

Visualizing Maritime Supremacy: The Role of Naval Picture Postcards in Early Twentieth-Century Geopolitics and Material Culture

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Abstract

This article explores the cultural, technological, and commemorative significance of warships as depicted on picture postcards during the early and mid-twentieth centuries. Against the backdrop of rapid naval innovation and geopolitical tension, warships emerged as both tools of military dominance and symbols of national identity. The study situates these vessels within the broader context of the history of technology, examining how they embodied societal values and industrial progress. It highlights the role of naval arms races in driving technological advancements, such as the transition from pre-dreadnought to dreadnought battleships and the advent of specialised vessels like aircraft carriers and destroyers. The article also investigates the public engagement fostered by the circulation of warship postcards. These mass-produced visual artefacts served as accessible records of technological achievement and propaganda tools, cultivating national pride and bridging the gap between industrial modernity and everyday life. The study further contextualises this phenomenon within the framework of international arms limitation efforts, such as the Washington Naval Treaty of 1922, which imposed restrictions on warship construction. By juxtaposing the technological and cultural narratives of warships, this article argues that picture postcards played a vital role in shaping public perceptions of modernity, power, and memory, and play an important role in educating later generations.. Ultimately, it underscores the value of maritime history as a lens for understanding the complex interplay of technology, geopolitics, and public consciousness in the modern era.

Keywords: Material culture; naval power; postcards; public engagement; naval arms races

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1. Introduction

Material culture provides a critical lens for exploring the intersections of innovation, societal values, and geopolitics, offering further depth to interdisciplinary historical studies. Picture postcards of warships, as aspects of material culture, exemplify this potential by serving both as visual artefacts of naval innovation and conduits of public engagement. As elements of visual culture, by extension, the imagery in question provides a range of other, more complex, communicative modes (Duncum, 2004, p. 252). Visual culture is, perhaps, the most appropriate term to use in the present study given its association with media found in places such as newspapers and magazines, though it is acknowledged that there is an ongoing debate surrounding the terminology, as per Ulbricht (2007, p. 59) and Bolin and Blandy (2003). These postcards bridge personal correspondence and historical curation, democratising access to naval imagery and fostering a shared cultural connection to maritime power.

The study of such postcards reveals the complexities of naval power as both a defensive and offensive force, embodying the geopolitical tensions and technological advancements of their time and reinforcing their value to a public audience. The use of picture postcards as a visual source for interdisciplinary historical discussion builds on the existing tradition of scholarship surrounding postcards conducted by the likes of Sophie Junge (2019), Stephen Hughes and Emily Stevenson (2019), John Fraser (1980), and Peter Schmidt (2009).

As Blagden et al. (2011, p. 192) assert, naval power functions as a form of hard power, integral to asserting dominance and safeguarding national interests. This duality is particularly evident in the context of colonial rivalries during the late nineteenth and early twentieth centuries, where European powers, including Britain, relied on naval supremacy to secure global shipping lanes and colonial possessions. Warships, depicted on postcards, also symbolise the societal and political investments in naval innovation. Alan Zimm's (1975, pp. 31–32) observation that warships face metaphorical battles before their launch underscores the intricate negotiations between technological ambition and resource constraints. The Washington Naval Treaty of 1922, later modified by the first and second London Naval Treaties of 1930 and 1936, which were negotiated to prevent a global naval arms race, is a good example here, as represented in the work of O'Brien (2017), Hone (1979), and Kennedy (1994). These compromises, mirrored in the design and operation of capital ships, resonate through the public fascination captured in postcards. Such images not only celebrate the grandeur of naval vessels like *HMS Hood* (1918) but also reflect the broader societal engagement with the political, economic, and industrial challenges underpinning their construction (Teggin, 2024, p. 43).

Postcards also functioned as early forms of mass communication, subtly shaping collective memory and civic pride. Unlike overt propaganda, they provided an accessible medium for individuals to engage with symbols of naval power, blending private and public domains of interaction. Their production, enabled by affordable printing technologies and expanding postal networks, transformed warships into shared cultural resources, akin to precursors of modern social media. This enabled all strands of consumers to interpret sources, be they postcards of famous warships, shop fronts, gardens, or broader aspects of national identity. A wider discussion on the subject can be found in the work of Behan (1993), Elliot (2003), Wilson (2015), and Combs (2021). In this way, postcards mediated public perceptions of naval power, capturing its technological, ideological, and geopolitical significance. Postcards are, ostensibly, also important in terms of postal history, together with the niche strand of scholarship surrounding postal systems which supported naval and armed forces networks. Following the establishment of the Universal Postal Union in 1874, the ability of mail and correspondence to reach a much larger audience and facilitate international communication was greatly enhanced, thus providing a great opportunity for a range of interested parties and stakeholders to communicate their message(s) on a global scale.

By analysing picture postcards as historical artefacts, scholars gain a nuanced understanding of the interplay between naval innovation, public sentiment, and global power dynamics. These objects reveal how the projection of maritime strength, with its inherent challenges, was not only a matter of statecraft but also a subject of widespread public fascination and cultural representation. This must be considered in terms of both public engagement and national commemoration. A similar phenomenon can be witnessed in early twentieth-century tourism, with the foundation of the Empire Marketing Board in 1926 designed to increasingly commodify the British Empire and its potential (Cusack, 2019, pp. 90–91).¹ Public engagement

¹ See also, Elliot, W. (1931). The work of the Empire Marketing Board. *Journal of the Royal Society of Arts*, 79(4101), 736–748.

and curation, for the purposes of this study, builds on the important mid-late twentieth-century work into the history of technology of Hindle (1966), Ferguson et al. (1968), and Pursell Jr (1983). The commemorative aspect, in turn, draws on studies by scholars such as Mosse (1986), Assmann (2008), and Winter (2010). Postcards may also function as valuable evidence for interdisciplinary inquiry to support teaching and education, connecting fields such as visual culture, historical analysis, and political theory by revealing how mass imagery was used to promote, question, or legitimise state authority and technological advancement. This may be supported by physical examples, such as those examined in the present study, or through the use of online digital repositories.²

This study will discuss a selection of five picture postcards, all depicting British Royal Navy warships from the early-mid twentieth century. This period spans the pre-First World War era through until the Second World War, with several examples depicting vessels that served across the period with distinction. In each case, the vessels' postcard(s), careers, and technical specifications will be used as case studies to support the discussion and provide visual context to demonstrate that ostensibly static picture postcards may possess an innate multimodality when discussed or consumed by different audiences (Andriotis & Mavrič, 2013, pp. 18–20).

2. Warships as Cultural Artefacts: Symbolism, Material Culture and National Pride

In the late 19th and early 20th centuries, postcards served as an inexpensive and widely accessible means of communication, making them an effective tool for disseminating imperial imagery. Governments, navies, and commercial publishers frequently employed postcards as subtle propaganda, using them to showcase powerful fleets, naval bases, and coaling stations to reinforce maritime dominance. The expansion of maritime supremacy coincided with the growth of global postal systems, which were heavily reliant on steamships and naval routes. Many colonial outposts and coaling stations functioned as critical nodes in both military logistics and postal infrastructure. Many naval postcards, such as those discussed below, may have been part of naval mail systems, sent by sailors from warships or overseas bases, adding another dimension to the production and circulation of such material. It is important to note, however, that mail sent from active duty service personnel would have been heavily censored during wartime.

