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A Note From The Editor

For whatever reason, the Gods of Strategy and academia seem to have blessed us with an excellent issue which I can only, and predictably, commend to our readers.

Of course, all *Military Strategy Magazine* (and past *Infinity Journal*) editions have been excellent. Still, this edition stands out in that the submissions cover a broader and more eclectic approach to the subject matter without drifting into the abstract philosophy of the strategically confused, which is today so common.

It would be unfair to pick out which articles I think are worthy of note. As is well known, I have strong and oft-lamented views on what does and does not conform to a useful discussion on Strategy, so I will avoid describing articles as to where I see their merits or even, in some cases, shortcomings. Still, I am optimistic because the articles herein cover a broad and deep approach to our subject matter.

This should provide some hope for future writers. Strategy is about "the use of engagements to attain the object of the war." – or "for the purposes of the war" depending on which Clausewitz translation you beat people with. The use of engagements gives any sound writer a vast remit to play with, providing they do not drift into the conduct of the engagement, which is taught via tactics. Anything that speaks to why, when, and where the engagements occur speaks to strategy.

This does include force development, which dead Carl so notably dismissed to the crafting of the sword albeit in the context of raising armies, but you raise armies to conduct engagements. As the Nagorno-Karabakh War showed, you can get that very wrong if not collecting a massive butcher's bill matters. Do you want to build Yamato?

This does not mean we want articles arguing that the Army needs to bring back the M-113 or select a 7.62mm battle rifle. Nor does it necessarily mean that self-serving articles about doubling the size of the US Marine Corps are welcome or that we all need to be convinced about Cyber and information ops. If you can say something interesting and insightful about amphibious forces or cyber, then great, but it must be insightful and relevant to strategy.

If nothing else, this edition clearly shows that there is substantially more latitude in terms of strategic subject matter than we as editors and publishers might have allowed in a bid to avoid "Strategy" becoming a bucket for any military or policy opinion someone wanted to give vent to.

Enjoy this edition. Do not accept all that is said uncritically, and if you feel compelled to rebut or dispute things written, then put fingers to keyboards and let others know.

William F. Owen
Editor, *Military Strategy Magazine*
January 2022

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The idea of winning the battle before the war involves using operations research, modeling and simulation, wargaming and qualitative analysis, to understand outcomes before they unfold in combat. U.S. Navy officers have much experience in this regard, but as this brief story of their response to the battleship Yamato demonstrates, it might be easier to develop left of battle insights when dealing with known technologies. When novel technologies and weapons are involved, left of battle analysis is less compelling.

The Military Strategist's Flux Capacitor 10

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Military strategy in the twenty-first century must better appreciate nation-states as systems in flux. To create advantages in such a system, strategists must more intentionally consider time by thinking "fourth-dimensionally." A conceptual flux capacitor aids such thinking because it contextualizes the uncertainty of nation-state flux as the interaction of choice, cognition, and consequence.

