



Royal United Services Institute
for Defence and Security Studies

Conference Report

RUSI Sea Power Conference 2022

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Published in 2022 by the Royal United Services Institute for Defence and Security Studies.



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RUSI Sea Power Conference 2022

ON 5 APRIL 2022, RUSI held its annual Sea Power Conference on the subject of high-intensity warfighting at sea. The conference followed on from a 2021 event which focused on persistent competition. The choice of topic reflected both a natural progression along the spectrum of conflict and the fact that states will increasingly have to contend with the possibility of a highly resourced intensive form of warfighting – one for which many are not prepared. This conference examined the implications of this future for the maritime domain.

The Strategic Context

The first panel of the day analysed the ends to which maritime power can be applied in wartime and the role that power can play in a country's overarching strategic approach. The panel heard two distinct visions of the way maritime power can be employed in wartime.

Professor Andrew Lambert, in an exposition of British strategy in the Crimean War, set events on the peninsula within the context of a wider campaign designed to destroy the Tsarist regime's control of key chokepoints by reducing the forts that held them, undo Russia's development into a naval challenger and suffocate its economy. Events in Crimea themselves were, per this vision, intended to be a raid on a grand scale rather than the fulcrum of the conflict, which was ultimately geared to reinforcing Britain's command of the commons.

Professor James Holmes of the US Naval War College described the strategic riposte to this approach – one that has an intellectual history ranging from Julian Corbett to Mao Zedong. Although disconnected by both time and domain, as Mao was primarily a land commander, both theorists grappled with the challenge of operating under conditions of maritime inferiority and proposed a similar solution – active defence. An active defence framework is geared towards wearing down an opponent's command of the sea through localised counter offensives, before a final decisive engagement. Central to this is the use of fortifications to prevent naval power being brought to bear decisively, in the way that Lambert describes, while 'footloose' flotillas could be used to target isolated groupings, sources of resupply and other vulnerabilities. This broadly mirrored how Mao's forces, in the land domain, exploited their interior lines to defeat a militarily more powerful Kuomintang. The dynamic between active defence and maritime strategy persists to this day, albeit with new tools. Fortifications are no longer geographically concentrated and instead are comprised of integrated networks of ground-based anti-ship missiles. Similarly, there is a range of capabilities from SSKs and SSGNs to surface vessels equipped with anti-ship missiles that can both mount localised attacks on large maritime formations. Rivals such as China are also developing their own blue water navy that can, at an opportune moment, concentrate for a decisive engagement on favourable terms.

The discussion indicated the first priority for naval planners in traditional maritime powers – finding a way to concentrate power against the ground-based fortifications of modern challengers as effectively as the British were able to do in Crimea. This could require outranging these fortifications using long-range precision fires, and the ability to avoid being forced to disperse in response to the threat posed by modern flotillas. The second priority that emerged from the discussion is the need to reduce the moorings on which an opponent's maritime power depends, including docks, shipyards and fuel storage. Today, these capabilities are defended by dense air and sea denial assets and overcoming these defences will be critical to any maritime strategy.

The capability suites that adversaries are developing to challenge Western maritime power are diverse but appear broadly geared towards preventing this eventuality. In the second panel of the day, the audience heard from H I Sutton, an independent naval specialist, that the Russian submarine fleet is increasingly being geared towards supporting engagements at long ranges using missiles such as the Kalibr and, in the future, the hypersonic 3M22 Zircon. This capability enables the Russian submarine force to hold Western maritime power at arm's length and, moreover, enables strikes on land targets in Europe from relatively safe bastions. The Russian navy is also increasingly emphasising its ability to target critical strategic lines of communication using special purpose subsurface assets such as the Belgorod, which acts as a mothership for deep diving capabilities that can target undersea cables. This combination of subsurface and seabed warfare, embedded within a precision strike regime involving ground- and air-launched missiles, enables an active defence approach and necessitates a forward postured Western maritime response.

By contrast, China may be evolving towards a form of symmetry with the West. Though China too has relied on tools such as submarines and ground-based missiles, coupled with flotillas of green water assets, in the past, Commander (ret) Daniel Caldwell of the US Naval War College noted that the PLAN is increasingly evolving into a blue water fleet. This evolution encompasses both the fielding of larger vessels like the Type 003 aircraft carrier and the Type 055 cruiser, but also, critically, the at-sea replenishment capabilities needed to enable operations at reach. For example, China has fielded 12 oilers, and increasingly seeks access to ports for fleet sustainment beyond the first island chain. Professor Anthony Cordesman noted that China's maritime power, unlike that of Russia, extends beyond naval power to embrace a full spectrum of maritime tools. For example, 16 of the world's 20 busiest ports are either owned or operated by Chinese companies. In a conflict, where access to facilities is critical to maritime mobility, this could prove highly salient. In effect, then, the West appears to face two challenges – an asymmetrical challenge based on the principles of active defence as outlined by Holmes; and a hybrid challenge posed by China which adopts a posture of active defence in the first island chain but is also looking to pose a more symmetrical challenge beyond it and which has the resources to become a major sea power.

The answer to these challenges, as outlined by the conference's keynote speaker Admiral Robert Bauer, Chairman of the NATO Military Committee, must involve readiness and a capacity for rapid posturing. Noting the substantial increase in the forces at SACEUR's disposal, Bauer highlighted that at the time of his lecture NATO had activated all of its graduated response

plans and that there were 150 Allied ships at sea, and that the ability to posture these vessels rapidly in response to a crisis was critical. Bauer highlighted the emphasis on interoperability in exercises such as *Dynamic Manta* and the Alliance's growing focus on leveraging technologies from unmanned capabilities to smart submarine barriers through its Digital Ocean Concept.

