

100th Anniversary of Naval
Aviation: The Anglo-American
Dimension

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100 Years of an Anglo-American Story

- The story of naval aviation is an Anglo-American story.
- Looking at the US or British story standing alone misses key dynamics.
- Both learn from each other and see themselves reflected in the other. Over-arching narrative of transatlantic dialectic.
- Not surprising. Many important ideas are Anglo-American, dating back to 17 c. religion/politics, followed by Whiggery, abolition, trade unionism, statism, etc. etc..
- Seapower, though “created” by the Royal Navy, is systematized and explained by USN Captain A.T. Mahan.
- US first fly aircraft from ships, but RN first integrates it with seapower. Pre-1917 US naval airpower of limited military utility despite *some* good designs (Curtiss flying boats, JN-9 trainer).
- In 1917-18, USN realizes how far it needs to go. Makes lasting impact (e.g., attack at source). RN ideas and capabilities about air grafted to the USN Mahanian roots.
- By 1919, USN catching up with RN. 1919 on, parallel development.

How Did It Work?

- In the past 100 years, US and British naval aviation has demonstrated a willingness (and need) to learn from each other.
- Relationship not matched by others than use CVs, even though they may be competent.
- Anglo-American naval aviation a unitary story in way no other user of naval aviation shares.
- Many times, ends up with similar solutions (taken from other), missions, airplanes, weapons, but different roles, forces and positions in their services and national strategies.
- Neither can rely on other being there (except for wartime planning).
- What explains the similarities and differences in this in-many-ways dialectical Anglo-American development process?
- Interwar years – economic constraints, retrenchment, need to integrate new technologies, fading of wartime integration – applicable to future. Existed even when no formal wartime or NATO links regularized the relationship.

Anglo-American Interactions

PERIOD	KEY ELEMENTS OF ANGLO-AMERICAN INTERACTION IN NAVAL AVIATION (originator shown in parenthesis)
1911-17	First flight (US), combat operations (UK), airplane ship (UK), carrier (UK), arrestor gear (UK), blimps (UK), W/T(UK), torpedo (UK). Limited transparency
1917-19	US learns modern war at sea is also an air war. Effective naval aviation uses UK a/c (except for trainers, big flying boats), works with UK on strategy. High transparency.
1919-39	Period of parallel development. Shared challenges (technology changes, arms control, no money, eastern threat). Some transparency (attaches, open press, tech eval, industry).
1939-42	Armored decks (UK), deck parks (US), night operations (UK), radar/ship, radar/air (UK) controlled intercept (UK). Increasing transparency.
1942-45	Integrated strategy, operations. Lend-lease CVEs (US), airplanes (US), fleet train (US),. Air ASW (UK), homing torp (US), ECM (UK), tactics (US/UK), High transparency.
1946-67	Early Cold War. Angled Decks (UK). Landing System (UK), Jets, Helicopters (US), nukes (US), Cold War Strategy (US), Shift to conventional option (US). High transparency
1967-91	Late Cold War. US SCS (UK), No more UK CVs post-79. Falklands, Harrier (UK). High transparency. Serious spending on interoperability.
1991-2011	Post Cold War. Use in multinational operations. Joint service air operations. FYU, Iraq, Libya. Good transparency, but less than before.
FUTURE	Return of UK CVs? No more RAF maritime air? Continued US CV commitment. JSF, UCAVs?, Mutual economic decline? New threat? Transparency?

CVs (and Aircraft) Develop in Similar Directions/Numbers



Why Does RN Not Retain Its Lead in Naval Aviation Interwar?

- The usual suspects (Unitary RAF, Jutland, conservatism, no money til 36, then no time).
- Impact of rise of RAF. Maritime air not Air Ministry priority.
- Admiralty has no equivalent of BuAer (Naval Air Division not run by aviators).
- No money – limits innovation on both sides.
- RN has unitary top-down “answer”, build capability to meet, other priorities (battle line, trade route defense).
- Simplistic to blame battleship primacy/Jutland fixation (though this is certainly part of the story).
- “The air side is an integral part of our naval operations’ – Chatfield, 1933.
- Reaction to independence of RNAS, extensive use of non-British (esp. Canadian) aircrew.
- Has both high-level impact (no RN ‘carrier admirals’) and low level (RN has mainly officer pilots, unlike USN or RAF).
- But overall, RN still does well. Knows to invest in CVs when time comes for rearmament. Knows to plan for CVEs. Uses a few “hand-crafted” naval air assets to show what can be done (and USN does with the “mass-produced” naval air of 43-45).