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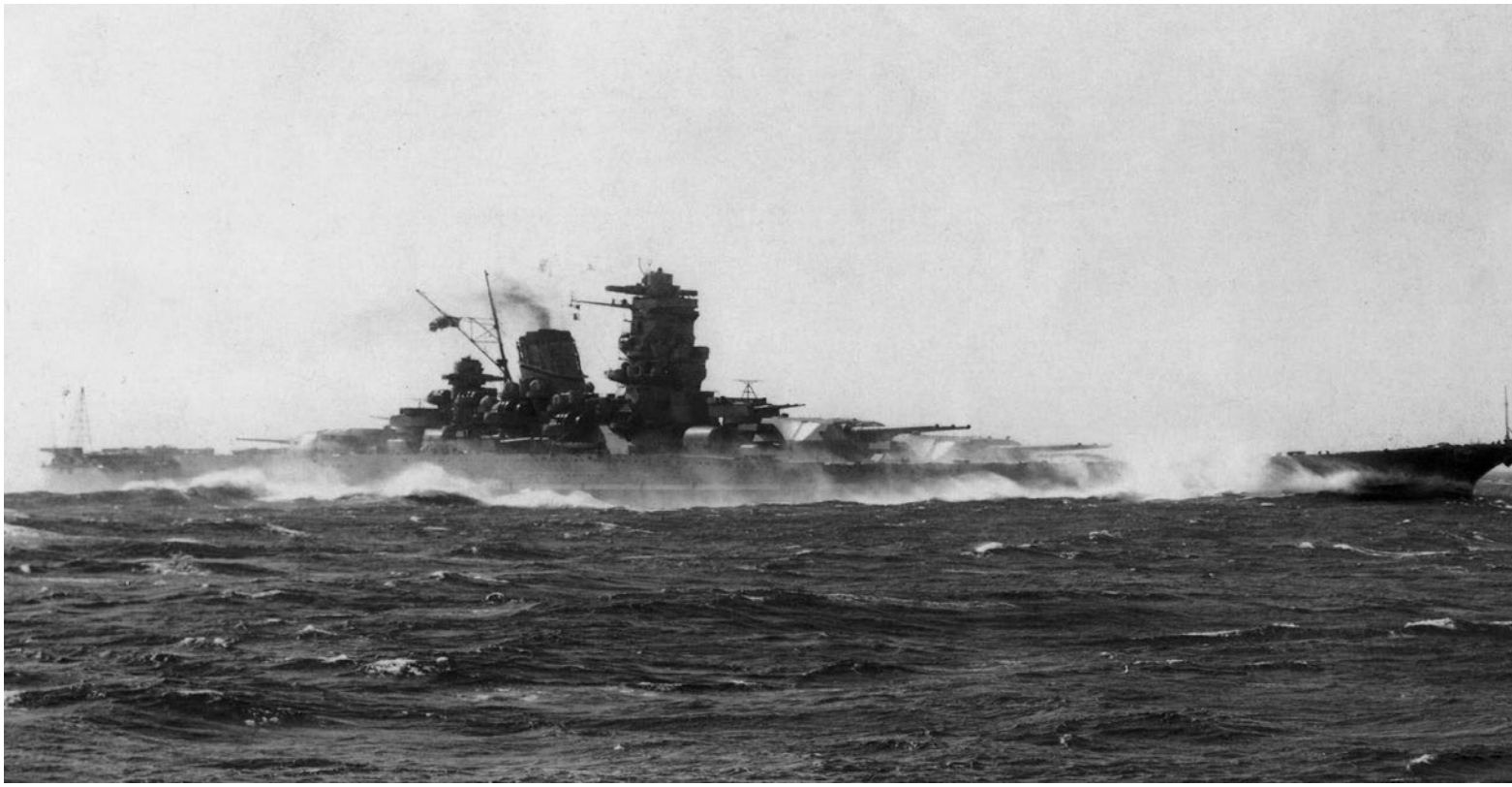
Winning Left of Battle: The Role of Analysis

James J. Wirtz - Naval Postgraduate School, Monterey



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When the battleship *Yamato* was launched in August 1940, the Japanese Empire possessed a weapon that was designed with one target in mind, the battleships of the U.S. Navy. At 70,000 tons and armed with nine 18-inch guns, the largest caliber naval rifle ever deployed on a warship, the *Yamato* was actually intended to take on several comparatively lightly-armed and lightly-armored American battleships *simultaneously* in a climatic battle for control of the Western Pacific. That battle never occurred – the *Yamato* was sunk by more than four-hundred U.S. carrier aircraft during what amounted to a suicide mission to attack the U.S. invasion force at Okinawa in April of 1945. Nevertheless, both the Japanese and U.S. navies worked throughout World War II to bring their opposing battle lines

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into contact. No less than 6 U.S. battleships (*Massachusetts, Indiana, New Jersey, South Dakota, Wisconsin* and *Missouri*), 7 cruisers (including the brand new battle cruisers *Alaska* and *Guam*) and 21 destroyers were dispatched to meet *Yamato* just in case the aviators failed to find their target.

Although the demise of the *Yamato* in such a lopsided victory was welcome from the American perspective, it was not preordained. The *Yamato* was the superweapon of its day, it threatened the U.S. battle line and even the outcome of the anticipated climatic naval battle for mastery of the Pacific. U.S. planners recognized *Yamato* as a problem and they subjected that problem to mathematical "analysis" to understand its nature and to devise cost-effective ways to mitigate the threat. U.S. Navy planners worked to find a solution to this Japanese superweapon "left of battle," so to speak, long before *Yamato* sailed for Okinawa.

