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Strategic Rebirth at Sea: Carrier Warfare and the American Naval Revolution of World War II

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ABSTRACT

U.S. naval doctrine prior to World War II envisioned decisive surface engagements led by battleships, reflecting the enduring influence of Mahanian theory and interwar fleet exercises. The attack on Pearl Harbor invalidated this model, forcing a rapid reorientation around aircraft carriers as the Navy's principal offensive asset. Through case studies of Coral Sea, Midway, and the Guadalcanal campaign, this paper demonstrates that the rise of the fast carrier task force was not the result of prewar foresight but a response to operational necessity. Technological innovations such as the advent of more advanced radar systems alongside operational changes such as improved fighter direction and underway replenishment enabled this doctrinal shift and allowed carrier groups to project power across the Pacific. The resulting transformation redefined American maritime strategy and laid the foundation for postwar naval dominance. This article aims to trace that evolution and discuss how and why aircraft carriers became as central as they are today in naval strategy.

Keywords: *Naval History, the Fast Carrier Task Force, Battleships, the US Navy, Pacific Theatre, Fleet Tactics, World War II*

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INTRODUCTION

In the years leading up to Japan's attack on Pearl Harbor, U.S. naval doctrine focused on a "combined arms" approach, emphasizing the coalescence of destroyers, battleships, cruisers, and aircraft carriers in battle. All available fleet weapons were meant to be used in concert, ensuring the "maximum effect of all weapons," as put by Admiral Harris Laning. The U.S. sought to win an upcoming war through a major fleet action similar to the Battle of Jutland in 1916. A battle line consisting of American ships, broadside, engaging with the enemy through continuous salvos, was intended to be the principal formation employed in upcoming fleet actions. A typical battle line devised by American planners before the war consisted of large battleships bristling with high-caliber guns as the centerpiece, surrounded by an array of destroyers and cruisers whose primary objective was to protect the battleships. Carriers were planned to position themselves outside the scope of the battle, not acting as offensive weapons to engage enemy ships, but being used to provide air cover for the battleships (Hone, 2009, p. 5).

The attack on Pearl Harbor would upend this vision of naval warfare. Every battleship previously intended to be the primary offensive weapon in future naval engagements was sunk, irreparably damaged, or out of service for the coming months. The United States would not be able to field a battleship in the Pacific until June of 1942. That would mean the U.S. had to rely solely on five aircraft carriers, supported by a litany of cruisers, destroyers, and submarines, for six months before just one battleship, let alone enough to recreate the pre-war formations envisioned, was in service in the Pacific. Thus, U.S. naval doctrine had to shift. This paper argues that World War II marked a pivotal turning point in American maritime strategy, as the United States redefined the basis of its offensive power in both the Pacific and Atlantic, moving from battleship-centered battle lines to fast carrier task forces. Although technological innovation made this shift feasible, wartime necessity and doctrinal adaptation, not prewar planning, ultimately embedded the carrier at the center of U.S. naval operations.

MAHAN'S INFLUENCE

The advancement of specific technologies was critical to the U.S. Navy's ability to rely heavily on carrier strike groups. Before the war and the advent of radar, the Navy feared that discovered carriers would be too vulnerable to enemy attack. As a result, it was deemed logical to position them in strike forces away from the main battle line, where they could remain concealed and avoid detection. Radar and fighter-direction techniques would change this situation. They allowed carriers to detect incoming enemy aircraft and then scramble fighters to meet them before harm could be done to the fleet. Technology, however, was only a stepping stone toward broader fundamental changes in doctrine.

Before World War II, the dominant naval thinking in the United States and much of the world was grounded in the legacy of Alfred Thayer Mahan, who emphasized the decisive battle between great fleets as the key to maritime supremacy. Mahan's influence encouraged navies to build ever-larger battleships with powerful broadside guns. The Battle of Jutland in World War I further reinforced the idea that victory would come from

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massive surface engagements between battle lines. This approach informed the interwar development of the U.S. Navy (Mahan, 2011).

