
MARITIME STRATEGY AND TERRESTRIAL INFLUENCE

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“The supreme test of the naval strategist is the depth of comprehension of the intimate relation between sea power and land power, and of the truth that basically all effort should be directed at an effect ashore.”

Dudey W Knox, The Naval Genius of George Washington (1932)¹

Introduction

On the evening of 04 December 1971, IN Ships *Veer*, *Nirghat* and *Nipat* of the 25 Missile Squadron, led by Commander Babru Yadav, attacked Pakistani ships, and shore installations off Karachi harbour; sinking Pakistan Naval Ships *Khyber*, *Muhafiz*, a merchant vessel *Venus Challenger* and setting ablaze the Kiamari oil refineries.² Every year, the Indian Navy celebrates this day as Navy Day, as an ode to the navy’s ability to influence the battle ashore. Historically, wars have been fought for objectives on land. Correspondingly, the ultimate focus of the war effort has been terrestrial with the other arms rallying in support. The navy’s inventory, its tactics and its ability to harness combat power with the effective use of seas are predominantly to gain “strategic leverage in a conflict.”³ Accordingly, the naval fight for command of the sea must facilitate effects on land. Notwithstanding, the challenges posed by improved Intelligence, Surveillance and Reconnaissance (ISR), increased battlespace transparency, extended seaward defences, accurate shore-based long-range vectors and potent air cover; the inherent advantage of manoeuvre conferred by the use of the seas can significantly shape the land battle. During Operation Desert Storm, the US Army’s operational manoeuvre “left hook,” swept across Kuwait into Iraq covering about 80 miles in four days. However, naval expeditionary forces can be expected to manoeuvre thrice that distance in a day. Navies can outpace manoeuvre operations of terrestrial forces by a substantial margin.⁴ The naval ability to shape the battlespace through maritime manoeuvre is complemented by the advent of long-range standoff weapons enabling maritime forces to attack

shore targets while staying outside the arc of a counterblow. The operational constants of maritime warfare such as manoeuvre and flexibility are timeless, whereas warfare trends are shaped by the technology of the age. They in turn coalesce to form the most suitable application of maritime power.⁵ The mutually supportive nature of sea power and land power in a successful maritime strategy has been echoed by theorists such as Julian Corbett and Charles Calwell.⁶ The effect of maritime power projection can be tactical, operational or even strategic. The success of the Normandy landings strategically altered the Allied position during the Second World War, while the amphibious feint during the Gulf War had tactical effects.

Navies have waged battles, enforced blockades and carried out amphibious attacks primarily to influence the attainment of military objectives on land. This central premise of employing maritime power is as relevant today as it was in the days of sail. However, its applicability due to the more likely limited wars that may be fought in the near or mid-term and the emergent technological trends in naval warfare make it worthy of continual examination. Furthermore, the probable triggers for a multi-dimensional conflict in our neighbourhood are likely to be terrestrial. If the scope and duration of such a conflict were limited, swift naval action would be necessary, with a complementary impact on the overall conflict. Rapid advancements in naval technology may alter the dynamics of employment of maritime power ashore. However, the constants of seapower, coupled with adequate naval capacity, and an appropriate maritime strategy can still enable effective employment of naval power for tactical, operational and strategic effects on land.

What the Masters Say

Mahan undertook a limited examination of the employment of navies for attacks on enemy coasts and transportation of troops for the land battle. On the other hand, he highlighted the importance of commerce protection and interdiction asserting that, the very existence of navies was justified primarily by their ability to defend their own commerce and to attack that of their opponents.⁷ Mahan undertook a limited examination of the question of fleet employability in predominantly continental wars. He further asserted that “applications of maritime force must extend over a period of time before they can have an effect on land wars.”⁸

Perhaps, Corbett was the first strategist to more coherently articulate the

confluence of maritime and continental strategies. He argued that maritime strategy was shaped by “mutual relations” of the army and the naval war. Therefore, the formulation of fleet objectives was contingent on considerations supporting land objectives.⁹ Corbett astutely captured the import of amphibious operations, and presciently articulated its tactics, much of which has since been replicated in the U.S Navy’s *Manual for the Conduct of Amphops*.¹⁰