The use of picture postcards depicting warships in particular provides a unique lens through which to analyse both material culture and the history of technology, aligning with Carroll Pursell Jr's (1983, p. 304) assertion that technology functions as an expression of culture. This perspective positions the history of technology within the broader framework of material culture, as argued by Schlereth (1982, p. 32), emphasising that the study of objects, like warships, and the processes surrounding their creation can illuminate the values and priorities of the societies that produced them. Viewed symbolically, warships serve as metaphors for societal traits, embodying technological ingenuity, military ambition, and national identity. The depiction of these vessels on postcards amplifies this symbolic role, transforming mechanical

² See also, the Lampton Collection at Mississippi State University, Washington State University's digital exhibits, Postcard History's Naval History Collection, and the Shipping Postcards online catalogue.

artefacts into widely circulated cultural representations that reflect and reinforce societal ideals and anxieties.

The history of technology, particularly in the context of warfare, is crucial to understanding how societies evolve, adapt, and assert power. Warfare has historically driven technological innovation, particularly in the context of arms races impelled by the security and deterrence dichotomy, often at an accelerated pace, influencing industries, economies, and political structures far beyond the battlefield (Glaser, 2004, pp. 44–45). By studying the technological advancements related to warfare, such as the development of warships, scholars can trace the interplay between technological ingenuity, societal values, and geopolitical ambitions. Ultimately, the history of military technology provides insights into humanity's capacity for both innovation and destruction, offering lessons for navigating future technological and societal challenges. It may also, conversely, lead to competitive armament between global powers (Gray, 1974, pp. 207–208).

Warships serve not only as instruments of military and maritime utility but also as potent symbols of power, prestige, and national identity. Their size, firepower, and capabilities communicate messages of military strength and political influence, making them central to the assertion of control over strategic waterways, the protection of trade routes, and the projection of power overseas. The British battlecruiser *HMS Hood* (1918), the largest warship afloat for over twenty years after her commissioning in May 1920 and a potent symbol of the Royal Navy's strength, was a very good example of this. As cultural and material artefacts, warships embody the social and ideological values of the societies that commission and sustain them, with *HMS Hood*'s sobriquet, 'the mighty Hood', reflecting this (Harrington, 2003, p. 171). In the context of empire, their significance becomes magnified; they function as emblematic representations of imperial dominance, technological prowess, and the ability to influence global affairs. It is in this context that the loss of *HMS Hood* during the Battle of Denmark Strait (24 May 1941) proved to be so crippling to British morale and led to the dogged British pursuit of the German battleship *Bismarck* as an act of revenge (Jurens, 1987; Vego, 2019).

HMS Hood, seen below in *Figure 1*, a postcard dated May 1937, is depicted as a cultural icon and source of national pride. Postcards such as these functioned as tools for both education and entertainment, allowing ordinary citizens to connect with the Royal Navy and its vessels on a personal level. The visual details in this postcard highlight specific features of *HMS Hood*, such as its large-calibre guns and sleek lines, underscoring the move towards—though not a complete divergence from—the battlecruiser model, and thus lighter armour, during the First World War and the early interwar period (Lambert, 2015, p. 277). For many viewers, the postcard would have been a source of reassurance, demonstrating that Britain remained prepared to protect its maritime interests and imperial holdings during a time of geopolitical uncertainty. While postcards were ostensibly private artefacts, their imagery served a public function, reinforcing collective memory and identity. *HMS Hood*'s depiction on this postcard exemplifies how material culture could convey ideological messages about power, security, and modernity. From an imperial perspective, *HMS Hood* embodied the duality of British naval power: it was both a soft protector of sovereignty and a projector of hard power. Its visual representation on a postcard would have reinforced Britain's claims to maritime dominance while subtly reminding other nations of the capabilities underpinning that dominance, which aligns with established twentieth-century maritime strategy (Brooks, 1986, p. 64).

Figure 1. HMS Hood

Source: Valentine & Sons Ltd., Dundee and London, May 1937. Private Collection.

HMS Hood was the first (and only) ship of four planned Admiral-class battlecruisers to be built for the Royal Navy during the First World War. Built in response to the German Mackensen class and intended as an upgrade on Britain's existing *Renown* and *Courageous* classes, *HMS Hood* was significantly larger than her predecessors. Displacing 45,200 tons, and measuring 860' 7" long and 105' wide, she was 66' longer and 14' wider than the next largest battlecruiser in Royal Navy service. This increase in size was backed up by 5–12' armour along her belt and 11–15' armour for her turrets. Her main armament comprised four twin 15' turret-mounted guns, supported by sixteen 5.5" single-mounted barbette guns (Weldon, 1972, p. 117). Ostensibly the pride of the Royal Navy and the public, there were known shortcomings in her construction. Insufficient armour protection compared to rival nations' capital ships and a tendency to flood at high speeds meant much refitting was necessary during the interwar period (Green, 2007, p. 74). Needless to say, the admiralty did not advertise these shortcomings and instead allowed the popular narrative of Britain's super-battlecruiser—famously reproduced in miniature and commercialised by Meccano in the 1930s—to endure, projecting confidence to the public and safeguarding Britain's national interests (Harrington, 2003, p. 184). It is in just such a way that we may look at postcards such as *Figure 1* in a different manner alongside the aspect of national pride; rather, *Figure 1* also conceals the truth and papers over the cracks.

The construction and operation of warships necessitate collaboration among a diverse array of stakeholders, including sailors, officers, shipbuilders, and suppliers. The hierarchical organisation and discipline inherent in naval operations mirror and reinforce broader societal structures, reflecting cultural norms and values. Moreover, the material culture surrounding warships encompasses the traditions, rituals, and artefacts of naval service. From ship christenings, naval ceremonies and historic engagements to the superstitions held by sailors, these elements contribute to the symbolic weight of warships within society (Chadick, 1969; Day & Lunn, 2004; Harlowe, 2002). Through the analysis of warship design, iconography, and social dynamics, researchers can explore the interplay between technology, culture, and societal values across different historical contexts. The prevailing wisdom in a broader sense, of course,

remains that technology shapes the society in which it was created, tested, and implemented (Salehan et al., 2018, pp. 725–727). Further reading on the topic of culture and technology, and indeed the sociology of technology, can be found in the works of McGuigan (2004), Gunderson (2016), and Xiaojuan (2023).

When integrated into visual media such as postcards, warships amplify their symbolic power, functioning as visual representations of national pride and imperial strength. Picture postcards of warships, such as those depicting British Royal Navy vessels, which may have also been commissioned as souvenirs specific to their ships, allowed the public to engage with the maritime identity of the nation in a tangible and accessible way. These postcards captured not only the technological sophistication of the vessels but also their cultural and ideological significance. Warships were not merely defensive or offensive tools; they were projections of the nation's aspirations and achievements. By circulating images of warships on postcards, the symbolic value of naval strength was democratised, enabling even those far removed from maritime affairs to participate in the narrative of Britain's global power. During the early twentieth century, as geopolitical tensions heightened and naval competition intensified, these postcards became significant agents for shaping public perceptions of Britain's imperial and naval dominance. Whereas the Washington Naval Treaty and the context of preventing a global naval arms race were an important consideration for Britain when implementing interwar naval armaments, Gregory Kennedy (1994, p. 623) has also pointed out that a host of other geopolitical concerns, such as oil supplies, war reparations and the value of the pound sterling, all raised the prospect of a second global conflict. With this in mind, the circulation of potent visual aspects of material culture, such as *Figure 2*, below, made a great deal of sense in projecting power. It cannot be denied, however, that Anglo-German naval rivalry is an oft-cited reason for the growth of antagonism between the two powers ahead of the First World War (1997, p. 285).

Figure 2. HMS Queen Elizabeth



Source: Photochrom Co. Ltd, Royal Tunbridge Wells. Photograph by Stephen Cribb, Southsea. Private Collection.

