Pacific Phoenix:
The Fall and Rise of US Intelligence in the Pacific Campaign

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Abstract

The Japanese attack on Pearl Harbor is widely considered one of the United States’ greatest intelligence failures. This narrative is largely oversimplified, as the Intelligence Community provided ample and repeated warnings to operational commanders in the Pacific. Despite being unduly assigned blame for the surprise attack, the community rapidly regains the confidence of Admiral Nimitz and sets the stage for a resurgent US Navy to halt the Japanese invasion force in the Coral Sea and score a resounding victory at Midway. This paper examines the fall and rise of the American intelligence effort in the Pacific Theater and the challenges faced by the men tasked with deciphering Japanese intentions.
War in the Pacific

The Pacific Campaign of World War II (WWII) can be seen as an allegory for many things. In it, one can see America’s rise from mediocrity to superpower status, both economically and militarily. On the opposite arc, four years of combat encapsulates the decline of British colonialism and prestige. The war in the Pacific set the stage for some of the most vicious fighting in the Cold War in places like Korea, Vietnam, Laos and Cambodia. Entwined with all these storylines is an almost Hollywood-perfect script about the fall and ultimate redemption of military intelligence.

The Pacific Campaign was unlike almost any other global military campaign seen before. In previous wartime conflicts, most hostile nations had been engaged in battle near one another’s origins. During WWII, the principal combatants in this fight were separated by thousands of miles of ocean, challenging communications and logistics. Battles were fought over remote coral atolls, small reefs, and islands, some just large enough to be used as a landing strip or port facility. The Pacific Campaign (or Theater) was also among the first incidents of modern naval warfare, as technology had replaced sail and even coal as a means of warship propulsion. Advances in weaponry, sonar, radar, aircraft and submarine capabilities brought threats from both above and below the surface, marking the end of the era where the battleship was the most feared vessel on the seas. While intelligence played a role in all of these factors, there are three primary battles that succinctly describe the capabilities, roles, and attitudes regarding military intelligence in the Pacific: The Attack on Pearl Harbor, the Battle of the Coral Sea, and the Battle of Midway.
Magic

While the War in the Pacific is most commonly remembered for its ferocious naval battles and daring amphibious assaults, at its heart the conflict was a cryptological battle. In WWII, like all wars, the cryptology battle began long before formal hostilities. Following World War I (WWI), most nations and militaries recognized the importance of encrypting their communications. "Every security system offers a compromise between the need for secrecy and the usability of the signals," resulting in various methods of encryption.¹ Germany, for example, chose an electro-mechanical method of encryption, the famous Enigma Machine, particularly for its U-boat forces. Japan, however, opted to use both electro-mechanical and code books, in which a coded message could be decrypted using the corresponding key in the codebook. This method was "extremely slow… and cryptographically vulnerable when used to transmit large quantities of radio traffic."²

Code books were not merely vulnerable to breaking through overuse: they could also be compromised by simple theft. In the 1920s, the Director of the Office of Naval Intelligence (DONI) financed "a series of break-ins at the Japanese consulate in New York City. The Japanese Navy's code book was secretly photographed and… translated by linguists."³ The code book alone was not enough to give unfettered access to


². Ferris, 277.

Japanese communications as the cipher was still missing. After years of effort, US code breakers were able to defeat Japan's naval code, known as 'Red', and set out to crack Japan's sensitive electro-mechanical diplomatic cipher, called 'Purple.'

'Magic', the name given to overall US efforts at breaking Japan's codes, finally gained access to Purple in September of 1940. This success, however, "had the ironic effect of distracting attention from where it could have been more strategically utilized in the fateful months leading up to the Attack on Pearl Harbor."4 Such effort had been put into breaking and decrypting Purple messages that resources were diverted from the US Navy's efforts on Red traffic. "Since mid-1939, America had not read a single message in the main Japanese naval code on the same day it had been sent," and by December 1941, analysts were working on Imperial Navy messages that were up to a year old.5

While America's cryptology teams were working feverishly to gain access to Japanese communications between the 1920s and '40s, the relationship between the two nations was progressively worsening. Japan began expanding its empire in the 1930s and the US, in the midst of the Great Depression and embracing an isolationist mindset, was in no position to challenge Japan for dominance in the Pacific.6 Isolationist tendencies began to wane in 1937 when Japan and China went to war, with Chinese forces unable to stem the onslaught of the Imperial Japanese Army, which committed

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5. Budiansky, 6.
numerous atrocities throughout the campaign. While evacuating American citizens from Nanjing, Japanese aircraft attacked USS Panay, killing three service members. "The US Government, however, continued to avoid conflict and accepted an apology and indemnity from the Japanese." While trying to avoid provoking Japan, the US began steadily increasing its naval presence in the Pacific.