French Admiral, Raoul Castex wrote eloquently capturing the difficulty of shaping a maritime strategy for continental wars. He outlined his thoughts on a continental war between two adjacent maritime powers and prescribed that bold action and harnessing the power of manoeuvre from the seas could effectively shape the land

Raoul Castex was the first maritime strategist to identify “speed of battle” as a critical factor in naval warfare

battle. He was probably the first maritime strategist to identify “speed of battle” as a critical factor that would separate naval warfare of one era from another.¹¹ Castex was an ardent supporter of amphibious operations and suggested that it was the final goal of navies in continental wars.¹²

One of the lesser-known proponents of maritime power in support of land objectives was the British army officer, Col Charles E. Callwell. He examined the benefits of “maritime command” against an enemy stronger on land and extolled its benefits on military lines of operations in coastal areas.¹³ Russian Admiral Gorshkov examined the employability of the Soviet navy in support of Russian continental defence. He espoused a twin-pronged maritime strategy of utilising fleet assets for coordinated strikes and harnessing positional warfare by acting in concert with minefield positioning, shore batteries and naval aviation.¹⁴

Maritime theorists have consistently stressed the ability of navies to cause tactical, operational or even strategic effects on land by means such as the movement of troops, landing of armies, blockade, maritime strikes and struggle for supremacy of local seas. Capturing this tenet, Colin Gray emphatically pronounced that, “at the highest level, sea power is about influencing events on land in a time of crisis and war.”¹⁵

The Maritime Toolbox for Effects on Land

In his seminal work, *Fleet Tactics and Coastal Command*, Hughes enunciates six cornerstones of fleet operations. “The seat of purpose is on

land” and “a ship’s a fool to fight a fort”, are two of his cornerstones germane to this discussion.¹⁶ While highlighting the centrality of the affairs on land in great fleet battles, he goes onto enumerate the means in the 21st century to direct naval influence on land. Navies can influence the battle on land by undertaking direct attack with ordnance such as guns, bombs, missiles and naval airstrikes; isolating the enemy with a naval blockade; attacks on shipping; via offensive mining; supporting the land offensive with amphibious assault; and, providing logistical support for landed

***Land-based vectors
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forces.¹⁷ Jackie Fisher established the currency of the cornerstone “a ship’s a fool to fight a fort” and attributed it to Nelson. Hughes argues that the forts of today are far more potent than those of the 18th century.

Land-based missiles and aircraft supported by space-based sensors and seamless data networks have a wide arc of influence, limiting the chances of an unmolested approach of the enemy coast. Also, ships are equally capable of attacking at distant stand-off ranges with long-ranged vectors, complemented by the power of manoeuvre from the sea.¹⁸ The geostrategic predisposition of nations leads to prioritising of elements of seapower, which in turn aids or constraints the terrestrial effects of their maritime strategies.

The Indian Maritime Doctrine (IMD) makes a distinction in the ability of naval forces to influence events on land by the manner of its application. Indirect influence pertains to the shaping of the maritime environment while the direct influence pertains to the application of maritime power on land by delivery of ordnance using integral weapon systems or ship-borne aerial platforms, and the transportation of troops to contribute to the land offensive.¹⁹ The doctrine alludes to the use of the seas as a medium for power projection, but does not offer a more detailed examination of the concept of power projection.²⁰ It highlights maritime strike, amphibious operations and expeditionary operations as examples of power projection and brackets power projection as a mission, with force projection its subset.²¹ Interestingly, power projection has been replaced with force projection, as a component of “Strategy for Conflict” and “Strategy for Deterrence” in the Indian Maritime and Security Strategy (IMSS). The IMSS further defines the scope of force projection in terms of “projecting combat force in and from the maritime domain” as a tool for battle-space dominance, with

maritime manoeuvre, maritime strike, Sea Line of Communication (SLOC) interdiction and amphibious operations as its key elements.²² However, academically, power projection is considered the most acceptable terminology and may be qualified by prefixing “maritime.”