Today, everything from hypersonic vehicles, cyber intrusions, autonomous vehicles, and 5G networks are identified as emerging superweapons that threaten the U.S. Navy's prospects in the western Pacific. Nevertheless, as these various technologies wax and wane along the Gartner hype cycle, evaluations of potential applications, net assessments, and mathematically informed analysis rarely inform debate.[i] What follows is not just a call for today's Navy to "think about things more," but to instead employ the full panoply of mathematical analysis, optimization techniques, systems analysis, modelling and simulation, and even qualitative assessment to better understand how to employ weapons based on new technologies and their potential impact on some future conflict. A look back on the *Yamato* problem can help us understand why today's officers will find it difficult to assess the new technologies that are touted as the source of the next superweapon at sea. Few would disagree that officers need to embrace a longstanding naval tradition by using analysis now to win the next battle, thereby bolstering deterrence and reducing the likelihood of war in the future. What is less understood is that when it comes to assessing new technologies, analysis appears less compelling "left of battle," that is, before wartime experience resolves questions about weapons based on novel technologies.

Sizing Up Yamato

Although the *Yamato's* 18-inch guns could loft a shell about 46,000 yards, a bit more than the 42,000-yard range of the 16-inch guns deployed on the newest *Iowa*-class battleships that were entering the U.S. fleet at the start of World War II, effective engagements at sea would occur at less than maximum range. Both types of battleships could also fire a salvo at about thirty-second intervals. The *Yamato*, however, did possess a significant edge in the overall weight of its broadside (about 29,000 pounds) to the *Iowa* (24,000 pounds), giving the *Yamato* a distinct twenty percent advantage in a "slugging match." *Yamato*'s thicker armor amplified that advantage.

U.S. planners first seemed to gravitate towards a "more of the same" solution to compensate for the lighter broadside and armor of their capital ships. Japanese ship construction could not compete with American industry – the Japanese would only manage to launch the *Yamato* and her sister ship *Musachi* by the end of the war. By planning for the construction of six *Iowa*-class battleships, the United States might be able to avoid a "fair fight," so to speak, so that multiple Iowa battleships could engage a single *Yamato*. A 3:1 engagement would then subject a *Yamato* to nearly 150,000 pounds of shot each minute, while each *Iowa* would only be subjected to about 19,000 pounds of ordnance in return. *Ceteris paribus*, U.S. battleships would quickly win such an encounter. In a sense, what analysis revealed was that quantity has a quality all its own; building a larger number of relatively inferior weapons can sometimes defeat a smaller number of superior weapons.

Because it was impossible to guarantee that the United States would enjoy that firepower advantage when an encounter occurred, naval architects went back to the drawing board to see if they could design a U.S. battleship that would be superior to the *Yamato*. A more sophisticated analysis went into the design of the new *Montana*-class battleship, which would be built on hulls designed for the Iowa-class. Instead of attempting to increase the size of the big guns on the *Montana* to exceed the 18-inch cannon on the *Yamato*, U.S. naval architects increased the number of 16-inch guns on the *Montana* to twelve, up from the nine 16-inch guns carried by the Iowa-class. As a result, the *Montana*'s broadside would enjoy about a ten percent advantage (32,400 pound vs. 29,000) in throw weight over the *Yamato*. More importantly, its twelve cannons would also possess a greater probability of actually hitting the target than *Yamato*'s nine larger guns. If each round had about a 10% chance of hitting a target, then the likelihood of a *Montana* achieving three or more hits with a 12-shot salvo was 11%, while *Yamato* had only a 5% chance of achieving three or more hits with a 9 shot salvo. Roughly speaking, a *Montana* could score three or more hits for every 2 or more hits scored by a *Yamato*, giving the *Montana* about a 20% advantage in firepower, the same advantage enjoyed by the *Yamato* over the *Iowa*. The left of battle analysis behind the *Montana* revealed that increasing the firepower of existing platforms – an evolutionary improvement -- was a cost-effective way of besting the opponent's superweapon.

Data gleaned from the first six months of World War II combat in the Pacific, however, led the Navy to adopt a far more radical response to the *Yamato*. Because of the unusual circumstances surrounding the Japanese victory at Pearl Harbor, some Navy strategists wanted to reserve judgment on the future of the battleship in the face of obviously effective carrier aviation.[ii] Following the carrier-dominated battles of the Coral Sea and Midway, however,

it was no longer possible to avoid that judgment. What the air battles demonstrated was that the aircraft carrier could engage a battleship literally hundreds of miles before the battleship could be brought into effective range (about 20 miles with radar guidance and somewhat less than that with ship-based optics). The important measure of effectiveness was no longer weight of fire, or speed of fire, or even the probability of scoring a hit, it was the range at which a target could be engaged. By broadening their analytical aperture to include aircraft, officers recognized that an asymmetrical weapon had transformed the superweapon *Yamato* into a target years before the first *Montana* would have plied the world's oceans. Battleships would no longer be the dominant weapon in naval warfare.

