

Thank You, Midway

In the middle of the 20th century, in the middle of the year, in the middle of the Pacific, one of the most significant battles in history took place. A blur of planes and tufts of smoke filled the sky; the sound of anti-aircraft guns and booms of bombs drummed into the ears of all. This was Midway, a battle that would be more than just a victory for the Americans. Countless hours of scouring over codes, training in planes, and building up knowledge led to this singular moment. While they didn't know it at the time, the accomplishments of the codebreakers laid the foundation for our modern technology and digital security.

On June 4th, 1942 the battle for Midway began. On islands covering just a few miles, the Americans braced themselves for both the physical and mental challenge that would be Midway. The approaching foe, the Japanese, had one goal in mind: to lure the American fleet out like a fish to a hook, then reel them in, destroying what remained of America's dignity, and securing superiority in the Pacific Theatre. Little did the Japanese know, they had become the fish. Thanks to the many codebreakers stationed under Pearl Harbor, Admiral Chester Nimitz, Commander of the Pacific Fleet, knew what was coming, and he had prepared well. Previously, the codebreakers, led by Joseph Rochefort, had cracked part of the Japanese radio code, known to the Americans as JN-25 (National, 00:07:29 - 00:09:32). Luckily, they discovered a large Japanese attack would occur soon, but they didn't know where. Upon further analysis of previous Japanese messages, the group noticed a particular code name: "AF". Rochefort and his team presumed "AF" to be Midway due to ships using it when in the Midway area. However, there was an issue: they needed to prove their theory to Nimitz. Suddenly, Rochefort had an idea. To test the theory, they broadcasted a false urgent message which declared that their freshwater machinery had broken down at Midway. Two days later, the Americans caught a message from

the Japanese which communicated that “AF” was low on fresh water. The cryptanalysts had successfully breached the security of the Japanese, like a torpedo rupturing a ship.

With the theory proven, all that remained was to prepare. Barbed wire, sandbags, anti-aircraft guns, fleets of ships and planes, and other useful supplies came to Midway (Lord, Chapter 3 24:16 - 25:13). Now with plenty of gear, the Americans could counter the strategy of the Japanese. The Japanese needed a decisive victory in the Pacific to continue expansion of their empire, and Midway was the perfect target. Securing Midway would give the Japanese the upper hand, because the Americans would lose many resources (Simms, 62). The Imperial Japanese Navy planned to capture Midway with poorly defended aircraft carriers, which would lure the Americans to attack the valuable and vulnerable ships, however, the Japanese were also sending powerful reinforcements to crush the Americans. To combat this, the Americans would already be at Midway ready to destroy the lonely Japanese carriers. Once spotted, the Americans would launch everything they had at the distant specks on the horizon. Strategically, Nimitz held back his carriers to protect them. Because Japanese attention would be focused purely on Midway, the carriers could launch aircraft freely, which would flank the Japanese (Simms, 113). The trap was set, and now they just had to wait.

The American preparations were put to the test when the Japanese appeared, oblivious to the devious defense. With the mighty roar of planes and excessive explosions of bombs, four Japanese carriers were ablaze. The morale of the Japanese turned sour as they watched each carrier descend into the abyss of the Pacific (Simms, 194-195). Sadly, an American carrier, the *USS Yorktown*, was hit by three torpedoes and started sinking. Evacuation of the behemoth would not be easy. Without power, the order to abandon ship was spread by word of mouth, flag hoist, and sound-powered phone (Lord, Chapter 18 19:56 - 20:07). They shuffled on the slippery

decks to the escape ladders and ropes, which were so slick with oil that many plunged into the ocean. Escape from the deadly sea was accomplished by packing a ship full of men, which towed a lifeboat full of men, which had a rope with even more men clinging on. Through many boating runs and selfless acts of seamen, the number of men rescued amounted to 2,270. The Americans had payoff for their preparation, but the Japanese felt the opposite effect.

The battle of Midway not only ruined Japanese morale, but it turned the tide of the Pacific Theatre. Before the battle, the Japanese were relaxed and overconfident, believing they would crush the Americans and establish their mighty empire in the Pacific. During the Battle of Midway, the Japanese lost more than just confidence, they lost a large portion of their naval power: 4 carriers, 248 aircraft, and 3,057 officers and men. ““So ended the dream of Japanese Empire,” Mitoya recalled. ‘The peak of Japanese power had been reached and passed.’ ‘The catastrophe of Midway,’ he concluded, ‘had been the turning of the tide—and deep in our hearts, we Japanese knew it’” (Simms, 198). The ships the Japanese could replace, but not the valuable veterans and their years of experience. Dr. Vince Houghton, director of the National Cryptologic Museum, realizes this: “You can replace them... by recruiting new pilots, by training new mechanics, but you're starting from scratch. You're losing years of experience... and that's something the Japanese are never able to replace” (National, 18:17 - 19:03). For the Americans, the effect was the opposite. Following the Battle of Midway, the Japanese were on the retreat, leaving the Allies to secure the Pacific.