The interwar years also saw tremendous technological advances in the US military, particularly in the area of naval technology. The coal-fired boilers that had long propelled ships were replaced with more efficient oil burning power plants. Oil was far more efficient as a fuel source, increasing a fleet's speed and range while reducing the need for a worldwide network of coaling stations, which eliminated the telltale smoke plumes of coal that could give away a fleet's position, and reduced the manpower needed to operate a warship. Radar became common on combatant vessels, enabling them to detect threats beyond the visible horizon, while an entire class of ship was developed with sonar to hunt and kill submarines that lurked stealthily below the surface. Perhaps the greatest technological advancement came in the field of aviation. Aircraft had grown in terms of range and lethality after WWI. Once considered gangly and fragile, aircraft employed by the 1940s were capable of incredible speeds and carrying a heavy amount of ordinance.

While the advances to surface, subsurface, and aviation technologies were occurring simultaneously, not all nations adopted these innovations in technology as


rapidly or seamlessly as others. The idea of pairing aircraft with warships began in WWI, primarily with land-based aircraft which were modified with pontoons enabling them to take off and land from the water. These floatplanes would be aided by a class of ship known as seaplane tenders, and essentially could use the entire ocean as their runway. Their operations required near perfect sea conditions, however, and navies the world over began experimenting with dedicated aircraft carriers. HMS Ark Royal, a British vessel, became arguably the first true dedicated aircraft carrier in 1914, though she was not initially designed for such a task. Similarly, America’s first carrier, USS Langley was also converted from its original design to handle flight duties in 1920. The first vessel designed from the keel up as a dedicated aircraft carrier was Imperial Japanese Navy's (IJN) Hosho, which entered service in 1922.9

While the Japanese were quick to realize the potential of the aircraft carrier, the Royal and US Navies, dominated by "battleship Admirals" saw little potential for this new style of warship outside of reconnaissance and support for a fleet whose core would remain the battleship. At the time, there was little physical evidence to doubt this opinion. Surrounded by thick armor, each of a dreadnought's 12 14-inch main guns was designed to fire a 1,500-pound armor-piercing or high explosive projectile almost 20 miles.10 Its secondary armament consisted of over 20 cannons in three and five inch caliber, plus a host of antiaircraft batteries providing the ship with 360° of protection.


Despite the clouds of war looming in both Europe and the Pacific, the US military, as well as its intelligence branches, remained undermanned, underfunded, and generally ill-equipped for combat. Following WWI, the US rapidly demobilized and few Americans had an appetite for engaging in foreign conflicts. An attitude of collective isolationism ran strong in a nation that enjoyed the security brought by having only two borders with peaceful, stable neighbors. Additionally, "the expanse of the Atlantic and Pacific Oceans had made it possible for the US to enjoy a kind of 'free security' and remain largely detached from Old World conflicts." The isolationist mindset was aided, or exacerbated, by the 1929 stock market crash and the ensuing Great Depression.

Throughout the interwar years, Congress had enacted a series of 'neutrality laws' designed specifically to prevent the US from becoming militarily entwined in another foreign misadventure. Additionally, the 1922 Washington Naval Treaty prevented the construction of new capital ships (battleships, battlecruisers, and aircraft carriers) while putting severe restrictions on the number, tonnage, and armament of those ships remaining in service. This left the US Navy with a depleted Pacific Fleet once hostilities began. Of the seven battleships stationed in Pearl Harbor on the morning of the attack, USS West Virginia was the most modern having been commissioned some 18 years earlier in 1923. Five of the seven battleships had served during WWI.