Power projection is the ability to channel seaborne military capability to influence matters on land with potential strategic, operational or tactical effects depending on the circumstances. Power projection has also been defined as the exploitation of sea control for strikes ashore or amphibious landings.²³ Interestingly, in an American context, maritime power projection in conflict captures all forms of its application across the spectrum, ranging from nuclear strike to “preventive presence.”²⁴ The US Navy’s guiding document on “Naval Operations Concepts” defines power projection during peacetime in rather broad terms, ranging from responding to crises to deterrence and regional stability.²⁵ However, the discussion in the paper has been restricted to power projection in combat with the use of appropriate maritime instruments.

Sea Control and Terrestrial Influence

The employment of navies in a conflict has revolved around the attainment of “command of the sea”, as a stepping stone to maritime dominance. Its attainment bestows the custodian with the ability to prosecute enemy naval power at will while preserving its combat capability. Mahan, much like Corbett, argued in favour of the transient nature of its accomplishment. However, it was Corbett who delineated it further by using the phrase “working command”. Meanwhile, Castex captured the temporary nature of “command of the sea” by arguing that it is “not absolute, but relative and imperfect”. The limitations on “command of the sea” may be in terms of time and space.²⁶ Over time, the absolute connotation of “command of the sea” has yielded to the phrase “Sea Control,” which suggests a more transient nature. The Indian Maritime Doctrine (IMD) defines sea control as a “condition where one is able to use a defined sea area, for a defined period of time, for one’s purposes, and at the same time deny its use to the adversary.” It further amplifies the concept by advancing that the Indian Navy is “centrally structured” around sea control. However, it is a means and not an end.²⁷

Is sea control mandated to influence affairs on land? The IMD states that sea control is “very often a pre-requisite” for operations such as power

projection, SLOC protection, SLOC interdiction and amphibious operations.²⁸ The doctrine further enlists “maritime manoeuvre,” as an enabler for sea control and amphibious operations, as it can “incapacitate the enemy’s resistance and decision-making cycle through shock and disruption.”²⁹

Sea control can be exercised in varying degrees depending on the proximity to the enemy’s coast or the relative strength of navies in open seas. Sea control in its absolute form may be attainable for greater durations in regions far removed from the enemy’s land-based airstrike, and seaward long-range strike capability. However, closing the enemy’s coast for coastal or even inland action would mean yielding to a more local and contested sea control. The topographical conditions and operational conditions in littoral waters might lead to a form of sea control that may at best be fleetingly achievable. Furthermore, the incessant pursuit of sea control in disputed conditions could lead to dilution of effort for other means of power projection such as maritime trade warfare, maritime strike and amphibious operations. Till describes “sea control in dispute” as a condition, when each side operates with considerable risk.³⁰ Sea control in oceanic spaces outside the enemy’s reach would be easier to achieve, but may not address operational priorities on land. Therefore, acceptance of the risks of operating in contested seas and abandoning the all-pervasive quest for sea control is inexorably linked to wielding influence ashore.

Trade Warfare

Trade warfare has been conducted through the ages to choke the war-waging capability of the adversary. Notably, the thirty-year Peloponnesian war has been described as a maritime trade war by Thucydides.³¹ Maritime trade warfare as a tool of coercion can be waged by enforcing a blockade or carrying out SLOC interdiction.³² Historically, commerce warfare or *guerre de course* has been practised by weaker navies, some even resorting to the use of privateers armed with “letters of marque” to overcome their naval capacity deficit.³³ A pre-industrial example of *guerre de course* exercised by a weaker navy was the French effort, after the defeat at Trafalgar in 1805. The French seized close to 11,000 British ships during the Revolutionary and Napoleonic wars, sending insurance rates skyrocketing.³⁴ However, Britain successfully countered the French strategy of *guerre de course* by executing a system of convoying based on the Convoying Act of 1793-

1803.³⁵ Subsequently, the Declaration of Paris in 1856, ended the role of privateers in *guerre de course*.³⁶ Technological advancements in naval warfare during the 20th century, particularly the advent of the submarine further altered the traditional notion of commerce raiding.