It might be tempting to attribute this apparent technological myopia to the battle between battleship admirals of the so-called "gun club" and pioneering naval aviators. That would be a misreading of the *Yamato* story – by working a series of Fleet Problems during the 1920s and 1930s, naval aviators began to gain an accurate perception of the potential of the aircraft carrier. Nevertheless, as the work of the naval historian Craig Felker suggests, these promising findings were undermined by concerns about the frailty of aircraft and the ability to conduct effective aircraft operations in an unforgiving wartime environment at sea.[iii] Indeed, the death of Admiral William A. Moffett, the most effective pioneer of the naval aviation, in the crash of the airship *Akron* in 1933 did little to undermine the perception that aircraft were too unreliable to be counted on in war.[iv] What is especially revealing is how many issues the Navy actually worked out in the interwar period – carrier operations, amphibious landing, underway refueling – without having a fundamental impact on procurement strategies that would shift the balance between guns and aircraft in the Fleet.[v]

By July 1942, the Navy revised its priorities, placing submarine construction first and relegating battleship construction to the back burner as sixth in priority.[vi] In a move accelerated to the speed of wartime, the U.S. Navy ended its battleship program by July 1943, cancelling plans to build *Montana*-class battleships.[vii] The end of the battleship era had come, an end sealed by the fate of the *Yamato* two years later.

Where is the Analysis?

Today the Navy faces a technological tsunami. A growing list of potentially disruptive technologies, if not potential superweapons, compete for consideration. Artificial intelligence, the emergence of 5G networks, additive manufacturing, quantum science, new energetics, synthetic biology, and new types of "systems of systems" in naval warfare appear to be within reach of friend and foe alike. The Navy is also working hard at innovation. Nevertheless, Navy planners at times appear overwhelmed by these emerging technological opportunities and seem unsure about which technologies and operational concepts to pursue. Motivating this concern about new technologies and the slow pace of innovation is the fear that one of these new technologies might constitute a disruptive approach to naval warfare, an asymmetric response to the carrier-dominated U.S. Navy.

Ironically, despite all of the technological rhetoric, we face a situation today not entirely dissimilar to the one facing the U.S. Navy on the eve of WWII. Recent advances in anti-access and area-denial technologies, strategies, operations and tactics by emerging peer-competitors largely have one target in mind, the carrier battle groups of the U.S. Navy. Admittedly, many of these advances are more formidable on paper than in reality, but these tactical threats can have operational and strategic consequences. From an institutional perspective, these developments also threaten the bureaucratic dominance of the aviation community, much in the same way the interests of battleship admirals were threatened by both the *Yamato* and aviation in the interwar years.

Because the U.S. Navy's current array of high-performance aircraft and multi-mission warships are so expensive, the qualitative edge produced by quantity is likely to be enjoyed by our peer-competitors. In other words, the "more of the same" response embodied in the *Iowa-class* building program is not a promising option for the today's Navy. Increasing the firepower of individual platforms might be a viable solution to the anti-access and area-denial problem, but without analysis to identify and mathematically model specific threats, it is impossible to know what improvements are likely to make a difference in combat. Solutions might be available, but someone has to provide a net assessment of the problem as a starting point.

This leads to the possibility of an asymmetric, disruptive response to the anti-access and area-denial problem. Nevertheless, the history of disruptive technology and the battleship is not reassuring – asymmetric, disruptive technologies are difficult to assess before they are demonstrated in combat. When the *Yamato*, *Iowa* and *Montana* were designed, for instance, the offensive potential of carrier aviation was a matter of some conjecture. The Navy's first carrier monoplane, the Brewster Buffalo (F2A), still only existed in artists' renderings and it remained an open question if aircraft possessed the range, payload, and structural integrity for sustained combat. By the early 1930s, aviation enthusiasts believed that the pulsed firepower of the aircraft carrier could outrange and outgun battleships, but their models and analysis appeared to be largely conjecture to their more battleship-minded colleagues. Unlike the "left of battle" analysis that influenced the development of the *Iowa*-class and the *Montana*-class, the decision to abandon the battleship in favor of the aircraft carrier occurred "right of battle," after the definitive evidence gathered at the Coral Sea and Midway was subject to analysis. Today, waiting for a "proof of concept" demonstration of one of the host of

potentially disruptive technologies on the horizon seems like a recipe for disaster.