Figure 2, above, principally features *HMS Queen Elizabeth* (1913) in the foreground with a visible emphasis on its heavy armament and imposing structure, underscoring its role as a symbol of deterrence and power. The caption, noting the displacement of 31,100 tonnes, draws attention to its size, reinforcing its image as a cornerstone of Britain's naval supremacy. This is backed up by the chain of following battleships to her aft, demonstrating the typical battle line formation of the time and reminding the viewer that Britain, as a blue-water naval power, could project such strength in global combat theatres (Hone, 2009, p. 70).³ Whereas the vessel's forward armament is clearly visible and stands out due to the lighter shade of steel, the image also shifts the emphasis of the postcard away from individual superiority in a single warship, as is the case in many of the other examples discussed, and onto collective strength. This is what makes for a more effective military deterrent to any rival nations that would seek to challenge Britain at the time. Also of interest is the ship's anti-torpedo bulge, shown amidships. These bulges, obsolete by the end of the First World War, were an early form of torpedo protection comprised of external compartments filled with air to defray the impact of a torpedo strike (Christie et al., 2016, p. 149).

The technological advancements embodied by *HMS Queen Elizabeth* reflect the progress and insecurity inherent in arms races. While such innovations were celebrated as national achievements, they also contributed to heightened tensions among rival powers. At the time of her launch in 1913, *HMS Queen Elizabeth* was one of the most advanced battleships afloat. Part of a chain of warships deemed to be 'super-dreadnoughts', owing to their improvements over the original *HMS Dreadnought* (1906) and the class of warships named for her, *HMS Queen Elizabeth* has instead also been termed as one of the first 'fast battleships', which became the norm for naval powers in the early-mid twentieth century. Among the first battleships to be armed with 15" guns and powered by oil instead of coal, she also boasted 13" belt armour and a top speed of 25 knots. This represented a significant upgrade on the preceding Iron Duke class of dreadnought battleships (White, 1970, p. 59). All this technological innovation can, in part, be traced back to Admiral John 'Jackie' Fisher, who, when First Sea Lord (1904–1910; 1914–1915), advocated for a rejuvenated battleship project for the Royal Navy (Sumida, 1979, pp. 207–210).⁴ As an object of material culture herself, *HMS Queen Elizabeth* was of great interest to both the public and the naval community.

As discussed above, the development and deployment of increasingly powerful battleships like *HMS Queen Elizabeth* often prompted similar responses from other nations, perpetuating cycles of competition and militarisation. One of the most famous cases of such competition commenced with the launch of the French ironclad *La Gloire* in 1859. By incorporating armour plating—and naval architects having learnt lessons from the Crimean War—*La Gloire* rendered every wooden warship afloat obsolete when she was launched, heralding in a new age of naval warfare (Canel, 2018, pp. 100–105). The launch of *La Gloire* and the French fortification of the naval base at Cherbourg spurred the Royal Navy into action, and the world's first solely iron-hulled warship, *HMS Warrior* (1860), was launched a year later (Ross, 2018, pp. 14–16). For context, *HMS Warrior* had been ordered in May 1859, prior to the launch of *La Gloire*. The launch of *HMS Warrior* again rendered all previous warships obsolete overnight and completely reshaped how naval architects and admiralities viewed naval combat. As David Brown (2010, p. 12) has highlighted, the construction of *HMS Warrior* contributed much more to geopolitical and imperial tensions between Britain and other great powers such as France than *HMS*

³ See also, Patricia, P., & Satya, P. A. N. I. P. (2022). Questioning China's peaceful development: A Mahanian sea power analysis of blue water navy accumulation. *Global: Jurnal Politik Internasional*, 24(2), 252–276; Gompert, D. C. (2013). *Sea power and American interests in the Western Pacific*. Santa Monica, CA: RAND Corporation.

⁴ See also, Brooks, J. (2007). Dreadnought: Blunder, or stroke of genius? *War in History*, 14(2), 157–178.

Warrior's actual service did. This is in no small part due to the lack of dry-docking facilities that could accommodate a vessel of *HMS Warrior*'s size (420' x 58' 4"), meaning her service career was largely confined to home waters (Hirsch, 2014, pp. 27–28).

In terms of the present study, a postcard such as *Figure 2* thus serves as both a historical record and a symbol of the broader geopolitical dynamics of its time. It encapsulates the aspirations, anxieties, and ideologies that shaped naval and imperial strategies in the early twentieth century. Furthermore, the broader material culture of warships, including their design, operation, and associated rituals, offers scholars a lens through which to investigate the interplay between technology, society, and empire. The construction of warships required significant investment and collaboration, reflecting the industrial and economic capacity of a nation. Their operational use and the rituals surrounding them reveal the social structures and cultural norms of their time. By studying these visual and material artefacts, researchers can uncover new dimensions of historical inquiry, bridging military history, material culture, and public engagement. This, naturally, also involves the need for visual sources of material culture, such as picture postcards, to be appropriately curated.

2. Advancements in Warship Technology: Strategic Imperatives and the Material Culture of Naval Power

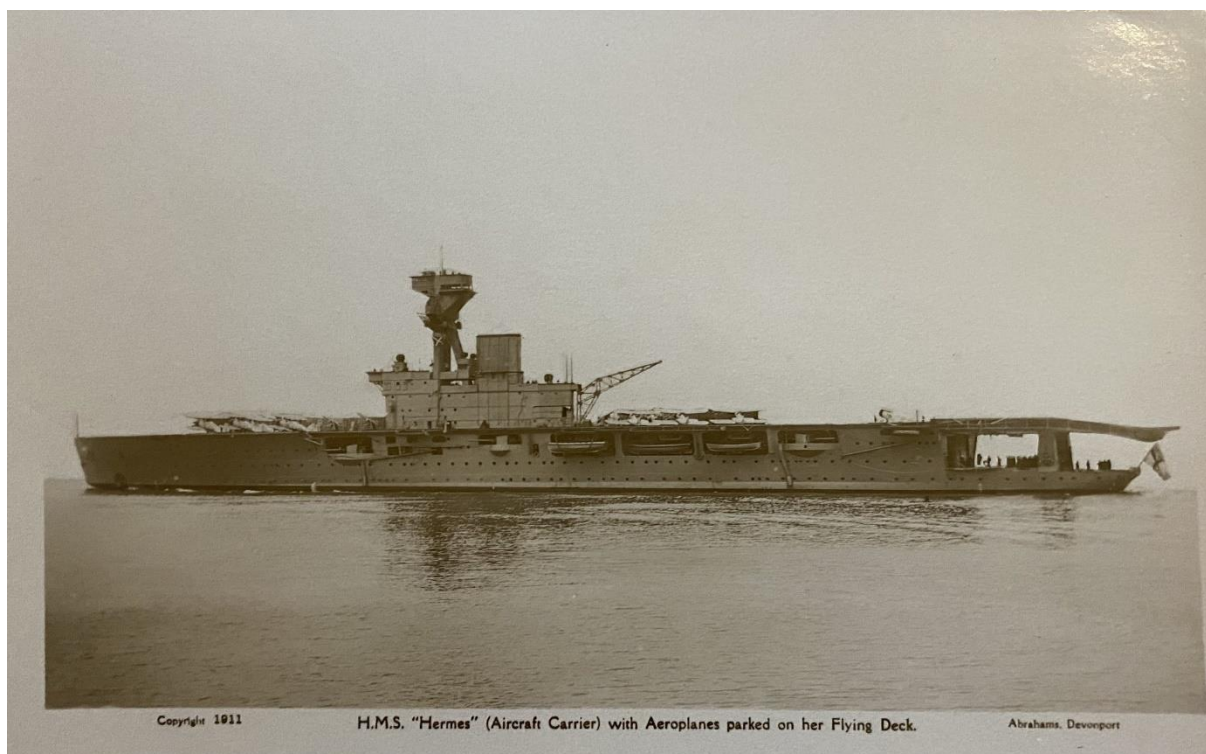
Advancements in warship technology have historically been a double-edged sword, representing both progress in naval warfare and a source of geopolitical tension, be they internally or externally induced, with rivals being unable to ignore an opponent's advances (Gray, 1971, pp. 39–40). As discussed above, developing increasingly sophisticated warships, characterised by greater speed, firepower, and armour, has often triggered anxiety among rival nations. This apprehension arises from concerns over military parity and strategic vulnerability, prompting adversaries to embark on programmes of naval modernisation and expansion in response. The resulting competition not only risks exacerbating geopolitical tensions but also imposes significant economic and societal costs. Resources are diverted toward the development and procurement of advanced warships, straining national budgets and often sparking political debates over priorities and defence expenditures. The heightened militarisation of maritime domains, in turn, increases the risk of miscalculation or conflict escalation, undermining efforts at diplomatic resolution (Ross, 2018, pp. 10–11).