During World War I, Britain enforced a blockade of Germany. Consequently, Germany responded by conducting an unrestricted U-boat attack campaign. The sinking of American vessels, *Lusitania* and *Arabic* in May and August 1915, led to a pause in unrestricted submarine warfare. However, the recommencement of unrestricted trade warfare by Germany in January 1917, eventually drew the United States into the war.³⁷ The British blockade of Germany was successful albeit over a prolonged duration, however, the German counter blockade strategy of unrestricted submarine war, even with the sinking of 12.5 million tons of allied, and neutral shipping was a strategic failure, as it drew the United States into the war.³⁸

German unrestricted submarine warfare was a strategic failure as it drew the US into the war

During World War II, the United States employed submarines, surface ships, aircraft and mines to conduct a successful maritime trade warfare campaign against Japan. The campaign led to the destruction of 8.1 million tons of merchant shipping eventually crippling Japan's industrial base and leading to starvation.³⁹ On the other hand, the British blockade of Germany had mixed results due to Germany maintaining large stockpiles and developing substitutes for materials such as oil and rubber. The German counter blockade strategy was further augmented by resources obtained from conquered territories.⁴⁰

During the Falklands War, the British government, on 12 April 1982, announced that it would enforce a Maritime Exclusion Zone (MEZ) around Falklands Island, and thereafter, on 30 April 82, enforced a Total Exclusion Zone (TEZ). On 02 May 82, British nuclear-powered submarine *Conqueror* sank *General Belgrano* outside the 200 nautical miles TEZ. The sinking met much condemnation, but relegated the Argentine Fleet to harbour.⁴¹ The successful British blockade was enforced in a short time from 12 April to 22 July. The limited time to board ships, inspect cargos, or provide warnings was circumvented by employing a TEZ with the threat of punitive response to any violation. The British efforts were enabled by exceptional intelligence, and the use of Ascension Island as a 'gateway' to regulate the

flow of maritime traffic off Falklands.⁴² The British success was founded on the geographic isolation of the Falklands Islands, further cementing the notion that island nations or insular objectives are more apposite to a blockade.

The strategy of SLOC interdiction is appreciably influenced by the global nature of trade and the use of shipping registered in Flags-of-convenience. More than 50% of the world's trade is transported on ships registered in flag-of-convenience countries. Adding to this predicament is the challenge that cargo is often bought and sold at sea. Therefore, a vessel interdicted or sunk might have part-cargo destined for another country further complicating the identification matrix.⁴³ Furthermore, most nations maintain a stockpile of critical resources, extending the timeline in which the effects of maritime trade warfare may be experienced. Rationing of resources, utilisation of substitutions, and exploration of alternate sources of resources are possible options to overcome the ill effects of trade warfare.⁴⁴ Additionally, implementing a maritime trade warfare strategy of a blockade or an interdiction in the vicinity of chokepoints is not legally tenable, and execution of the strategy at distances further away adds to the already significant challenges of identification of merchant vessels for examination or targeting.⁴⁵

Historically, blockades and trade interdiction have not served as quick-fix solutions in conflict, but have paid dividends over an extended period. However, these strategies do not function in isolation and have to be supported by complementary efforts in the theatre. Island nations are more susceptible to blockades while countries with land-based trade routes tend to circumvent the cessation or constriction of maritime trade by developing or strengthening alternate terrestrial lines of communication. In the 21st Century, blockades have transitioned from being enforced close to the adversary's coast to distant enforcement. The failure of blockades has been linked to the nature of the theatre, skewed political objectives, limited diplomatic heft of the blockader and the ability of the enemy to develop counter-blockade strategies. Adding to these factors is the complexity of the international maritime trading system.