Left of Battle, or Right of Battle?

The story of the response to the *Yamato* highlights the role of analysis as a tool to conduct a net assessment of competing weapons systems, to explore doctrine and to a certain extent strategy, allowing officers to gain some foresight into likely combat outcomes. While it cannot predict the future with accuracy, analysis can identify the factors that are likely to drive battlefield outcomes in certain directions. In other words, analysis would allow one to predict not only that the *Montana* would defeat the *Yamato*, it also would have predicted that an aircraft carrier could have accomplished the same feat without suffering any damage in return. By the late 1930s, Navy-shipbuilding plans called for the construction of no less than 17 new battleships in four progressively larger classes and a six new battle cruisers to boot – the plan to build 23 new capital ships was the Navy's answer to the looming threat of war in the Pacific.[viii] What is remarkable is how quickly the Navy abandoned the battleship and how quickly the locus of bureaucratic power in the Navy shifted from the battleship admirals to the aviation community.

Current U.S. Navy efforts to outpace the growth of peer competitors' increasing anti-access and area denial capabilities loosely parallel earlier efforts to trump the *Yamato*. The Navy, for example, is looking to increase numbers quickly. The Pentagon has been upgrading amphibious assault ships to carry about 20 F-35s each, increasing the number of platforms that carry aviation strike assets.[ix] The Navy also is looking to increase the effective firepower of existing *Nimitz*-class aircraft carriers by equipping them with new MQ-25 Stingray autonomous tanker aircraft, a move which should increase the strike range of the carriers' air wings. In a manner that also is reminiscent of the early days of carrier aviation, the Navy also is experimenting with a several new technologies, for instance, the *Sea Hunter* autonomous vehicle, to gain operational experience with a potentially disruptive weapon. So far, an "Admiral Yarnell" has not emerged to provide an innovative demonstration of one of these technologies, but eventually some new technology will emerge as a front-runner in the race to develop an asymmetric, disruptive weapon. History also suggests that Navy officers will be aware of this new technology because they will be involved in its weaponization.

As one anonymous reviewer also observed, given the myriad of existing commands, Pentagon bureaus, and surface ship, aviation, and submarine warfare "barons," it is difficult to believe that the left of battle problem involving new technology is not being addressed by the U.S. Navy. Indeed, the element in the Pentagon's Navy staff charged with conducting analysis – OPNAV N81, the "Assessment Division" – is filled with some of the best operations analysts in the world. Nevertheless, many of these activities, especially in the Pentagon, use analysis to justify budget requests or programmatic decisions to Congress, they focus on optimizing effectiveness and minimizing cost across systems that have already been selected for production.[x] Additionally, as Thomas-Durrell Young has noted, the Navy lacks the organization and staffing to direct all of this analysis towards agreed upon end states or to identify and present strategic choices to senior Navy officers.[xi] In a sense, N81 possesses an unparalleled capability to demonstrate budget optimization, but is less likely to offer tactical, operational and strategic assessments of novel technologies or experimental systems.

More than one Navy admiral has noted that analysts often fall in love studying a problem without devising workable solutions to their object of affection. Nevertheless, the "left or right of battle" issue needs to be better recognized by Navy strategists and planners when it comes to the art and science of selecting weapons and platforms. When employed to assess known technologies in specific strategic, operational, and tactical contexts, analysis can highlight cost-effective ways to defeat opposing systems long before battle occurs and planners will be willing to integrate these solutions into the Fleet – winning "left of battle" is an obtainable goal. The important caveat here is that analysis is often wielded by bureaucratically dominant elements of an institution in a way to preserve the dominance of their preferred weapons and practices. When asymmetric, disruptive technologies and weapons are involved, analysis carries less weight because it appears grounded in unrealistic or unproven strategic, operational, or tactical assumptions. Analysis of asymmetric, disruptive weapons can still carry the day, but analysis appears to hold sway "right of battle," when recent experience makes analytic findings appear not only cut and dried, but a bit overtaken by events.

The *Yamato* case demonstrates that left of battle victories can be achieved when they involved relatively symmetrical technologies in well understood weapons systems. Nevertheless, it also suggests that analysis faces a much tougher right of battle problem – the last obstacle confronting the integration of new weapons derived from asymmetric, disruptive technology. Solving the right of battle problem can govern which opponent delivers a proof of concept demonstration in the next battle at sea. Failing to solve the problem can undermine deterrence, especially if risk-acceptant opponents are willing to gamble on new weapons to upset the balance at sea quickly.

