry Kissinger, talked about what to do in response with the military, and even considered nuclear weapons (Shuster). An American EC-121 plane was flying around the peninsula on April

15, 1969, gathering reconnaissance information over international waters when a North Korean fighter jet shot down the plane killing all 31 people on board (Shuster). An American pilot, Bruce Charles, who was on temporary duty at the Kusan Air Base in South Korea was told about the EC-121 being shot down, and was told to be prepared to strike his target which was an airstrip in North Korea (Shuster). Charles checked his F-4 jet and the weapon he had on board: a B61 nuclear bomb with a payload of 330 kilotons, 20 times the size of the bomb dropped on Hiroshima (Shuster).

Hours passed, and Charles was given orders to stand down (Shuster). Even though Charles' plane did not take off, this instance still shows how close nuclear war could have been. Nuclear weapons were placed on planes and were seriously considered as an option of retaliation to any type of attack.

One aspect of nuclear weaponry and fear of nuclear war is in alert systems. A case involving defense systems happened during the Cuban Missile Crisis on October 28, 1962, when radar operators in Moorestown, NJ relayed information to NORAD that a nuclear attack was headed toward Tampa, FL ("Close Calls with Nuclear Weapons"). NORAD alerted all defense systems and prepared to retaliate after the attack ("Close Calls with Nuclear Weapons"). The missiles were estimated to hit at 9:02 a.m., but when the missiles never hit ("Close Calls with Nuclear Weapons"). No retaliation took place, however, and it was found out that there was a false alarm ("Close Calls with Nuclear Weapons").

What actually happened was a near omnicidal coincidence. First, a test tape was playing at the Moorestown facility that simulated a missile attack from Cuba ("Close Calls with Nuclear Weapons"). Second, a satellite had appeared over the horizon which the operators mistook as a missile ("Close Calls with Nuclear Weapons"). Radars that were supposed to be overlapping

were not operating, which would have told them that there was no missile attack, and the operators were not told that satellites would be passing over ("Close Calls with Nuclear Weapons").

Weather and astronomical phenomena can also interfere with radar systems. In May of 1967, this such thing happened, and if it hadn't been for a relatively new branch of the military, nuclear war could have occurred (Mosher). In May of 1967, there had been a solar storm which sent solar particles toward Earth; this is known as a coronal mass ejection, or CME (Mosher). CMEs cause auroras due to Earth's magnetic field sending the particles toward the poles, but they also interfere with radars and communications systems (Mosher). The Air Weather Service, or AWS, was a new branch of the Air Force at the time which had studied and had warned the military that there was a possibility of a CME to occur, but the US officials thought it was intentional jamming by the Soviets (Mosher). Strategic Air Command prepared to launch a counter-attack on the Soviet Union and bombers were ready to scramble (Mosher). Before the planes took off, the military was informed by the space weather forecasters that the solar storm had the potential to jam radar and comms, and the planes did not take off (Mosher).

This particular instance is interesting because it wasn't the result of human error. The warning systems were not triggered by a mistakenly inserted simulation tape, but rather by something they could not control, which was weather. It was also prevented by such a niche division of the military. If the AWS had not been started and had not known of solar storms and their effects, nuclear war was the next step in the defense procedure.

A similar situation to the New Jersey incident happened on November 9, 1979, US NORAD (North American Aerospace Defense) systems went off (Wright). The missile warning systems lit up and the alert was for a full-scale nuclear assault from the Soviet Union (Wright).

The warning went off at NORAD Headquarters in Colorado, SAC Center, Pentagon National Military Command Center, and Alternate National Military Command Center, so this did not appear to be some glitch at NORAD's headquarters (Wright). The US responded by scrambling bomber crews and fighter jets (Wright). What had actually set the alarms off was not a Soviet attack, but rather a training tape that was mistakenly put into NORAD's system (Wright). A technician had inserted a tape that was meant to simulate an attack, which sent out the alert to all defense systems in the network (Wright).

Tensions between the Soviet Union and the United States were low at that time, so officials were unsure of whether the attack was real or if it was a mistake of some sort (Wright). The radars also did not show any sort of missile attack incoming, so that added to the doubt that the United States had when thinking if it was a real attack (Wright).

This final case involves a Soviet commander having to make a decision off an alarm going off. On September 26, 1983, Stanislav Petrov was watching over the Soviet early-warning systems (Hoffman). Petrov was watching over the warning systems when they suddenly went off (Hoffman). The system was saying that an attack had been launched by the United States toward Russia (Hoffman). Petrov was faced with a decision: launch a counter attack, or wait it out and potentially take an attack without retaliation (Hoffman).

Petrov was tasked with evaluating the information that came up on the warning systems and relaying it to officials at the warning system headquarters (Hoffman). The data the Petrov was receiving was that one missile had been launched, then one more had been launched, then another (Hoffman). The systems were going off reading that five Minuteman ICBMs had been launched toward the Soviet Union (Hoffman).

With all the computer systems going off reading that an attack was imminent, Petrov did not act (Hoffman). After five minutes, Petrov made the decision that the systems must be giving a false alarm and that the Soviets should not act (Hoffman).

Petrov's decision was made based on several factors. First, Petrov figured that if the United States were to launch an attack on the Soviet Union, it would consist of thousands of missiles and not just five missiles like the warning systems had read (Hoffman). This would make the attack a quick motion and not be going back and forth with missiles (Hoffman). Second, the Soviet ground radars did not detect any missiles (Hoffman). If there had been an attack, these radars would have detected missiles rising over the horizon, but they did not in this case (Hoffman). In the end, Petrov was quoted as saying, "I had a funny feeling in my gut; I didn't want to make a mistake. I made a decision, and that was it (Hoffman)." It was thanks to this that the Soviet Union and United States did not engage in nuclear war because of the false alarm.

After the development of the nuclear bomb, both the United States and Soviet Union built up their arsenals. Since these bombs meant mutually assured destruction if they were to be used, it took a lot of discernment when making decisions on whether to use them or not. As seen in the few cases above, there have been many times where nuclear weapons were almost used. Though each case differs in how weapons were almost used, they all have something in common: nuclear bombs were very close to being used or going off and it was often one relatively small, but ever so important component that kept the world from ending. Whether it was a commander having to make a decision or a piece of hardware that kept a bomb from going off, each small thing was very important. These cases show how important it is to hold these weapons with as much caution as possible. If they do not, the world can very easily be caught in a case of omnicide.

Annotated Bibliography

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Wright, David. "A Nuclear False Alarm That Looked Exactly like the Real Thing." The Equation, 9 Nov. 2015, <https://blog.ucsusa.org/david-wright/nuclear-false-alarm-950/#:~:text=In%20this%20case%2C%20it%20turns,the%20U.S.%20nuclear%20command%20network>.

This source provided information on the case of a false alarm that set off NORAD's radars in 1979. It talks about how radars were going off all over NORAD's bases.