Notably, as argued by both Commander Justin Codd SUBFLOT and Admiral Gary Roughead, former Chief of Naval Operations US Navy, this evolution is one that will also constrain Western submariners as a range of capabilities from UUVs and gliders to new non-acoustic methods of detection render the subsurface space ever more transparent. This is an area where, as noted by Roughead, competitors like the PLAN are already investing significant effort. It would appear, once more, that while technical trends favour containment of a threat over a forward posture this runs against the imperative to take the initiative at sea – resolving this tension will be a key challenge.

Delivering Credible Capability for High-Intensity Warfighting

The need to forward posture vessels entails, particularly in wartime, the capacity to replace losses. In a panel examining the challenge of mass, Colonel Dr T X Hammes of the INSS argued that platform-centric force designs would be overwhelmed in an operating environment in which a range of cheap, mass produced capabilities from loitering munitions and missiles to weaponised UUVs would be fielded in ever larger numbers due to the lowering of production costs by methods such as additive manufacturing. Hammes argued that an emphasis on non-bespoke capabilities – for example, converted cargo vessels equipped with containerised cruise missiles like the Russian Klub-K – would be needed to deliver a force capable of sustaining losses because modern vessels are too complex to replace at scale. Unmanned surface vessels could also be used to pad out a force's mass, as both the US Navy and Royal Navy are aiming to do. This was discussed in the final session of the day by Admiral James Parkin, Director Develop Royal Navy, who noted the importance of flexibility in future procurement and emphasised that the capacity to rapidly adopt new capabilities is a central characteristic of future Royal Navy platforms. The vision amounts to a 'protean' force capable of adapting its function quickly and which can embrace a distributed force with greater range, lethality and survivability. The point was reiterated by Brigadier Mark Totten, Senior Responsible Owner Future Commando Force, who noted that the Royal Marines will place a heavy emphasis on tactical fires such as loitering munitions, as well as the use of unmanned assets as they seek to evolve into a force that could survive and compete in forward positions.

However, there are impediments that must be overcome. Joann Robertson, Head of Logistics Support at the Ministry of Defence, and Professor John Louth, Director at Subsea Systems, highlighted some of the organisational and industrial challenges to delivering mass. Robertson noted that the current architecture of defence logistics, which is one of 16 functions within defence, runs against the grain of efforts to deliver mass and highlighted the transactional approach to partnerships with industry and an aversion to inefficient but militarily necessary practices like stockpiling as key challenges. Louth extended this, suggesting that the UK and the wider West face a challenge in both retaining skills within defence and in a defence procurement

process that is heavily oriented towards mature capabilities and will thus struggle to engage smaller and more innovative firms. In effect, Western navies and defence bureaucracies may be victims of a process which is geared to avoid wasting taxpayers' money – a laudable objective but one that may run against the grain of a need to generate mass. Many of the capabilities that could deliver the munition-centric force Hammes discussed would not pass muster in a defence procurement cycle today, but might be vital to generating a force capable of sustaining losses and continuing to fight.

Beyond the challenge of mass, integration was noted as a critical competency by both Bauer and several other speakers. In a discussion of the current operating environment, both Lieutenant General Sir David Capewell, former Commander Joint Operations UK, and Professor Sam Tangredi of the US Naval War College suggested that concepts of operations geared towards transmitting large volumes of data would not survive contact with adversaries whose force structures are geared towards unpicking these concepts. Soft-kill methods in areas such as electronic warfare, as well as kinetic disruption, need not completely undo a side's capacity to communicate – Russia has failed to achieve this end in Ukraine – but it will circumscribe its ability to move large volumes of data. In the same panel, Dr Tom Withington highlighted some of the ways in which countries might seek to retain the fidelity of their communications, including millimetric wave communications. Dr Elsa Kania of CNAS also noted China has placed a substantial emphasis on attaining information superiority through expedients such as the unification of functions, including space surveillance, cyberwarfare and electronic warfare, within its strategic support force. We should then not be too quick to assume that relative information dominance is impossible. However, the panel did suggest that this dominance would be achieved within specific windows of opportunity. Tangredi's suggestion that analogue backups to digitised forces should exist reflected the conference's broader emphasis on redundancy. As noted in subsequent panels by Roughead, Totten and Codd, evolving data architectures may make reach-back communications increasingly viable – even for assets such as submarines that have historically operated independently. However, this capability will be time bound and context specific.

Beating Active Defence

A core conclusion derived from the conference was the need to generate forces capable of both leveraging novel technology but also less bespoke capabilities that can sustain the losses that will necessarily accompany high-intensity combat at sea. If navies are to deliver value, they must approximate the ideal laid out by Lambert and overcome the adversary active defence approach outlined by Holmes, as well as contesting symmetrical fights with numerically comparable blue water rivals. This requires presence and readiness, but critically it also requires the ability to sustain losses. There is likely no other way to overcome the challenge posed by peer competitors.

In certain cases, as speakers discussed, flexibility and efforts to outrange opponents and leverage autonomous capabilities to augment mass will provide part of the solution. That said, unmanned capabilities have their own constraints, for example, in areas such as endurance and initial unit costs. As such, the ability to generate larger numbers of more expendable unmanned

assets based on commercial capabilities, along with less exquisite manned capabilities may, as outlined by Hammes, also be critical.

The choices needed to enable this extend beyond Western navies and to their defence enterprises which will need to make key decisions regarding how to enable the agile adoption of capabilities at scale to sustain the pace, tempo and cost of restoring command of the seas in a high-intensity fight.

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