Even as aircraft carriers were introduced and fleet problems in the 1920s and '30s began to demonstrate their potential, doctrine continued to treat them as auxiliary units. Their role was primarily scouting and air defense for the battleships. Carriers were not yet seen as independent strike platforms. Prewar planning documents and exercises clarified this, consistently placing battleships at the heart of the fleet with carriers operating in support. War Plan Orange, the Navy's strategic framework for a potential conflict with Japan, reflected this mindset. The assumption was that the U.S. fleet would steam westward across the Pacific to relieve the Philippines and confront the Japanese fleet in a climactic battleship engagement. Pre-war planners stuck too religiously to Mahan's doctrine of winning a decisive battle. They failed to account for recent Japanese advancements in naval aviation that had rendered Mahan's doctrine obsolete. The result was the destruction of nearly every U.S. battleship at Pearl Harbor, as the U.S. high command believed aircraft would not be able to effectively sink battleships (Polmar, 2006, pp. 182–184).

PEARL HARBOR AND DOCTRINAL SHIFT

On December 7, 1941, the Japanese attack on Pearl Harbor demolished the assumptions behind War Plan Orange. The surprise strike destroyed or mortally wounded eight battleships, effectively eliminating the Pacific Fleet's battle line. In contrast, the Navy's three Pacific-based carriers, *Enterprise*, *Lexington*, and *Saratoga* (*Saratoga* was crippled by January of 1942 and replaced by *Yorktown*, which was sent from the Atlantic in December of 1941), were not in port and survived. With no functioning battle line, the Navy was left with carriers as the only viable offensive platforms.

Pearl Harbor forced a rapid doctrinal shift. Rather than scrapping operations, the Navy improvised, using its carriers to launch offensive raids in early 1942. Tasks typically given to battleships had to be handed off to carriers, the only capital ships available in the Pacific Fleet's arsenal. Just a month after the attack on Pearl Harbor, carriers *Lexington*, *Yorktown*, and *Enterprise* were delegated the assignment of escorting convoys from California to Hawaii and Samoa as the U.S. feared Japanese submarine or carrier strikes on any ships approaching or leaving Hawaii. *Enterprise* then conducted air strikes against the atolls of Wotje, Maloelap, and Kwajalein. At the same time, *Yorktown* launched aircraft against Jaluit Atoll. These kinds of attacks would typically be carried out by battleships bombarding island installations from miles out, but the lack of a battleship in the Pacific Fleet compelled the Navy to use aircraft carriers instead (Polmar, 2006, pp. 196–199). The Doolittle Raid on Tokyo in February of 1942 further demonstrated the carrier's ability to project force, showcasing its value as a long-range strike platform. The raid also signaled the beginning of a shift in U.S. strategic thought. As revenge for the attack on Pearl, the Doolittle Raid had to succeed, and the fact that the U.S. chose to strike back against Japan through aircraft carriers indicates the Navy began to trust carriers as their primary mode to conduct warfare in the Pacific.

CORAL SEA AND MIDWAY

Although U.S. raids against Japan in early 1942 provided limited success, two major carrier confrontations later that year proved to be the greatest tests for the potency of carrier warfare. The Battle of the Coral Sea in May 1942 was the first naval engagement in history fought entirely by carrier-based aircraft. The battle, though tactically indecisive, was a strategic success for the U.S. because it halted the Japanese advance on Port Moresby, cost Japan the light carrier *Shōhō*, and forced the Imperial Navy's best carriers, *Zuikaku* and *Shōkaku*, back to port. The U.S. lost *Lexington*, but the prevention of Japan landing on Port Moresby ensured Australia would not be encircled and cut off from American supplies. The battle proved that carrier-based aircraft had the firepower to consistently sink opposing warships, marking the death knell for battleship-focused warfare. Battleships simply did not have the range even to comprehend firing at opposing carriers when each side was settled hundreds of miles away from one another (Polmar, 2006, pp. 221–223).

