THE INFLUENCE OF AIR POWER ON MARITIME WARFARE

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US Navy Records, November 1920

At the dawn of 20th Century a prevailing philosophy of future warfare was that control of the sea was essential to secure and enhance a country’s strategic interests; and this control of the sea was to be achieved by the employment of sea power. The writings of US naval strategist Alfred Thayer Mahan that future wars would be settled by decisive naval engagements gained prominence and became a view shared widely by the world’s naval powers. This belief led to nations investing heavily in the construction of battleships, which reached its zenith during World War II. However, these theories were developed and accepted before the advent of effective air power. In the maritime sphere, the rise of air power led to the development of the aircraft carrier. Subsequently, through a number of key events, these two developments—air power and its spin-off, carrier aviation—led to the demise of the battleship.

While air power was still in its infancy, General ‘Billy’ Mitchell of the United States Army argued that air power could be used to devastate maritime assets. Towards proving this theory, he used air power to sink several ships in a live fire Exercise in 1921. He went on to proclaim air power’s dominance over the battleship and other naval warships. His view had earlier been reinforced by the sinking of the USS Indiana in 1920 by US naval aviators. However, during the final assessment of the 1921 Exercise, naval officials were reluctant to accept that air power could dominate surface warships since the vessels were sunk under non-warlike conditions. In fact, they concluded that it would be ‘improbable’ that a battleship could be put completely out of action by aerial attacks alone.

This line of thinking continued well into the 1930s, even though a mock air raid on the military facilities at Pearl Harbor in 1932 once again demonstrated the extreme vulnerability of battleships to air attack. Aircraft from two aircraft carriers, the USS Saratoga and Lexington, ‘attacked’ Pearl Harbor and successfully ‘sank’ a number of ships at anchor in ‘battleship row’ by dropping bags filled with flour as simulated bombs. While this Exercise should have offered many valuable lessons, the Navy hierarchy ignored them claiming that the Exercise was invalid as low level precision bombing of battleships at anchor was an unrealistic concept of operation. However, the Japanese Navy studied this Exercise carefully and took the lessons on board. Less than a decade later, on 7 December 1941, they successfully replicated this same attack profile to great effect. Following the American losses at Pearl Harbor, the US Navy changed its focus and established the world’s first carrier-centered navy, a force that would play a decisive part in the Allied victory in the Pacific Theatre.

The increasing influence of air power on maritime warfare was arguably best demonstrated during the British attack on the Italian fleet at Taranto in November 1940. This was the first naval battle in which one side employed...
only carrier aviation to achieve its battle objectives. The British sought to diminish or destroy Italy’s control of the Mediterranean Sea by attacking its naval fleet. Employing ‘obsolete’ *Fairy Swordfish* bi-planes from the aircraft carrier *HMS Illustrious*, the British managed to destroy nearly half of Italy’s capital ships in one night. The success of this air attack also influenced the Japanese concept of operations in their attack on the US fleet at Pearl Harbor a year later. The Japanese naval planners studied the British concept of launching torpedoes from aircraft in shallow waters and employed the same tactics in their raid on Pearl Harbor.

Just three days after Pearl Harbor, Japanese air power sank the British warships *HMS Prince of Wales* and *Repulse*, off Malaya. The British Prime Minister Winston Churchill would be later criticised for not realising the vulnerability of warships to air attacks, even though the Taranto raid had clearly demonstrated the efficacy of air power against surface ships. He had earlier been convinced by the British Admiralty that the battleship was the key to British sea power and that they could be made ‘safe’ from air attack as the on-board anti-aircraft defence systems of British warships would make them ‘the most dangerous to aeroplanes in the whole world.’

It was not just the Allies that laid their complete trust in the invincibility of the battleship. Although the Imperial Japanese Navy had more aircraft carriers in the Pacific than America at the beginning of World War II, it also possessed the two largest battleships ever built, the *Yamato* and *Musashi*. Ironically, both were sunk by carrier-borne aircraft during the closing phases of the War.

Closer to Australia, during the Battle of the Bismark Sea in 1943, Allied air power decimated Japan’s resupply convoys to their troops in Papua New Guinea. This air action was a critical factor in Japan abandoning their plans to consolidate their conquest of the country.

An arguable ‘Achilles Heel’ in the design of the larger battleships and cruisers was that although air power was seen as a threat, these ships were not sufficiently well equipped to be able to counter concerted air attacks. The size of their main guns—ranging from the Japanese 18-inch guns to the British 14 or 15-inch ones—underpinned the notion that one’s adversary would emanate from the seas and therefore had to be ‘out-gunned’ to ensure victory. The German battleship *Bismark* boasted 15-inch guns but was initially crippled by air power and scuttled after being attacked by British warships on its maiden voyage. Even as late as 1944, the US Navy launched the USS *Missouri* with 16-inch guns. The emphasis on maritime warfare meant that the heavy guns took priority as the main armament of the battleships at the cost of limiting anti-aircraft capabilities. Air power was not considered a potent enough threat by the naval planners, even though it had been repeatedly proven that air power could be the nemesis of surface ships.

The demise of very large warships was heralded by air power becoming more effective and the use of relatively inexpensive weapons. The events of World War II demonstrated that air power could cripple and even sink a battleship, a concept that remains relevant today.

The predominance of the battleship in naval warfare in early 20th century gave rise to carrier-aviation, which brought to bear air power against the vulnerability of the large surface ships. The cost-benefit analysis in this exchange—from battleships to aircraft carriers—continues to be controversial. Building a contemporary aircraft carrier involves considerable and nearly prohibitive investment for most nations, with costs running to billions of dollars. On the other hand, the power projection capabilities of aircraft carriers is unparalleled.

Air power, whether carrier borne or land-based, is now a well-established element of projecting sea power. Air defence of a fleet cannot be left to purely organic air defence weapons and need air power projection capabilities to be effective. Control of the sea, which gives freedom of action to a maritime force within a designated area of operations, can only be assured if control of the air above can be ensured.

**Key Points**

- *The vulnerability of battleships by air power was underestimated at the beginning of World War II*
- *The era of the battleship gave way to the era of the aircraft carrier, the economic viability of which is debatable*
- *Air power has established itself as a critical element in maritime power projection capabilities*