The Battle of Midway occurred over 80 years ago, but it still has plenty of lessons worth noting. Besides the lesson of “Don’t mess with America,” Midway displays countless notable concepts. Foremost, preparation was key for the American victory. Because they designed powerful bomber planes, developed battle strategies, and trained cryptographers, pilots, and

engineers, the Americans were able to defeat the Japanese threat (Simms, 240). Additionally, Midway shows that pride leads to devastation. Houghton notes that the Japanese were too prideful during Midway: “The Japanese hubris of... their code making abilities... really stood in the way of them even contemplating the idea that their systems had been broken” (National, 30:11 - 30:22). Unfortunately for the Japanese, their pride got in the way of their success, which the Americans took advantage of by breaking their codes secretly. This event also shows that it is better to get the bigger picture before jumping to conclusions. For instance, the codebreakers proved that “AF” was Midway instead of just assuming it was based on an educated guess. Nowadays, investigative careers, such as cybersecurity, utilize this method to find out the truth. It is fascinating to find so much wisdom in such a brutal battle.

The Battle of Midway not only contains hidden wisdom, but the effects of it have built the foundation for modern technology. In fact, the code breaking at Midway has changed the world of encryption and security of information as we know it. According to Houghton, “...there's very few, if any, battles in world history where cryptology played a more vital role than in the Battle of Midway...you start seeing the professionalization of this take place very quickly after Pearl Harbor” (National, 03:08 - 3:16, 29:16 - 29:23). Since code breaking was essential for the victory at Midway, the desire for codebreakers grew. From this came professions in the field of cybersecurity and more use of encrypted code. Particularly, encryption is seen in how computers process information, how apps defend against malware, and even in how sites keep personal information secure. Due to the success of Midway, the security of information was put under a spotlight, and now it is used all the time.

As someone who is interested in computers, the Battle of Midway applies to my life more than I thought. It seems as though encryption is the language of all the technology I use.

Computers, drones, and video games all use encrypted messages to protect, inform, and verify information. But the magic doesn't stop there. Many of the professions I'm considering also rely heavily on the use of encryption, meaning that if it wasn't for Midway, there wouldn't be nearly as many interesting careers for me to pursue. This goes to show that the Battle of Midway is foundational to how I live my everyday life, both now and in the future.

It's compelling to realize that so much of our communication depends on a battle fought less than a century ago. Because of the technological advancements Midway led to, we have people dedicated to protecting the information of others, technology constantly sending encrypted messages, and so much more. The codebreaking behind Midway led to one of the most impressive ages in human history, so thank you Midway, and all who served. Thank you for the difference you've made in our lives.

Bibliography

Greenfield, Amy Butler. *The Woman All Spies Fear: Code Breaker Elizebeth Smith Friedman and Her Hidden Life*. Random House Studio, 2021.

Lord, Walter. *Incredible Victory: The Battle of Midway*. Narrated by Norman Dietz, Audible, 2018,
https://www.audible.com/pd/Incredible-Victory-Audiobook/B07F763YRS?ref_pageloadid=jRcouB4KYeHgah8E&pf_rd_p=80765e81-b10a-4f33-b1d3-ffb87793d047&pf_rd_r=3JKYPRD068Y0AJDZGGJK&plink=5SzqqemkXm6w7JVd&pageLoadId=7J63ZCEuyPkiovWE&creativeId=4ee810cf-ac8e-4eeb-8b79-40e176d0a225&ref=a_library_t_c5_libItem_B07F763YRS_1.

National Museum of the Pacific War. “Battle of Midway: Code Breaking | NMPW Webinar.” *YouTube*, 11 June 2024, www.youtube.com/watch?v=lvHg5-vJ4Sg. Accessed 27 Apr. 2025.

Nez, Chester, & Judith Sciess Avila. *Code Talker: The first and Only Memoir by One of the Original Navajo Code Talkers of WWII*. Narrated by David Colacci, Audible, 2019,
https://www.audible.com/pd/Code-Talker-Audiobook/0593163362?ref_pageloadid=jRcouB4KYeHgah8E&pf_rd_p=80765e81-b10a-4f33-b1d3-ffb87793d047&pf_rd_r=6VNWT4HGNHHGP4MD736Q&plink=6ih2rD4M4IymKHbM&pageLoadId=kvXqR9vZfRZW8a2a&creativeId=4ee810cf-ac8e-4eeb-8b79-40e176d0a225&ref=a_library_t_c5_libItem_0593163362_4.

PeriscopeFilm. "JOHN FORD'S BATTLE OF MIDWAY 1942 WWII U.S. NAVY FILM

RESTORED VERSION 21344." *YouTube*, 21 May 2017,

www.youtube.com/watch?v=Jr4YgpKU8ak. Accessed 27 Apr. 2025.

Simms, Brendan, & Steven McGregor. *The Silver Waterfall*. Hachette Book Group, Inc., 2022.