Midway, fought a month later in June 1942, was another critical moment. U.S. intelligence broke Japanese codes, revealing a plan to attack U.S.-controlled Midway Island; Admiral Nimitz then set a trap for the incoming Imperial fleet. The result was the sinking of four Japanese fleet carriers (*Akagi*, *Kaga*, *Hiryū*, and *Sōryū*), at the cost of *Yorktown*. The victory crippled Japanese carrier aviation and shifted the balance of naval power in the Pacific. Midway conclusively validated the carrier as a decisive weapon system, proving that the Battle of the Coral Sea wasn't a fluke, and ensured that American strategy would center around carrier operations (Polmar, 2006, pp. 224–227).

GUADALCANAL AND CARRIER OPERATIONS UNDER STRAIN

Despite Midway, the U.S. Navy continued to face challenges in logistical management of carrier warfare. The Guadalcanal campaign from August 1942 to February 1943 tested the Navy's ability to sustain operations using limited carrier assets. The naval battles during this campaign, including the Battle of the Eastern Solomons and the Santa Cruz Islands, exposed weaknesses in American coordination and air defenses. Particularly at Santa Cruz, lack of fighter direction and communication between planes and carriers led to a delayed response from *Enterprise* and *Hornet* (sister ship to the *Enterprise* and *Yorktown*) in scrambling fighters to counteract the wave of Japanese dive-bombers and torpedo bombers. The result was the loss of *Hornet* and the destroyer *Porter* (Hone, 2009, pp. 7–9). However, the battle also further cemented the battleship's role as secondary to carriers. During the battle, the battleship *South Dakota* became a valuable addition to *Enterprise*'s anti-aircraft suite and served as bait for bombers, luring Japanese pilots away from striking the carrier. Here, battleships no longer served as the centerpiece of fleet operations but instead assumed a supporting role focused on carrier protection. The new fast battleships of the *North Carolina* and *South Dakota* classes would not be concentrated as part of a single task force in a battle line, but would be split to defend individual carrier task forces; thus, the battleship-centric formations envisioned by pre-war planners finally withered away.

The Guadalcanal campaign also spurred innovation. Radar-guided fighter direction, improved anti-aircraft coordination, and better communications gradually emerged. Importantly, the experience gained during Guadalcanal laid the groundwork for developing fast carrier task forces—large, mobile formations built

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around multiple fleet carriers with integrated escorts and support ships. These formations could launch large-scale, coordinated air strikes while protecting themselves against enemy aircraft and submarines (Polmar, 2006, pp. 230–233; Hone, 2009, p. 9).

ENABLING TECHNOLOGIES AND OPERATIONAL INNOVATION

While necessity forced the Navy to rely on carriers, technology made that reliance sustainable and eventually superior. Radar was one of the most important innovations. Shipborne radar enabled early detection of enemy aircraft and helped direct combat air patrols. Fighter direction centers on carriers used radar data to vector fighters to intercept incoming raids, dramatically improving fleet defense. The development of better carrier aircraft also played a role. The F6F Hellcat, SB2C Helldiver, and TBF Avenger were more powerful, better armed, and longer-ranged than their predecessors. These aircraft, combined with coordinated strike doctrine, gave the U.S. carrier fleet unmatched offensive reach (Polmar, 2006, pp. 374–376).

Logistics also evolved. The use of fleet oilers and underway replenishment allowed carrier task forces to operate continuously across the vast Pacific without needing to return to base. The creation of a floating logistics train sustained operations far from American shores. This eliminated the previous limitation of having to return to fixed naval bases for supplies. By placing oilers, transport ships, and supply ships within a task force, carrier groups were offered incredible flexibility, allowing the U.S. to remain constantly on the offensive without pausing to refit or resupply. Such a system also enhanced the Navy's ability to conduct Nimitz's island-hopping campaign. Ships could bypass heavily fortified islands and focus on strategic objectives, knowing that supply lines wouldn't be severed—or that if they were, the task forces would have enough supplies with them to head to port without starving (Hone, 2009, p. 4).