References

[i] The Gartner hype cycle is a tool used to describe the maturity, adoption and social impact of emerging technologies and applications see Ivy Wigmore, "Gartner Hype Cycle," TechTarget, October 2013. https://whatis.techtarget.com/definition/Gartner-hype-cycle

[ii] Robert O'Connell, Sacred Vessels: The Cult of the Battleship and the Rise of the U.S. Navy (Boulder: Westview Press, 1991), p. 316.

[iii] Craig C. Felker, Testing American Sea Power: U.S. Navy Strategic Exercises, 1923-1940 (College Station: Texas A&M Press, 2007).

[iv] William F. Trimble, Admiral William A. Moffet: Architect of Naval Aviation (Annapolis: Naval Institute Press, 2007).

[v] Albert Nofi, To Train the Fleet for War: The U.S. Navy Fleet Problems, 1923-1940 (Newport, RI: Naval War College Press, 2010).

[vi] O'Connell, Sacred Vessels, p. 316.

[vii] William Garzke and Roger Dullin, Battleships: United States Battleships 1935-1992 (Annapolis: Naval Instuture Press, 1995), p. 165.

[viii] O'Connell, Sacred Vessels, p. 306.

[ix] David B. Larter, "US Navy upgrades more ships for theF-35 as the future of carriers remains in flux," Defensenews June 1, 2020. https://www.defensenews.com/naval/2020/01/01.yus-navy-upgrades-more-ships-for-the-F-35-as-the-future-of-carriers-remains-in-flux/

[x] For an example of this type of analysis sponsored by N81 see Edward G. Keating, Sarah H. Bana, and Michael Boito, Cost Adjustment Sheets and the Flying Hour Program (Santa Monica: Rand Corporation, 2012). https://apps.dtic.mil/sti/pdfs/ADA568695.pdf

[xi] Thomas-Durrell Young, "When Programming Trumps Policy or Plans: The Case of the U.S. Department of the Navy," Journal of Strategic Studies Vol. 39, Iss. 7. 2016. 938-955

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The Military Strategist's Flux Capacitor

Keith Nordquist - U.S. Air Force

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You're just not thinking fourth-dimensionally!

—Dr. Emmett L. Brown, Back to the Future

Today, Western militaries consult doctrine, craft objectives, and measure means to impose clarity upon complexity. Their strategists praise clear context like the unambiguous purpose of Operations Desert Shield, Desert Storm,

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and Desert Farewell.[i] Unsurprisingly, US policymakers attribute the 1991 campaign's success to such clarity.[ii] And the sentiment reverberates in current US national strategic guidance: "military force should only be used when the objectives and mission are clear."[iii] But this view acclimates strategists and policymakers to expect certainty from military options. Certainty is untenable when the international system's ambiguity accelerates nation-state volatility.[iv] Today's complexity necessitates a more adaptable approach to clarity, one which also embraces the uncertainty of a "world in flux."[v]

Classical physics describes "flux" as the electromagnetic flow through a three-dimensional object. Electrical current passes through the object's height, width, and length over time, the fourth dimension. In military strategy, flux is a notional term about contextual fluidity. A nation's depth, breadth, and span change and are changed by the international system's choices, cognition, and consequences over time. Fortuitously, science fiction offers a pertinent tool to conceptualize flow and change: the flux capacitor. In the *Back to the Future* film series, the flux capacitor allows one to manipulate time by interacting with the flow of history. Accordingly, a conceptual flux capacitor allows a military strategist to manipulate time by framing system interactions within the flow of history. Artful strategy changes flux by exploiting and exploring system variation to create advantage.[vi] Therefore, a conceptual flux capacitor helps the military strategist think in four dimensions and adapt to the twenty-first century flux of choices, cognition, and consequences.

Thinking Fourth-Dimensionally

Contextual flux in military strategy is not about a system changing but about the value of the change. The current global security landscape defines valuable change as forging and extending strategic advantage.[vii] This means operations are strategy's tools to manipulate context beyond the finite space and compressed time of operations themselves.[viii] Four-dimensional thinking is a way to consider the creation of strategic advantage more explicitly for operational planning. The four conceptual dimensions for a military resemble the height, width, length, and time of physics. "Height" is depth in echelons and alliances, "width" is breadth in jointness and domains, and "length" is span in whole-of-nation capability. "Time" or flux exists in the dynamism and ambiguity of change across these dimensions.