The anxiety and rivalries engendered by advancements in warship technology are reflected in the material culture of the early twentieth century, particularly in visual representations such as picture postcards. These postcards, which often depicted cutting-edge naval vessels, served as a medium through which the public could engage with and internalise the broader geopolitical and technological struggles of their time. The importance, of course, is in the active interpretation to ensure that a consumer does not actively endorse an idea that they might not wish to do so (Barrett, 2003, p. 12). By showcasing the latest warships, these images not only celebrated national innovation but also underscored the stakes of naval superiority. In the context of early twentieth-century Britain, such postcards became part of a wider narrative of imperial dominance and technological leadership. They symbolised the nation's ability to meet the challenges posed by rival powers, reinforcing a sense of security and national pride. By disseminating images of warships, these postcards helped to cultivate a public consciousness of the arms race and Britain's role within it; late Victorian and early Edwardian lobby groups had already established a strong platform for placing empire at the heart of British politics, for

example (Thompson, 1997, p. 148). Britain's role as a global leader was, of course, already declining in the early twentieth century, with the loss of influence leading to status anxiety (Onea, 2014).

Among the most transformative developments in the early twentieth century was the advent of the aircraft carrier, a technological breakthrough that redefined naval warfare and maritime strategy. The aircraft carrier emerged as a revolutionary platform, enabling naval forces to project air power far beyond the range of traditional land-based aircraft. This innovation extended the operational reach of navies and transformed the dynamics of maritime conflict, challenging the dominance of battleships that had previously symbolised naval supremacy. This was an area of advancement that the British are noted to have heavily influenced the American, German, and Japanese navies throughout the early twentieth century (Faulkner, 2012, p. 495). The development of the aircraft carrier was deeply intertwined with broader technological advancements of the era; innovations in aviation, propulsion systems, and naval engineering converged to make the carrier a reality. This shift ultimately reflected a growing recognition among naval strategists that controlling the skies over maritime theatres was essential for modern warfare (Levy, 2005; Sadkovich, 1987). The aircraft carrier thus became not only a military asset but also a symbol of a nation's technological prowess and industrial capacity as well as a tool of diplomacy and deterrence, showcasing a nation's military and industrial strength. Carriers were emblematic of a country's ability to innovate and adapt to the changing demands of warfare, serving as both practical instruments of power and symbolic representations of modernity and dominance. *Figure 3*, below, depicts *HMS Hermes*, the Royal Navy's first aircraft carrier (Parkinson, 2003, pp. 105; 118–119).

Figure 3. HMS Hermes

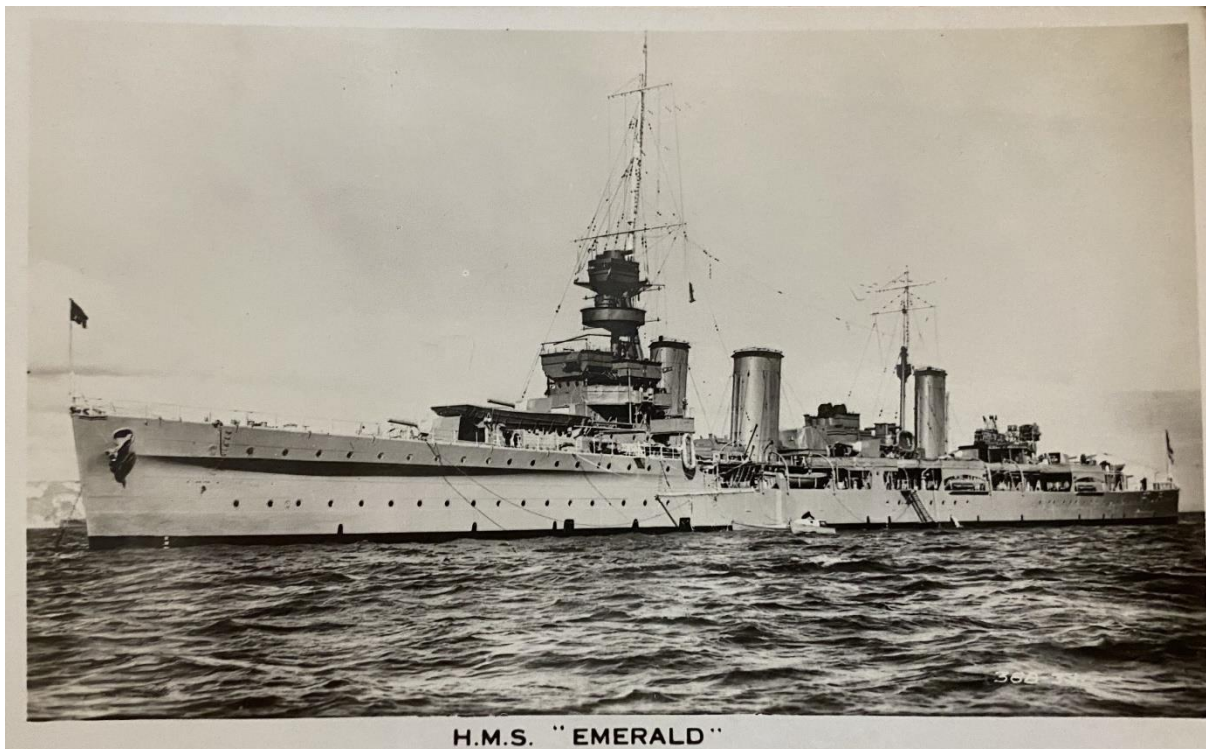


Source: Abrahams & Sons, Devonport. Private Collection.

HMS Hermes (95), completed in 1924, was the first ship specifically designed and constructed from the keel up as an aircraft carrier, distinguishing it from earlier conversions of existing hulls. It must be noted, however, that the Imperial Japanese Navy's *IJN Hōshō* (1922) was the first to be commissioned (Baker III, 1987, p. 62). *HMS Hermes*' design reflects the transitional period in naval engineering and strategy, where the focus shifted from battleship-centric fleets to integrating air power as a dominant element in maritime operations. The material culture of this postcard offers additional insights into how naval innovation was communicated to the public. The clear labelling of *HMS Hermes* as an "Aircraft Carrier" and the explicit mention of "Aeroplanes parked on her Flying Deck" serve not only to inform but also to impress upon viewers the technological sophistication of the Royal Navy. *HMS Hermes* had a long and distinguished service career throughout the interwar period and the Second World War, before being sunk by Japanese dive bombers at Trincomalee in April 1942. Although small by later standards, with a length of 600', beam of 70' 3", and carrying only 20 aircraft, she is remembered as the first in a long line of British aircraft carriers, and an early example of the changing face of naval warfare.