The enforcement of a blockade or a trade interdiction strategy is contingent upon using all forms of enforcements. These include mines, aerial, surface and sub-surface means, and effective ISR systems. It benefits from the formulation of distant blockade methods, countering the

adversary's counter-blockade strategies, identification of adversary's critical sea-dependency for resources and favourable shaping of the diplomatic environment. There could be newer forms of maritime trade warfare such as cyber-attacks and port infrastructure degradation. Older measures like blockades are now termed zones of exclusion to favourably shape the maritime geography. In all this, adequacy of resource allocation and developing enforcement capacity and execution capability for trade warfare remain critical always. However, it can be surmised that the enemy would likewise target or aim to constrict one's maritime trade. Therefore, maritime strategies have to cater for both offensive and defensive trade warfare.

Amphibious Operations

The earliest historical evidence of amphibious operations dates back to 1200 BC, when the Egyptian empire was attacked by seaborne raiders from the Mediterranean Islands and southern Europe.⁴⁶ The conduct of amphibious operations peaked during WW II, which witnessed 600 predominantly successful landings at a frequency of nearly one every three days.⁴⁷ Post WW II, amphibious operations have been notably conducted in various conflicts, and crises such as the Korean War (1950), the Suez Crisis (1956), Lebanon (1958), Vietnam (1964-1975), the Falklands Islands (1982), Grenada (1983), the Gulf War (1990-91) and the invasion of Iraq (2003).⁴⁸ The IMD features amphibious operations as a subset of maritime power projection. It further amplifies that, "it may be conducted in order to prosecute further combat operations ashore, capture or recapture territories, obtain a site for an advance naval or airbase, deny the use of an area or facilities like a port to the enemy, or to show presence." The IMD outlines four types of amphibious operations; assault, raid, demonstration, and withdrawal.⁴⁹

The arguments put forward for the non-viability of amphibious operations have ebbed and flowed over time. Historically however, challenges to amphibious operations have been obviated by reshaping existing techniques and inducting appropriate equipment, as was witnessed through the World Wars.⁵⁰ Nevertheless, over time the conditions for amphibious operations have become increasingly contested. The preconditions of the successful Pacific War landings, such as isolation of the amphibious objective area, control of the sea, and the airspaces will indeed

be challenging to replicate. The traditional slow methodical build-up of amphibious operations may not be feasible anymore.⁵¹ Besides these factors, the other apprehensions on amphibious operations are, the presence of formidable enemy coastal surveillance and strike capability foreclosing the critical element of surprise; transformation in the speed of battle versus the slow and procedural nature of amphibious operations; the increased likelihood of loss of life and materiel; insufficiency in the weight of attack as a component of the land battle; and, lastly, formidable expenses in materiel and tactical risks for little tactical or strategic advantage.⁵²

The image of a frontal assault with large scale devastation is an oft-repeated, but a misleading impression of an amphibious operation. Contrary to this prevalent perception, most amphibious operations have been carried out in the peripheral areas of the battle. For instance, the D-Day landing during WW II was far removed from the area of concentration of the German forces.⁵³ These peripheral areas have to be linked with appropriate operational and strategic goals. The selection of beaches has traditionally been constrained by their suitability in terms of gradient, wind, current and surf height. However, the advent of air-cushion landing craft has largely addressed these constraints and brought 70% of the world's beaches into the reckoning.⁵⁴ Besides, other prerequisites, information superiority founded on in-depth intelligence collection and competent analysis is critical to the conduct of successful amphibious operations.⁵⁵

The traditional linear approach to amphibious operations has reached its "sell-by" date and needs to be replaced with the uninterrupted union of the movement of forces to the area, assault and onward consolidation. Air mobility and modern technology for beaching coupled with the maritime constant of manoeuvre from the sea, afford the ability to land at a multitude of landing points, instead of presenting a "static and predictable" frontage.⁵⁶ The US concepts of Operational Manoeuvre from the Sea (OMFTS) and Ship to Objective Manoeuvre (STOM) harness the operational strength of manoeuvre from the sea while precluding the vulnerability of a defended logistics node on the beachhead.⁵⁷ Furthermore, the treatment of the littoral as one dimension with movement to the objective, uninterrupted by "topography or hydrography," can counter both conventional and unconventional threats with an increased operational tempo.⁵⁸