Concerning depth, echeloned formations create flexible options. Size gradations empower operational adaptation akin to the Napoleonic-era innovation of semiautonomous corps.[ix] Alliances and diplomacy expand this adaptability. Mutual defense treaties, offensive aid agreements, and neutrality preservation pacts appreciably control uncertainty by shaping geopolitical decision-making.[x] Military breadth leverages this depth with unique service expertise and jointness. The branches of a military form additive wholes for cross-domain successes, much like the capture of Vicksburg in the American Civil War[xi] or the amphibious assault on Inchon in the Korean War.[xii] In the twenty-first century, a military's whole extends to multi-domain effects too. For instance, the US Army's "Multi-Domain Operations" concept seeks advantages across domains to seize and sustain the initiative, expand the competitive space, and credibly demonstrate capability.[xiii]

Still, it takes an entire nation to grow the span of a military's depth and breadth over time. The United States demonstrated this in World War Two when industrial production and logistical distribution advantages converged to expand capability.[xiv] Today, span also includes reconciling authorities and effects across real and virtual spaces.[xv] Length further extends into economic and informational spheres of influence, making whole-of-nation considerations more expansive. Fortunately, thinkers like Carl von Clausewitz, John Boyd, and Venkatesh Rao offer compelling ideas to appreciate flux across all three dimensions. Respectively, they identify key system variations within war, warfare, and narrative. By thinking fourth-dimensionally about their ideas, strategists can imagine "outside the box" and ponder how flux affects depth, breadth, and span to create advantage (Figure 1).

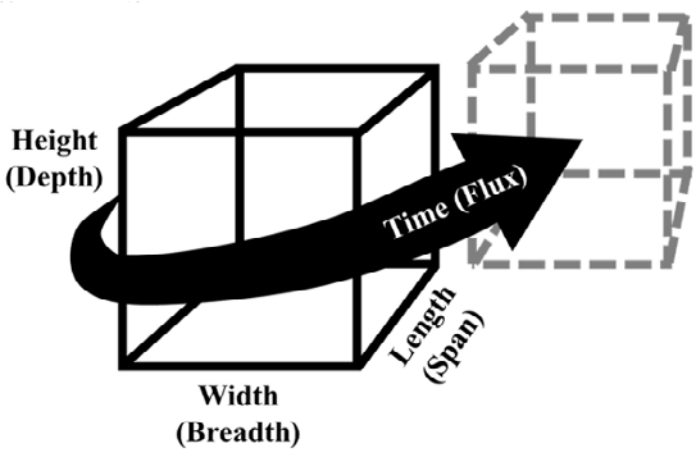

Figure 1. Thinking Fourth-Dimensionally. Created by author.

Frameworks for Flux

Clausewitz offers an enduring description for flux in war. He posits a "paradoxical trinity" best captures the fluctuations of state-level conflict where war is a constant interplay of passion, reason, and chance. For Clausewitz, the flux of war allows leaders to exploit the dynamic yet discontinuous interaction of peoples, governments, and militaries. This understanding originated from Prussia's decisive defeat in 1806 at Jena-Auerstädt.[xvi] Exploiting Prussia's rigid

structures and doctrine, Napoleon Bonaparte disintegrated Prussian armies by emphasizing reaction to uncertainty rather than trying to control it.[xvii] Clausewitz shows the four-dimensional thinker how war is about interaction and perceiving states in flux.

Regarding warfare, Boyd outlines how speed affects military coherence and sense-making. He argues advantage comes from action where warfare is responsive activity across moral, mental, and physical dimensions. In essence, he saw Clausewitz's uncertainty as leverage over an adversary. For Boyd, the flux of warfare allows faster and more fluid militaries to gain asymmetric advantages. This understanding came from voluminous study framed by Nazi Germany's multi-dimensional maneuver warfare. Plans succeed by magnifying ambiguity and exploiting systemic chaos.[xviii] Boyd shows the four-dimensional thinker how warfare is about fast transients when adapting to uncertainty with states in flux.

Linking war and warfare together, Rao believes narrative structures their meaning. He proposes planning is a subjective act of reasoning where narrative combines the emotion of peoples, the rhythm of decision-making, and the energy of patterns. Rao thus reveals the flux of narrative is rational yet interpretative, a process of planners enacting strategic perceptions.[xix] This mirrors lessons from the 1973 Arab-Israeli conflict. Initial Israeli hesitancy to adjust after Egypt and Syria's early invasion successes was a product of poor perception and worse enactment.[xx] Rao shows the four-dimensional thinker how narrative is about epistemologies which anticipate and operationalize a state's flux.