THE MATURATION OF THE CARRIER TASK FORCE

By late 1943, the U.S. Navy had perfected the fast carrier task force concept. Task Force 58, and later Task Force 38, became the primary striking arm of the Pacific Fleet. Composed of multiple *Essex*-class fleet carriers and *Independence*-class light carriers, supported by battleships, cruisers, destroyers, and a host of tankers and supply ships, these task forces operated as self-contained strike groups. Key battles in 1944 and 1945, such as the Philippine Sea, Leyte Gulf, and Okinawa, demonstrated the power of this new doctrine. In the Battle of the Philippine Sea, American carrier aircraft decimated Japanese air power in what became known as the "Great Marianas Turkey Shoot." At Leyte Gulf, carrier air strikes played a crucial role in neutralizing Japanese surface forces, including the sinking of the battleship *Musashi*. During the Okinawa campaign, carrier aircraft provided air support for ground forces and fended off kamikaze attacks (Polmar, 2006, pp. 380–391; "Battle of Okinawa," 2025).

The speed, flexibility, and striking power of the fast carrier task forces, as proven by Midway, the Philippine Sea, and Leyte Gulf, eclipsed the capabilities of traditional battle lines. Battleships, once the measure of naval strength, were relegated to shore bombardment and anti-aircraft defense roles.

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THE ATLANTIC THEATER AND GRADUAL EVOLUTION

While the war in the Pacific accelerated the rise of carrier-centric doctrine, the Atlantic Theater revealed a more gradual transition. Here, the primary threat was not enemy fleets but German U-boats. Carriers, particularly escort carriers (CVEs), were used primarily for anti-submarine warfare and convoy protection. Such an escort role placed carriers at the heart of any engagement, as any enemy attack on the convoys would inherently involve the carriers. Carrier aircraft patrolled for submarines, provided air cover, and launched strikes against surfaced U-boats. The effectiveness of escort carriers in the Battle of the Atlantic proved that even in non-fleet actions, naval aviation was critical (Barlow, 2011).

While the carrier revolution was almost immediate in the Pacific theatre, battleships in the Atlantic initially remained useful in traditional roles. They weren't as quickly replaced as battleships in the Pacific. The Royal Navy's pursuit and eventual destruction of the German battleship *Bismarck* in 1941 exemplified both sides recognizing the value of battleship combat. Germany believed *Bismarck* was the perfect commerce raider because it was fast, well-armed, and imposing enough to shrug off convoy escorts. Hitler was so enamored by the thought of a German battleship dominating the Atlantic that funds, manpower, and resources were diverted away from Germany's carrier project, the *Graf Zeppelin*, toward building *Bismarck* and her sister ship *Tirpitz*. When *Bismarck* was finally set out into the Atlantic, the British Admiralty, understanding the threat she posed, chose battleship *Prince of Wales* and battlecruiser *Hood* to be the vanguard interceptors, believing *Bismarck* could only be stopped by large-caliber guns. However, after *Bismarck* repelled both ships, the British Admiralty resorted to sending its entire Home Fleet after her. In the end, it was a carrier-launched torpedo strike that crippled *Bismarck* and enabled the rest of the Home Fleet to catch and then sink her, almost poetically symbolizing the end of battleship dominance (Kennedy, 1975).

LEGACY AND POSTWAR IMPLICATIONS

World War II irreversibly transformed the United States Navy. Once the centerpiece of maritime power, the battleship was replaced by the aircraft carrier as the fleet's primary offensive weapon. This shift was not merely technological but doctrinal, strategic, and institutional. It emerged from necessity, was enabled by innovation, and was proven in battle. The fast carrier task force became the dominant force in naval warfare. Its ability to project power across the vast expanses of the Pacific, operate independently, and deliver devastating strikes made it the template for future naval operations. After the war, no new battleships were built, while carriers became larger, more capable, and central to American global strategy. Today, the aircraft carrier remains the centerpiece of U.S. fleets, a testament to the wartime evolution that began when the battleships at Pearl Harbor slipped beneath the waves, and the carrier rose to take their place (Mohr, Domabyl, & Parker, 1989, p. 11).

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