Moreover, Japan would begin the war with ten aircraft carriers, each dedicated to that role from the beginning of their design phase. While the US could boast eight carriers, only three belonged to the Pacific Fleet. Of those, only one, USS Enterprise was designed as a carrier, while USS Lexington and USS Saratoga were converted from battlecruiser hulls.14

**Ignored Warnings**

The economic and political problems that plagued the Navy had a similar effect on the intelligence community. The Navy's cryptology efforts in Washington D.C., referred to as OP-20-G, was comprised of 36 personnel, including "translators, clerks, radio direction-finding experts, intelligence analysts, and officers responsible for the security of the Navy's own codes; only a handful were trained cryptanalysts."15 OP-20-G was not alone in their efforts at intercepting and decoding Japanese transmissions, however. Pearl Harbor was home to Fleet Radio Unit Pacific, under the command of Captain Joseph Rochefort. Known as Station HYPO, or the "the dungeon" by the 23 "officer and enlisted Sailors who worked there… tracking the Imperial Japanese Navy in the war in the Pacific," HYPO would prove critical Signals Intelligence (SIGINT) support throughout the war years.16

Despite having only 59 personnel in two locations working the entire Japanese SIGINT mission, OP-20-G and HYPO were able to intercept and decode enough


information to know a major event was about to take place somewhere in the Pacific. Throughout 1940 and 1941, Roosevelt attempted to reign in Japanese aggression through a series of economic sanctions, which "marked a turning point in the will of the United States to advance from a patchwork of export restrictions to full-blooded financial warfare against Japan."^{17} Japan interpreted these sanctions as an act of war, and prepared to strike, a fact that was not lost on the War Department, as Naval Intelligence saw a dramatic increase in message traffic, though there was much difficulty sorting vital messages from 'noise'.

Based on this intelligence, in January 1941 the Secretary of the Navy warned the Secretary of War, "if war eventuates with Japan, it is believed easily possible that hostilities would be initiated by a surprise attack upon the Fleet or the Naval Base at Pearl Harbor".^{18} Additionally, war warnings were dispatched to the Pacific Fleet regarding imminent hostilities with Japan on October 16, November 24, and November 27, 1941. The latter, just ten days before the attack, warned "negotiations with Japan in an effort to stabilize conditions in the Pacific have ended. Japan is expected to make an aggressive move within the next few days".^{19} Finally, "on the morning of December 3, 1941, a Purple message came through ordering Japan's embassy in Washington to

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19. US Navy. "Narrative Statement of Record of Naval Pearl Harbor Court of Inquiry."
destroy its code books and one of its two vital Purple machines.” Analysts instantly realized this meant Japan intended to go to war with the United States.

Despite the repeated war warnings, IJN torpedo and dive bombers found the Pacific Fleet's battleships tied to their moorings, and the aircraft at Hickam Field "were grouped together wing to wing" to guard against sabotage. Commanders would later accuse intelligence dispatches for not including Hawaii specifically in the war warnings. It is interesting to note the Philippines and Guam were specifically mentioned, however were caught equally off guard. Eight battleships received serious damage in the attack and 167 US aircraft were destroyed at the cost of only 29 IJN aircraft and a miniature submarine.

The Japanese victory was not as complete as it may have appeared at the time, largely due to intelligence mistakes of their own. By attacking the fleet in harbor many of the damaged or 'sunk' battleships were refloated and repaired in relatively short order. Only two battleships in port that day were truly lost, with USS Arizona and USS Oklahoma never returning to action; USS Utah was also sunk in the battle but had been converted to a target ship and was no longer considered a battleship by the Navy. Perhaps even more importantly, IJN failed to destroy Pearl Harbor's fuel depot, submarine pens, or any of the three Pacific Fleet aircraft carriers. The fact that the


attack on Pearl Harbor was a decisive tactical victory by IJN despite ample warnings from US naval intelligence cannot be denied.

That HYPO and OP-20-G provided as much warning as they did is even more remarkable when considering the state of the naval intelligence in 1941. The two organizations were poorly coordinated, distrustful of one another, and would continue to feud throughout the war.\textsuperscript{23} The operational portions of the Navy, Army, and Army Air Corps were already disdainful of the intelligence arm, and the infighting did little to improve the situation. Combatant commanders often ignored analysts’ reports, instead making decisions based on their own interpretation of the situation. These factors drove the order to group aircraft in clusters on the ground (making them easier targets from the air) and not fly reconnaissance patrols on weekends. Commanders balked that intelligence reports were too vague and lacked specifics, a direct result of Japan’s operational security (OPSEC). It was only after the war that cryptologists discovered message traffic from November 1941 ordering the Japanese fleet to “pick up torpedoes that Carrier Divisions 1 and 2 ‘are to fire against anchored capital ships.’”\textsuperscript{24} These orders again signaled impending Japanese aggression, but as Pearl Harbor was never mentioned it is unlikely analysts would have been able to give commanders in Hawaii the firm evidence they desired.