Images such as this played a role in cultivating public confidence in Britain's naval strength during a time of geopolitical uncertainty. Similarly, in agreement with Morgan Fitch's (1969, p. 16) views, the public needed to feel that they were engaged with the navy. The politics behind this, and the assumed positions in the hierarchy of nations, are important considerations in this regard (Gray, 1971, p. 63). Warship postcards also serve as evidence of the material priorities and technological innovations that characterised strategic naval responses. The selection of warships for depiction, emphasising specific designs, armaments, or capabilities, reveals the priorities of naval architects and strategists in mitigating national weaknesses. For example, postcards of light cruisers or destroyers would indicate an emphasis on protecting vulnerable merchant shipping lanes or countering asymmetric threats from smaller, faster vessels (Schofield, 1981, pp. 119–121). In the case of British warship postcards, many of the warships depicted are those whose design was limited by the Washington Naval Treaty, leading to warships which were often at a disadvantage to powers who had ignored the treaty (Asada, 1993, pp. 93–95).⁵ To combat this, Britain relied on strength of numbers and the ability to maintain an effective blue-sea maritime force globally, reflecting a focus on projecting power across vast colonial holdings and also a process of reducing naval expenditure (Kennedy, 1994, pp. 626–627). *HMS Emerald* (D66), shown below in *Figure 4*, is a good example of this. By showcasing these capabilities, postcards functioned as both a public record and a tacit declaration of a nation's preparedness to address vulnerabilities.

⁵ See also, Hone, T. C. (1979). The effectiveness of the "Washington Treaty" Navy. *Naval War College Review*, 32(6), 35–59.

Figure 4. HMS Emerald

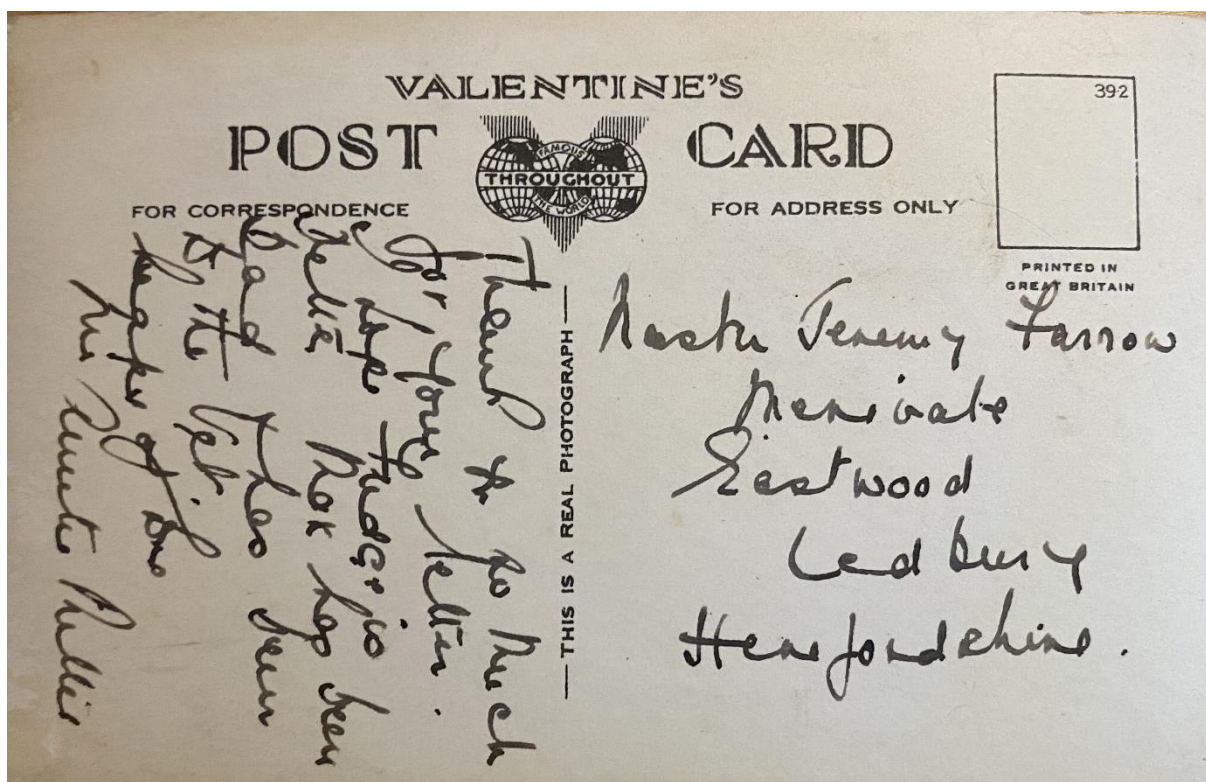
Source: Valentine & Sons Ltd., Dundee and London. Private Collection.

HMS Emerald, a light cruiser of the Royal Navy, is emblematic of the technological, strategic, and geopolitical conditions that defined the interwar period, particularly in the aftermath of the Washington Naval Treaty of 1922. This treaty, aimed at limiting naval armaments among the world's major powers, profoundly influenced the design and construction of warships. The treaty's restrictions on battleships and battlecruisers (both in terms of total tonnage and individual ship displacement) led to a renewed emphasis on smaller, more versatile warships like light cruisers (Hone, 1979, pp. 36–38). *HMS Emerald* was designed to fulfil multiple roles, including trade protection, fleet scouting, and reconnaissance. Her design, with a displacement of approximately 7,500 tonnes and armed with seven 6" guns, adheres to the limits imposed on cruisers by the Washington Naval Treaty. The ship's relatively light armour and high speed (capable of over 33 knots) reflect the Royal Navy's prioritisation of mobility and firepower over heavy protection. This design philosophy was influenced by the need to patrol and protect Britain's extensive maritime trade routes across its global empire, a mission that demanded a large number of fast, relatively inexpensive vessels. Again, budgetary constraints, such as those faced by the first Baldwin administration (Nov. 1924 – Jun. 1929), played a key role in this (Kennedy, 1994, pp. 626–627). As depicted in *Figure 4*, *HMS Emerald* embodies the resilience and adaptability of the Royal Navy during a transformative period in naval history. The image not only documents a key piece of maritime innovation but also reflects the cultural and political significance of naval power in shaping perceptions of national strength and security. *HMS Emerald* is best remembered for her role in transferring British gold reserves to safety in Canada in June 1940 due to the threat of German invasion.

The educational aspect of picture postcards from the late 19th and early 20th centuries serve as invaluable educational tools, offering students and researchers a tangible connection to historical narratives, technological advancements, and geopolitical dynamics. Postcards can illustrate how naval power was visually represented and understood by contemporary

audiences, making them ideal resources for teaching about imperialism, maritime strategy, and propaganda. Postcards, as historical artefacts, document changes in society, technology, and communication, providing unique insights into the past. Unlike official records, postcards often reflect the perspectives of everyday individuals and offer a more personal view of contemporary issues. When incorporated into classroom discussions, these postcards encourage students to critically assess how visual media shapes public perception, national identity, and historical memory. They also serve as compelling primary sources for interdisciplinary studies, bridging art, history, and political science by illustrating how state power and technological progress were celebrated or contested through mass-produced imagery. Figure 5, below, is a good example, though the message included on this discusses a dog being taken to the vet. This is, however, a good example of how mundane matters and daily communication can be tied to matters such as geopolitics and naval strength due to the choice of postcard.

Figure 5. Reverse of postcard in Figure 4



Source: Valentine & Sons Ltd., Dundee and London. Private Collection.