USN Advantages and RN Limitations

- US aircraft industry larger, originates new technologies. Reservists as link.
- RN moved slowly on other innovations with aircraft controlled by Air Ministry (did not want to pay for more airplanes, squadrons).
- Despite 1918 lead, others (USN, IJN) able to build on it.
- RN becomes vulnerable to late rearmament because of extreme lead-time, resource consumption, associated with CV construction.
- RN slow to adopt/experiment on some foreign-origin lessons (deck park). Some foreign lessons considered non-applicable (USN reliance on single-seat fighters, makes use of two-seat fighters. Others adopted to limited extent (dive bombing).
- RN post-1931 looks at uncertain nature of future war. Mahan vision. USN focus on Pacific war (which makes RN lessons vital in Atlantic 41).

USN Answers Go Beyond Carriers and Airplanes

- USN air has high level internal advocacy (e.g., Moffett, Reeves), better able to operate than RN counterparts (e.g., Suetter). Makes alliances with Congress, press, industry.
- USN owns shore-based maritime air (dirigibles and recon).
- USN able to get allies by giving wings to senior men (e.g., Halsey), RN does not. Outside allies important for USN air (Carl Vinson).
- USN willing to tolerate divergence, outside sources interference (Congress – pilots to captain CVs & NAS, Morrow Bd. 25, Hoover-reappoints Moffett). RN lacks key outside support/equivalent.
- RN willing to reward mid-level officers that challenged conventional wisdom with supporters outside navy in 17-18 (e.g., Capt. Kenneth DeWar & Cdr Reginald Henderson). Both by-passed the chain of command and brought convoy/ASW crisis to attention of political leadership so by-passed naval leaders. Yet both retired as admirals. So it could be done, but was not done for RN air interwar.
- USN/USMC – learns dive bombing, transport. USCG-rum runner interception. US has three sea services flying.

How Interwar Divergence Leads Up to Wartime Naval Aviation

- USN better at learning (fleet problems, wargames).
- USN Fleet Problems, RN has fleet-level exercises, plus major joint exercises – Moray Firth 6/28, Malta 35, Singapore 37).
- RN understands: makes CVs a priority when re-armament starts in 36.
- RN not bad at learning (exercises, regular review of foreign experience) BUT dual-control with Air Ministry limits their ability to learn on air-related issues. Still able to integrate air effectively into operations (Matapan, *Bismarck*).
- US proves better able to build on interwar experience through wartime expansion. British less able to do so despite having created “hand-crafted” capabilities that depend on a limited number of trained individuals – difficult to replicate (not limited to naval air, dive bombers, wolf packs, panzer divisions). Reflects resource constraints post-39.
- 14-18 experience and postwar implementation (absorbing resources) RN better as war-fighter (but less able to evolve, resource-constrained).
- Symbols important (USN pilots’ uniform (green), RN pilots’ wings (sleeve not chest, not worn when not on flying status), RNR wavy stripes).

Learning From Each Other in Interwar Period

- High point of attache system. US tends to value attaches, appoint valued officers, and acts on results.
- More open in many ways – answers are in the newspapers and the aviation press.
- Both have comparable numbers of CVs. See operation.
- Technical evaluations (buy each others' airplanes).
- Personal connections (lots of WWI comrades, USN aviators flew with RNAS/RFC, also industry, media).
- Both make an effort to see what the other is doing, even in the absence of formal institutional links.
- Issue: who learns better from the other? Easier to adapt technology than issues reflecting strategy or doctrine.

Diverging and Learning

- Many US advantages came from limitations – outside advocates & institutions. Hard to replicate this advantage today when the cost (bureaucratic and programmatic/procurement) now so much higher.
- Many UK limitations came from doing it right – a unified coherent institution and concept of seapower.
- Even in WW2, differing requirements reflect divergence (why RN modified CVEs, F4Us etc; why RN TBMs cannot use anti-ship torps).
- Even RAF ends up investing in land-based air ASW (when USN reluctant).
- Only with Cold War does interoperability become a priority, starting with deck landings. Current importance of NATO & Quadripartite TTPs and equipment standards.
- Operations & cost put premium on commonality & interoperability.
- How much can you borrow from foreign models and how must you learn for yourself? Rise of IJN CVs in 1920s? Likely to be key issue with rise of PLAN CVs.
- How are we going to do this in the future?
- How does RN/USN prevent erosion of unique capabilities in era of financial constraint and potential emerging challenges?