\textsuperscript{24} Budiansky, \textit{Battle of Wits}, 9.
Restoring Trust

With the US Navy temporarily out of action, Japan shifted to an offensive posture in the Pacific, quickly capturing Guam, Wake Island, the Philippines, and most other western holdings in the region. With such a vast array of territory under their control, IJN was free to move and strike virtually anywhere in the West Pacific, while the US Navy was forced to conserve its remaining assets. By the spring of 1942 it was clear from communications intercepts that the Japanese fleet was preparing another offensive, though it was unclear what their objective would be. Japan was continuously updating its codes and by March 1942, "US intelligence could intercept only about 60 percent of all Japanese transmissions and had the resources to analyze only about 40 percent of the messages it did intercept."25

Even with such little information, cryptologists received multiple indications of an upcoming "RPZ campaign," with little more to go on regarding the location of RPZ beyond it being "one of many digraphs/trigraphs that IJN had been using to designate specific geographic locations throughout the Pacific."26 Future intercepts enabled HYPO and other listening stations to build the proposed IJN order of battle, and a rough timeline for the attack. Rochefort and his team at HYPO believed the target to be Port Moresby on Papua New Guinea, which if seized could provide Japan a base of


operations from which to directly attack Australia. "To arrive at that conclusion, Rochefort brought to bear all his analytic skills… a combination of deduction and guesswork and an uncommon ability to fill in blanks."\textsuperscript{27}

HYPO, in collaboration with OP-20-G, began working to convince Admiral Chester Nimitz, Commander of the Pacific Naval Forces that Port Moresby would be Japan's next target. This assertion was later backed by additional IJN traffic stating their objective “to restrict the enemy fleet's movements… by means of attacks on outlying units and various areas along the north coast of Australia.”\textsuperscript{28} Despite having "little reason to put his faith in naval intelligence after the attack on Pearl Harbor," Nimitz immediately dispatched USS Lexington and USS Yorktown, the only carriers at his disposal, to defend Papua New Guinea.\textsuperscript{29}

The resultant Battle of Coral Sea was historic for several reasons. It was the first time opposing carrier groups engaged one another in combat. It was also the first naval battle in which the opposing surface groups never came within sight of one another. It was also the first time that a Japanese offensive in the Pacific Theater had been halted. While the US held the element of surprise, IJN had more experienced pilots and the larger fleet, three carriers to America’s two. USS Enterprise and Hornet missed Coral Sea as they were supporting the Doolittle raid. The presence of two additional fleet

\textsuperscript{27} Elliot Carlson, \textit{Joe Rochefort's War: The Odyssey of the Codebreaker Who Outwitted Yamamoto at Midway} (Annapolis, MD: Naval Institute Press, 2011), 269.

\textsuperscript{28} Carlson, 279.

\textsuperscript{29} Ferris, “The British Army, Signals and Security in the Desert Campaign, 1940-42, 37.
carriers may have significantly altered the outcome of the battle in favor of the United States.30

IJN claimed to have sunk both American carriers, leaving the US with what they believed was at most two or three carriers in the Pacific.31 USS Yorktown, though heavily damaged, had actually survived the battle. Japan lost only one light carrier, however their two surviving fleet carriers, Shōkaku and Zuikaku, would need to return to the home islands for extensive repairs. While seemingly inconsequential at the time, USS Yorktown would undergo emergency repairs and participate in the Battle of Midway, while Shōkaku and Zuikaku would not be available. Perhaps most importantly for the US is that naval intelligence had proven its ability to determine IJN’s intentions, thus giving commanders the edge needed to turn the tide in the Pacific.

Turning the Tide

Where the attack on Pearl Harbor is considered one of the worst moments in US intelligence history, the Battle of Midway provided perhaps its finest hour. Japan, having been bloodied at Coral Sea and reeling from the Doolittle attacks on the home islands, readied to take the offensive once more. Japanese intelligence did not believe the B-25 Mitchell bombers used over Japan could have operated from carrier decks, and must have somehow been launched from Midway Island. Furthermore, taking Midway was

31. Parshall, 66.
seen "as a staging base for future operations against Hawaii." In efforts to further confuse the US and attempt to spread American resources, Japan would also launch an invasion of the Aleutian Islands. As before, signal intercepts analyzed by HYPO would provide operational commanders with the details of IJN's plans.