Figure 6, below, showing HMS Cossack, a Tribal-class destroyer, encapsulates a critical phase in naval innovation and strategy during the interwar period. The Washington and London Naval Treaties primarily limited capital ships, cruisers, and aircraft carriers. While destroyers were subject to tonnage restrictions, these limits were less stringent, allowing for greater flexibility in their design. The Royal Navy leveraged this flexibility to create ships like HMS Cossack, which prioritised firepower and speed to fulfil dual roles: escorting larger fleet units and engaging in independent operations. Tribal-class destroyers, commissioned in the mid-1930s, represent a departure from earlier destroyer designs. At over 1,800 tons and armed with eight 4.7-inch guns, she was more heavily armed than her predecessors (Wood, 2003, p. 34). The Tribal-class destroyers were designed to address the growing need for ships that could counter larger and better-armed foreign destroyers, particularly those of Japan and Germany.

Figure 6. HMS Cossack

Source: No publication markings listed. Private collection.

The design of *HMS Cossack* reflects Britain's response to shifting geopolitical dynamics during the 1930s. Following Japan's withdrawal from the Washington Naval Treaty in 1934 and Germany's naval rearmament under Hitler, the Royal Navy faced increasing pressure to maintain a competitive edge in naval warfare. Of particular interest was the decision to pursue a greater emphasis on gun calibre over torpedo armament favoured by Axis designs (Lavery, 2008, pp. 164–168). While destroyers were not as heavily regulated by treaty as capital ships, the design of *HMS Cossack* demonstrates how the Royal Navy navigated treaty-imposed limitations to maximise capability. The Tribal class also highlights the unintended consequences of treaty limitations. By capping the number and size of capital ships, the treaties indirectly encouraged innovation in smaller ship classes. *HMS Cossack* and her sister ships symbolise this evolution, bridging the gap between traditional destroyers and more heavily armed vessels like light cruisers. The German fixation on U-boat warfare—and their lower cost-base than torpedo boats and destroyers—was also a factor in the need for continued innovation in anti-submarine warfare vessels such as destroyers (Crumpton, 2020, pp. 70–73).

HMS Cossack is best remembered for her role in the *Altmark* incident, in which her crew boarded the German tanker *Altmark* in Norwegian waters to free prisoners of war that were captured by the German pocket battleship *Admiral Graf Spee* (Hone, 1979, pp. 36–38). She was later torpedoed by the submarine *U-563* and sank on 27 October 1941. In this way, such a postcard may also be seen in the context of war commemoration. The commemoration of warfare through picture postcards holds significant importance for public consciousness as it bridges the gap between historical events and collective memory arising out of a shared conviction held by a broad community (Winter, 2010, pp. 312–314). These postcards serve as accessible, tangible artefacts that convey complex narratives of conflict, technological progress, and national identity. By presenting images of warships, battles, or military personnel, they create a visual shorthand for understanding the scale and significance of warfare, often imbued

with nationalistic pride or reverence for sacrifice. In effect, the aftermath of the First World War was a watershed moment which needed to be dealt with through any medium possible (Mosse, 1986, pp. 491–492).

Furthermore, such postcards operate within the realm of material culture, embedding historical events into everyday life. They democratise access to representations of military power and historical events, fostering a shared cultural memory among the broader public. By circulating widely, they shape perceptions of warfare, influencing how it is remembered, commemorated, and interpreted across generations through shared discourses or social frames (Assmann, 2008, pp. 51–52). In addition, these artefacts highlight the interplay between war, technology, and society, emphasising the human and cultural dimensions of conflict. They encourage reflection on the sacrifices of war and the broader implications of military innovation, thus serving as both reminders of the past and cautionary symbols for the future. Through this commemoration, picture postcards contribute to the preservation of historical consciousness and the ongoing dialogue about the impact of warfare on society (Abousnnouga, 2012). Private publishers frequently produced souvenir postcards of naval parades, ship launches, and imperial expeditions, reflecting a commercial demand for maritime imagery. These postcards were often sold at ports, naval exhibitions, and colonial outposts, highlighting the connections between tourism, military spectacle, and postal networks.

This intersection of innovation and public engagement is evident in contemporary naval history as well. The launch of modern warships, such as the British Royal Navy's *HMS Queen Elizabeth* (R08), is a very good example. Like the warships of the early twentieth century, her design embodies significant advancements, including integrated propulsion systems and the ability to deploy next-generation F-35 stealth aircraft (Magnuson, 2021, pp. 20–21). Similarly, the deployment of the Chinese navy's Type 055 destroyers, with their advanced stealth features and combat systems, represents a strategic effort to assert dominance in contested waters such as the South China Sea (Sheldon-Duplaix, 2020). Such vessels are commemorated not through traditional postcards but via digital media and online platforms, which serve as modern analogues for engaging the public in maritime achievements.

Through such vessels, the interplay between technological innovation and international rivalries remains evident. Picture postcards of earlier eras celebrated these innovations as both national achievements and symbols of maritime dominance. Today, virtual commemorations and real-time media coverage perform similar roles, albeit in more globally accessible formats. For example, the commissioning of the *USS Zumwalt* (DDG-1000), a stealth destroyer with a futuristic design, was accompanied by extensive media campaigns designed to inform and engage contemporary audiences.⁶ Further, the mid-twentieth century saw the rise of newsreels and television broadcasts that dramatised naval operations and technological milestones. Like postcards, these visual media leveraged the spectacle of naval power to captivate the public imagination. However, they differed in their immediacy and narrative control, often serving as direct instruments of state propaganda during wartime (Springer, 1986).

In the contemporary era, social media platforms and digital archives serve as analogous spaces for disseminating and engaging with naval imagery. For example, the U.S. Navy's use of platforms like Instagram and YouTube to showcase advanced vessels and operations mirrors the postcard's historical role in celebrating naval innovation. Similarly, hashtags and virtual communities around naval history foster public engagement and collective memory, much like early postcard collectors and deltiologists. By examining both historical and modern examples, scholars can trace the evolution of naval innovation as a reflection of technological ingenuity

⁶ For a discussion of the Zumwalt class, see Galdorisi and Truver (2010).

and societal priorities. Just as picture postcards served as a bridge between the public and the navy in the early twentieth century, modern digital media continues to fulfil this role, ensuring that the narrative of naval innovation remains accessible and relevant.

Conclusion

The study of warships depicted on postcards offers a unique and multifaceted lens to explore the intersections of technology, geopolitics, public engagement, learning, and memory. The humble postcard, often dismissed as a historical memento, serves as an artefact that illuminates broader societal trends and values during a period of rapid industrialisation, heightened international competition and evolving cultural norms. In particular, the imagery and dissemination of warship postcards provide invaluable insights into how societies perceived and commemorated naval power, technological innovation, and the sacrifices inherent in maritime warfare. If we consider these postcards and the warships that they depict as elements of culture in the history of technology, we must also speculate about the need for them to be accessible to the public and other consumers. Their value as tools for education and discussion is particularly important in this respect.

Ferguson et al. (1968, pp. 75–78), in particular, have written of the need for the history of technology, in curatorial terms, to do more than simply exist; it must convey a message to the viewer and allow engagement. To adequately conduct research into historical technology and to decipher the hidden cultural meanings within, the challenge is to allow the aspects of material or visual culture studied to tell their story whilst avoiding the temptation to speak for them (Jones, 1959, p. 23). The evolution from pre-dreadnoughts to dreadnought battleships, and later to specialised vessels such as aircraft carriers and destroyers, reflects not only advancements in engineering and materials science but also shifts in strategic thinking and global power dynamics. These technological developments were driven by naval arms races, particularly those of the early twentieth century, as nations vied for dominance over the world's oceans. The naval arms race, exemplified by the construction of *La Gloire* (1859) and *HMS Dreadnought* (1906), and the subsequent proliferation of similar battleships, underscores the pivotal role of technology in shaping geopolitical relationships.