The position of amphibious operations in the hierarchy of naval strategies should be based on its inherent potencies of manoeuvre and

surprise and not on the perceived difficulty of its execution. The elusive element of surprise, crucial to amphibious operations, can be shaped by achieving supremacy in the aerial, space and cyber domains, impairing spatial surveillance, and defanging coastal defences with long-range strikes. Harnessing advancements in the technology of landing vessels along with the increased flexibility of insertion by aerial means would facilitate in the speed of execution of amphibious operations to surpass the speed of amassment of defences. This shall also diminish conventional vulnerabilities of massing on the beachhead. Furthermore, the supposedly severe human and materiel costs of amphibious operations also need to be weighed in terms of the influence of amphibious operations on the terrestrial battle. The traditional outlook of viewing amphibious operations as a discrete and separate activity needs to be replaced with an integrated approach that amalgamates it, along with the rest of the implements, in the maritime toolbox.

Maritime Strike

In the days of sail, fleets did not fight forts, as forts could do irreparable damage to the ships while remaining unscathed even after being bludgeoned by copious amounts of ordnance. In the 21st Century, these impregnable forts or terrestrial objectives are now protected by land-based aircraft and missiles, coastal batteries, long-range Anti-Ship Cruise Missiles (ASCM), smaller but lethal vessels such as corvettes and torpedo boats, diesel-electric submarines, mines, UAVs and a robust ISR system. However, naval platforms have also acquired the capability to hit the shore from stand-off ranges with long-range ordnance. Nonetheless, using naval power to wield terrestrial influence could translate to leaving the safe distant seas to operate in littoral waters, well within the arc of action of an adversary.⁵⁹

The first combat use of Tomahawk Land-Attack Missiles (TLAM) during Operation Desert Storm in 1991, involved 288 TLAMs fired from the sea on targets in Iraq, with an 85% success rate.⁶⁰ After the 1998 US embassy blasts in Tanzania and Kenya were linked to Al Qaeda, the USA targeted their training camps with 70 TLAMs.⁶¹ During Operation *Enduring Freedom* in 2001, 68 TLAMs were fired by US naval ships and submarines targeting shore objectives in Afghanistan.⁶² The use of weapons such as long-range TLAMs to wield terrestrial influence is contingent on either

developing such weapons indigenously or collaborating covertly to circumvent the Missile Technology Control Regime. However, their effectiveness would depend on the weight of attack in relation to the objective, development of appropriate targeting and BDA systems, and possession of varied means of delivery. The capacity of ships and submarines to deliver operational effects with land-attack missiles creates the dilemma of designing assets that can house these weapons in sufficient numbers while also carrying a mix of weapons to address the wide range of traditional counter-force naval roles. Navies would have to balance the “great divide” of the surface fleet in terms of those possessing sufficient land-attack capability versus specialised escorts.⁶³

The ability to hit targets deep within the adversary’s territory while manoeuvring from the sea for a favourable line of attack that bypasses the main war effort can be used to shape the battlespace in favour of land forces. Command and control facilities, logistics nodes, coastal support facilities, port infrastructure, cyber support facilities and troop build-up areas can be targeted through “on-call” strikes from naval assets.⁶⁴ Naval forces can also be used to insert special forces to target specific operational objectives. Meanwhile, sea-based nuclear deterrence remains a vital leg of the nuclear triad.

Naval airpower can have significant operational effects ashore, if deployed with an adequate weight of attack. Historically, naval airpower has been employed for targeting enemy maritime assets, protecting SLOCs and projecting power ashore.⁶⁵ During Operation *Desert Storm*, 32% of the 90,000 airstrike missions were flown from US carriers.⁶⁶ This figure went up to 70% during Operation *Enduring Freedom*.⁶⁷ These operations were largely joint, with a substantial weight of attack. However, smaller carrier air wings will continue to face the “small-deck dilemma” wherein sparable air assets for missions on land will be constrained by the competing requirement to provide defensive air cover to the aircraft carrier.⁶⁸

Operating aircraft carriers close to a hostile coast would also be contingent on obviating the increased threat from shore-based aircraft, land-based anti-ship missiles and submarines. Navies operating aircraft carriers may conclude that the risks of such a deployment far outweigh the operational benefits of the application of naval airpower ashore.