In spite of previous successes there remained much infighting between HYPO in Hawaii and OP-20-G in Washington. There was enough intelligence to determine Japan was preparing another attack, but the when and where remained unknown. All that was known was the objective had been designated "AF." Rochefort was certain the objective would be in the central Pacific while OP-20-G, using the same information, "concluded the South Pacific Islands - not Midway - would be the next Japanese objective." Washington was also skeptical about Rochefort's proposed timeline and order of battle. In order to confirm his assumptions, the Garrison on Midway "dispatched an uncoded message falsely reporting that the water distillation plant on the island had broken down, causing a severe water shortage. Within 48 hours, Station Hypo decrypted a Japanese radio transmission alerting commanders that AF was short of water."

Armed with this information, and backed by the Fleet's intelligence officer Admiral Edwin Layton, Nimitz ordered all available forces to the defense of Midway under the


command of Admiral Raymond Spruance. Though the US fleet sailed with “more intimate knowledge of his enemy's strength and intentions than any other admiral in the whole previous history of sea warfare,” they still found themselves at a numeric disadvantage.\textsuperscript{35} Including the hastily patched USS Yorktown in the fight, the US Navy could only muster three carriers to Japan’s four. Additionally, IJN was bringing a vastly larger surface force including five battleships and six cruisers, while Spruance had no battleships and only cruisers at his disposal.

Even with all the intelligence provided, the battle still came down to tactics, skill, and luck. A Japanese reconnaissance plane had spotted the American fleet first, but the radio failed. Meanwhile US patrol aircraft were unable to find the Japanese fleet until a "pilot… decided to extend his flight a few minutes beyond his sector."\textsuperscript{36} The Japanese attack planes were preparing for a second wave of attacks on Midway's facilities when they finally received word of the presence of American carriers, however instead of launching an immediate attack, Admiral Nagumo chose to rearm his aircraft with armor piercing munitions. US carrier-based torpedo bombers were the first to arrive on the scene, but were destroyed by the Japanese combat air patrol.\textsuperscript{37} It was at this moment, with the Japanese carrier decks full of aircraft, fuel and munitions, their fighters low and...


\textsuperscript{36} Ferris, “The British Army, Signals and Security in the Desert Campaign, 1940-42, 39.

spread over the battlespace mopping up the last of the torpedo bombers that the US
dive bombers arrived on the scene, having gotten lost enroute to the battle.

By June 7, 1942, none of the six Japanese aircraft carriers that attacked Pearl
Harbor were operational. Two were undergoing repair from the damages they received
at Coral Sea, while the remaining four were lost at Midway. Even more damaging to IJN
than the sinking of its carriers was the loss of the experienced pilots and maintenance
crews with them, a loss Japan would not recover from. Midway was hailed as a victory
for intelligence, turning "what would have been a hopeless situation… into a narrowly
won but decisive victory." 38 Rochefort and his men at HYPO would continue to provide
the Pacific Fleet with vital information throughout the war, and Japan would never
become aware that that their communications security had been compromised.

**Conclusion**

Rochefort was said to have kept a sign above his desk in 'the dungeon' that
stated: "you can accomplish almost anything as long as nobody cares who gets the
credit." It is an excellent mentality for all in the intelligence community to adopt because,
in combat, success and failure is shared. While there was ample intelligence indicating
Japan was preparing to strike in late 1941, the message was not conveyed in a way that
was specific or urgent enough for the operational forces to understand. Similarly, while
intelligence ensured the US forces were in the right place at the right time at both Coral
Sea and Midway, the outcomes of those battles was only decided by the pilots and
sailors who took part. Unfortunately for Rochefort, the sign above his desk was

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prophetic. He became a casualty of the feud between HYPO and OP-G-20 and “was never promoted beyond captain, never received the sea command he wanted, and received no decoration or award for his invaluable work at Station HYPO.” Rochefort would finally be recognized for his efforts at salvaging the Pacific Campaign with the Distinguished Service Medal in 1985, nine years after his death.

39. Warrinner, “How Did the US Break Japanese Military Codes Before the Battle of Midway?”

Bibliography