Postcards and images depicting these vessels were not mere souvenirs; they were cultural artefacts that embodied the tensions and aspirations of their time. Through their widespread circulation, these postcards disseminated images of power and prestige, reinforcing nationalistic narratives, and affirming the technological superiority of nations. In addition to their role in celebrating technological and military achievements, warship postcards also served as tools of commemoration and remembrance. The sacrifices of naval service, whether in peacetime or in war, were memorialized through images of iconic vessels and significant battles. In this way, they bridged the gap between the industrial and the personal, connecting the technological might of the warship with the human experiences it embodied. The affordability and accessibility of postcards also made them a democratic medium, allowing people from diverse backgrounds to engage with representations of national power and technological achievement. This engagement was not always passive; postcards could spark discussions, inspire aspirations, or even provoke debates about the costs and consequences of militarisation. As objects of material culture, they bridge the gap between the historical and the everyday, allowing us to explore the interplay of technology, memory, and identity in a tangible and accessible way. Through their study, and their incorporation into educational efforts in

schools, universities and academic scholarship, we can better appreciate the complexities of the past and the enduring impact of maritime innovation on the modern world.

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References:

- Abousnnouga, N. G. (2012). *Visual and written discourses of British commemorative war monuments* [Doctoral dissertation, Cardiff University]. ORCA — Online Research @ Cardiff.
- Andriotis, K., & Mavrič, M. (2013). Postcard mobility: Going beyond image and text. *Annals of Tourism Research*, 40, 18–39. DOI: <https://doi.org/10.1016/j.annals.2012.07.004>
- Asada, S. (1993). The revolt against the Washington Treaty: The Imperial Japanese Navy and naval limitation, 1921-1927. *Naval War College Review*, 43(3), 82–97.
- Assmann, A. (2008). Transformations between history and memory. *Social Research*, 75(1), 49–72. DOI: <https://doi.org/10.1353/sor.2008.0038>
- Baker III, A. D. (1987). Japanese naval construction 1915-1945: An introductory essay. *Warship International*, 24(1), 45–68.
- Barrett, T. (2003). Interpreting visual culture. *Art Education*, 56(2), 6–12. DOI: <https://doi.org/10.1080/00043125.2003.11653486>
- Behan, A. P. (1993). History from picture postcards. *Dublin Historical Record*, 46(2), 129–140.
- Blagden, D. W., Levy, J. S., & Thompson, W. R. (2011). Sea powers, continental powers, and balancing theory. *International Security*, 36(2), 190–202. DOI: https://doi.org/10.1162/ISEC_c_00060
- Bolin, P. E., & Blandy, D. (2003). Beyond visual culture: Seven statements of support for material culture studies in art education. *Studies in Art Education*, 44(3), 246–263. DOI: <https://doi.org/10.1080/00393541.2003.11651742>
- Brooks, J. (2007). Dreadnought: Blunder, or stroke of genius? *War in History*, 14(2), 157–178. DOI: <https://doi.org/10.1177/0968344507075875>
- Brooks, L. F. (1986). Naval power and national security: The case for the maritime strategy. *International Security*, 11(2), 58–88. DOI: <http://doi.org/10.2307/2538958>
- Brown, D. K. (2010). *Warrior to Dreadnought: Warship design and development, 1860-1905*. Barnsley: Seaforth Publishing.
- Canuel, H. (2018). From a prestige fleet to the Jeune École: French naval policy and strategy under the Second Empire and the Early Third Republic (1852–1914). *Naval War College Review*, 71(1), 93–118.
- Chadick, W. L. (1969). Naval tradition: A Russian heritage. *Naval War College Review*, 21(10), 26–44.
- Christie, A., Heath, K., Littlewood, M., & Robertson, P. (2016). Archaeological assessment of Second World War anti-torpedo close protection pontoons in Scapa Flow, Orkney. *International Journal of Nautical Archaeology*, 45(1), 141–152. DOI: <https://doi.org/10.1111/1095-9270.12172>
- Combs, H. J. (2021). T. A. Carlson's real photo postcards. *Great Plains Quarterly*, 41(1/2), 5–27. DOI: <https://doi.org/10.1353/gpq.2021.0003>
- Crumpton, C. J. (2020). Surface ships: The Kriegsmarine's downfall during the Second World War. *Armstrong Undergraduate Journal of History*, 10(2), 60–77. DOI: <https://doi.org/10.20429/aujh.2020.100205>
- Cusack, T. (2019). Looking over the ship railings: The colonial voyage and the empty ocean in Empire Marketing Board posters. In C. J. Campbell, A. Giovine, & J. Keating (Eds.), *Empty spaces: Perspectives on emptiness in modern history* (pp. 87–110). London: University of London Press. DOI: <https://doi.org/10.14296/919.9781909646520>
- Day, A., & Lunn, K. (2004). Tales from the sea: Oral history in British maritime museums. *Oral History*, 32(2), 87–96.
- Duncum, P. (2004). Visual culture isn't just visual: Multiliteracy, multimodality and meaning. *Studies in Art Education*, 45(3), 252–264. DOI: <https://doi.org/10.1080/00393541.2004.11651771>
- Elliot, W. (1931). The work of the Empire Marketing Board. *Journal of the Royal Society of Arts*, 79(4101), 736–748.

- Elliott, B. (2003). A brief guide to the use of picture postcards in garden history. *Garden History*, 31(2), 218–224. DOI: <https://doi.org/10.2307/1587297>
- Faulkner, M. (2012). The Kriegsmarine and the aircraft carrier: The design and operational purpose of the “Graf Zeppelin”, 1933–1940. *War in History*, 19(4), 492–516. DOI: <https://doi.org/10.1177/0968344512455974>
- Ferguson, E. S., Vogel, R. M., & Hart, H. (1968). Hall of Power Machinery, Museum of History and Technology, U. S. National Museum (Smithsonian Institution). *Technology and Culture*, 9, 75–85. DOI: <https://doi.org/10.2307/3102047>
- Fitch Jr., M. L. (1969). The U.S. Navy and the public. *Naval War College Review*, 22(1), 14–19.
- Fraser, J. (1980). Propaganda on the picture postcard. *Oxford Art Journal*, 3(2), 39–47. DOI: <https://doi.org/10.1093/oxartj/3.2.39>
- Galdorisi, G. V., & Truver, S. C. (2010). The Zumwalt-class destroyer: A technology “bridge” shaping the Navy after next. *Naval War College Review*, 63(3), 63–72.
- Glaser, C. L. (2004). When are arms races dangerous? Rational versus suboptimal arming. *International Security*, 28(4), 44–84. DOI: <https://doi.org/10.1162/0162288041588313>
- Gompert, D. C. (2013). *Sea power and American interests in the Western Pacific*. Santa Monica, CA: RAND Corporation.
- Gray, C. S. (1971). The arms race phenomenon. *World Politics*, 24(1), 39–79. DOI: <https://doi.org/10.2307/2009706>
- Gray, C. S. (1974). The urge to compete: Rationales for arms racing. *World Politics*, 26(2), 207–233. DOI: <https://doi.org/10.2307/2009900>
- Green, G. (2007). England expects...: British Jews under the white ensign from HMS Victory to the loss of HMS Hood in 1941. *Jewish Historical Studies*, 41, 63–97.
- Gunderson, R. (2016). The sociology of technology before the turn to technology. *Technology in Society*, 47, 40–48. DOI: <https://doi.org/10.1016/j.techsoc.2016.08.001>
- Harlowe, J. (2002). Long boat races: A naval tradition. *Military Images*, 24(3), 30–31.
- Harrington, R. (2003). The mighty Hood: Navy, empire, war at sea and the British national imagination, 1920–60. *Journal of Contemporary History*, 38(2), 171–185. DOI: <https://doi.org/10.1177/0022009403038002>
- Hindle, B. (1966). *Technology in early America: Needs and opportunities for study*. Chapel Hill, NC: University of North Carolina Press.
- Hirsch, D. L. (2014). The end wooden walls: A comparison of HMS Warrior (1861) to the USS Monitor (1862). *Vides*, 2, 27–34.
- Hone, T. C. (1979). The effectiveness of the “Washington Treaty” Navy. *Naval War College Review*, 32(6), 35–59.
- Hone, T. (2009). U.S. Navy surface battle doctrine and victory in the Pacific. *Naval War College Review*, 62(1), Article 7.
- Hughes, S., & Stevenson, E. (2019). South India addresses the world: Postcards, circulation, and empire. *Trans Asia Photography*, 9(2), 1–35. DOI: https://doi.org/10.1215/215820251_9-2-208
- Jones, H. M. (1959). Ideas, history, technology. *Technology and Culture*, 1(1), 20–28. DOI: <https://doi.org/10.2307/3100784>
- Junge, S. (2019). Familiar distance: Picture postcards from Java from a European perspective, ca. 1880–1930. *BMGN – Low Countries Historical Review*, 134(3), 96–121. DOI: <https://doi.org/10.18352/bmgn-lchr.10743>
- Jurens, W. J. (1987). The loss of HMS Hood: A re-examination. *Warship International*, 24(2), 122–161.
- Kennedy, G. C. (1994). Britain’s policy-making elite, the naval disarmament puzzle, and public opinion, 1927–1932. *Albion: A Quarterly Journal Concerned with British Studies*, 26(4), 623–644. DOI: <https://doi.org/10.2307/4052249>
- Kranzberg, M. (1986). Technology and history: Kranzberg’s Laws. *Technology and Culture*, 27(3), 544–560. DOI: <https://doi.org/10.1353/tech.2021.0008>
- Lambert, N. A. (2015). Righting the scholarship: The battle-cruiser in history and historiography. *The Historical Journal*, 58(1), 275–307. DOI: <https://doi.org/10.1017/S0018246X14000314>