Nevertheless, the solution lies in scaling up the capacity of the naval arm, and the synergetic use of land-based air support. Despite the disadvantages highlighted for navies facing the “small-deck dilemma,” there may be operational circumstances during a conflict that enables the utilisation of naval airpower ashore, especially in areas predisposed to a manoeuvre attack from the seas.

Navies would have to be prepared to operate in littoral waters to pursue objectives on land. Littoral warfare poses the challenge of countering attacks from small and fast combatants operating within islands, narrow seas and concealed positions. Poor detection ranges due to proximity to land and hydrological conditions will lead to sharply reduced reaction time to attacks in the littorals. Furthermore, battlespace transparency in littoral waters is likely to weigh in the favour of the coastal state. Large capital ships operating in the littorals would be severely constrained by the hydrological and topographical conditions, and the risks of operating such ships in a zone of high-intensity warfare may outweigh their benefits. Optimal surface combatants capable of operating in the littorals should preferably be small, fast, manoeuvrable, with shallow draught and have a moderate range with a low signature.⁶⁹ Success in littoral waters could be achieved by developing appropriate capacity and capability founded on sound doctrine, and a joint approach to war-fighting.

Conclusion

The seat of purpose on land can be influenced by applying direct and indirect levers of seapower. However, these levers should be established on sound doctrine and guaranteed by adequate capacity. Irrespective of the limitations in the ends of trade warfare, navies need to develop tools to identify the adversary’s seaborne trade vulnerabilities and develop both capacity and capability to limit freedom of the seas for trade by coercive and regulatory means. However, in tandem, the legal and diplomatic implications of trade warfare need to be recognised by the political leadership and naval planners. Lessons learnt from maritime trade warfare campaigns of the past must be applied to develop doctrine, plan and exercise scenarios of maritime trade warfare, both from a defensive and an offensive standpoint.

It’s time to rethink the age-old axiom, “ships don’t fight forts”; ships can fight “forts,” by first blinding them and then charging at them from unseen

pathways. Amphibious operations continue to be relevant in favourably shaping the battlespace by opening a second front, targeting the enemy's critical facilities and infrastructure, command and control nodes and diverting the enemy's effort. However, the choice of the type of amphibious operation would be conditional on the strategic and operational objectives. While sea control will continue to be contested, especially closer to the enemy's coast; unplugging the adversary's command and control structures and targeting its seaward defences can reduce the degree of contestation. The success of amphibious operations in the face of the enemy's augmented ISR capability and improved seaward defences will hinge on using manoeuvre from the sea, rethinking the traditional approach to amphibious operations of using a wide beachfront along with large-scale massing of troops, and embracing technological advancements as well as adopting appropriate contemporary operational concepts.

While sea control is the *raison d'être* of most navies, a greater examination of what thereafter, warrants deeper scrutiny. Are there roles for navies that yield terrestrial influence, but require sea control of a fleeting nature? Under what circumstances would navies surrender safety of waters beyond the arc of the enemy's influence to enter contested seas? Are traditional notions of large formations and utilisation of large capital ships suitable to such forays? During such forays, the perceived boundary, when risks to the fleet outweigh its benefits, is when "blue water" transitions to "green water."⁷⁰ Continental influence is contingent on navies operating in such green waters by challenging traditional counter-force roles, accepting attendant losses and equipping and training appropriately to fight and win. Furthermore, wading into the littorals would be conditional on possessing assets suited to operating in those conditions, and the adoption of a joint approach to littoral warfare. Long-range maritime strike capability affords navies the ability to hit deep within enemy territory. The development of such capability needs to be accorded the highest priority. Missile-centric forces, at the same time, can be dispersed to complicate the ISR efforts of the enemy while harnessing the inherent strength of manoeuvre from the sea.

Historically, technological trends have moulded naval warfare, while the constants of seapower, such as manoeuvre and mobility have remained steadfast. The challenge of augmenting the terrestrial influence of maritime strategy is achievable by marrying the two and retooling traditional

approaches to the application of maritime power on land.



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