- Lavery, B. (2008). *Churchill's Navy: The ships, men and organisation, 1939-1945*. London: Conway Maritime Press.
- Levy, J. P. (2005). Race for the decisive weapon: British, American, and Japanese carrier fleets, 1942-1943. *Naval War College Review*, 58(1), 136–150.
- Magnuson, S. (2021). U.K. reports success integrating F-35 into carrier operations. *National Defense*, 106(817), 20–21.
- Maurer, J. H. (1997). Arms control and the Anglo-German naval race before World War I: Lessons for today? *Political Science Quarterly*, 112(2), 285–306. DOI: <https://doi.org/10.2307/2657942>
- McGuigan, J. (2004). *Rethinking cultural policy*. Maidenhead: Open University Press.
- Mosse, G. L. (1986). Two world wars and the myth of the war experience. *Journal of Contemporary History*, 24(4), 491–513. DOI: <https://doi.org/10.1177/002200948602100401>
- O'Brien, P. P. (2017). The Washington Treaty era, 1919–1936: Naval arms limitation. In C. Buchet, & N. A. M. Roger (Eds.), *The sea in history: The modern world* (pp. 500–509). Martlesham: Boydell and Brewer. DOI: <https://doi.org/10.1017/9781782049111.050>
- Onea, T. A. (2014). Between dominance and decline: Status anxiety and great power rivalry. *Review of International Studies*, 40(1), 125–152. DOI: <https://doi.org/10.1017/S0260210512000563>
- Parkinson, J. (2003). H.M.S. Hermes: China station, 1930/33. *Journal of the Hong Kong Branch of the Royal Asiatic Society*, 43, 105–126.
- Patricia, P., & Satya, P. A. N. I. P. (2022). Questioning China's peaceful development: A Mahanian sea power analysis of blue water navy accumulation. *Global: Jurnal Politik Internasional*, 24(2), 252–276. DOI: <https://doi.org/10.7454/global.v24i2.1237>
- Pursell Jr., C. W. (1983). The history of technology and the study of material culture. *American Quarterly*, 35(3), 304–315. DOI: <https://doi.org/10.2307/2712653>
- Ross, R. S. (2018). Nationalism, geopolitics, and naval expansionism: From the nineteenth century to the rise of China. *Naval War College Review*, 71(4), 10–44.
- Sadkovich, J. J. (1987). Aircraft carriers and the Mediterranean, 1940-1943: Rethinking the obvious. *Aerospace Historian*, 34(4), 263–271.
- Salehan, M., Kim, D. J., & Lee, J.-N. (2018). Are there any relationships between technology and cultural values? A country-level trend study of the association between information communication technology and cultural values. *Information and Management*, 55(6), 725–745. DOI: <https://doi.org/10.1016/j.im.2018.03.003>
- Schlereth, T. J. (Ed.) (1982). *Material culture studies in America*. Nashville, TN: American Association for State and Local History.
- Schmidt, P. (2009). The early print and the origins of the picture postcard. *Studies in the History of Art*, 75, 238–257.
- Schofield, B. B. (1981). The defeat of the U-boats during World War II. *Journal of Contemporary History*, 16(1), 119–129. DOI: <https://doi.org/10.1177/002200948101600107>
- Sheldon-Duplaix, A. (2020). Type-055: Escorteur et frappeur. *DSI (Défense et Sécurité Internationale)*, 147, 88–93.
- Springer, C. (1986). Military propaganda: Defense department films from World War II and Vietnam. *Cultural Critique*, 3, 151–167. DOI: <https://doi.org/10.2307/1354170>
- Sumida, J. T. (1979). British capital ship design and fire control in the Dreadnought era: Sir John Fisher, Arthur Hungerford Pollen, and the battle cruiser. *The Journal of Modern History*, 51(2), 205–230. DOI: <https://doi.org/10.1086/241898>
- Teggin, E. O. (2024). Warships, innovation and material culture in the Imperial Age: A focus on HMS Warrior (1860). *Guerra Colonial*, 14, 39–52. DOI: <https://doi.org/10.33732/RDGC.14.103>
- Thompson, A. S. (1997). The language of imperialism and the meanings of empire: Imperial discourse in British politics, 1895-1914. *Journal of British Studies*, 36(2), 147–177. DOI: <https://doi.org/10.1086/386132>
- Ulbricht, J. (2007). Reflections on visual and material culture: An example from southwest Chicago. *Studies in Art Education*, 49(1), 59–72. DOI: <https://doi.org/10.1080/00393541.2007.11518724>
- Vego, M. (2019). Operation Rhine Exercise, May 18-27, 1941. *Naval War College Review*, 72(1), 89–145.
- Weldon, D. G. (1972). H.M.S. Hood. *Warship International*, 9(2), 114–158.

- White, D. G. (1970). The misapplication of a weapons system: The battle cruiser as a warship type. *Naval War College Review*, 22(5), 42–62.
- Wilson, A. (2015). Constructions of Irishness in a collection of early twentieth-century picture postcards. *The Canadian Journal of Irish Studies*, 39(1), 92–117.
- Winter, J. (2010). Sites of memory. In S. Radstone, & B. Schwarz (Eds.), *Memory: Histories, theories, debates* (pp. 312–324). New York, NY: Fordham University Press.
- Wood, J. A. (2003). The Biscay Blockade: Canadian Tribal class destroyers in Operation Kinetic. *The Northern Mariner / Le Marin du Nord*, 13(3), 33–47. DOI: <https://doi.org/10.25071/2561-5467.560>
- Xiaojuan, J. (2023). Technology and culture in the digital era. *Social Sciences in China*, 44(1), 4–24. DOI: <https://doi.org/10.1080/02529203.2023.2192080>
- Zimm, A. D. (1975). Build the limit: The American “maximum battleship” designs of 1916-14. *Warship International*, 12(1), 31–59.