A Flux Capacitor

For operational art to remain practicable as a cognitive approach in creating advantage,[xxi] strategists must better appreciate flux across war, warfare, and narrative. Clausewitz reveals war's flux requires a quick recognition of truth to overcome uncertainty, not a narrow pursuit of clear context.[xxii] Additively, Boyd recognizes warfare's flux requires adaptation to disrupt enemy perceptions, not slow searching for certainty.[xxiii] Finally, Rao asserts narrative's flux requires a sense of momentum and context-switching, not a dogmatic set of beliefs to impose clarity.[xxiv] Combining these considerations together, a conceptual flux capacitor emerges to create contextual advantage. This context exists at the intersection of choice, cognition, and consequence.

Clausewitz's passion, Boyd's moral dimension, and Rao's sense of emotion structure a logic for choice. For states in flux, choice is a nation's agency and capacity to affect the international system.[xxv] By recognizing national character in decisions, strategists better consider how feelings and behaviors guide a state's volition. Further combining Clausewitz's reason, Boyd's mental dimension, and Rao's description of rhythm yields a better understanding of cognition. In a disordered world, cognizance is the convergence or divergence of truth and knowing within a system.[xxvi] By elevating ontological thought, strategists better contemplate their perceptions and those of other states. Finally, the combination of Clausewitz's chance, Boyd's physical dimension, and Rao's discussion of energy outlines the importance of consequence. Outcomes have significance based on what they mean to others, not just those acting.[xxvii] By embracing uncertainty in meaning, strategists better examine holistic effects from a system's changes.

Taken together, each thinker's ideas cohere flux for military strategies in space and time. Expressed as flux capacitors, one can begin to apprehend how war, warfare, and narrative affect context for nation-states. Critically, Clausewitz, Boyd, and Rao do not argue for balance. Rather, they focus on the interactional flux of their subordinate considerations over time. Advantage comes from manipulating and adapting to these interactions so operations stay relevant under uncertainty.[xxviii] Therefore, a flux capacitor for choice, cognition, and consequence shapes and cultivates a deeper sense of a changing world.[xxix] Appreciating flux means thinking fourth-dimensionally about tomorrow's advantages to craft better strategies today (Figure 2).

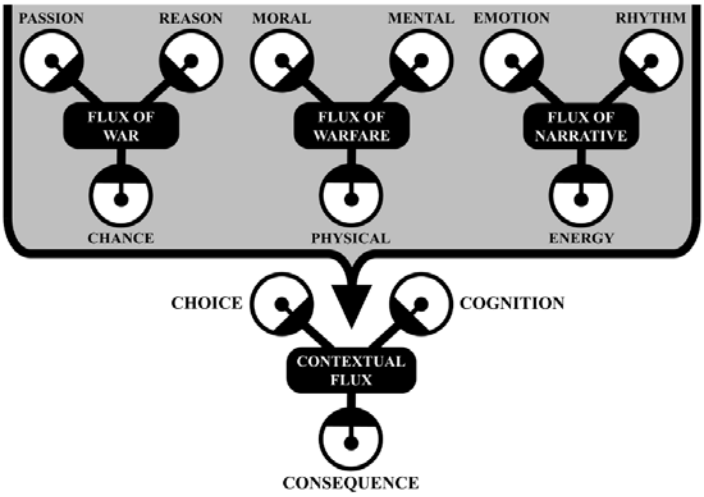

Figure 2. The Military Strategist's Flux Capacitor. Created by author.

States of Flux

The global context of 1991 did not require four-dimensional thought. The United States had 161 days to mobilize for war as the Soviet Union dissolved and China retreated following the Tiananmen Square Massacre. Consequently, the U.S. military enjoyed the aberration of an already advantageous context. But this means the campaign to liberate Kuwait was not a clarion call for clarity to bring military success.[xxx] America is unlikely to find another enemy willing to

fight a war away from US shores or another world so willing to accept US strategy and purpose.

Clear context is not a military's norm nor should it be a policymaker's goal for a world in flux. Twenty-first century military strategy is about thinking fourth-dimensionally to appreciate an unclear and uncertain context. Future strategies must leverage this system complexity as a catalyst to create advantage. A capable strategist only needs a conceptual means to consider time, a contextual flux capacitor. The implication for Western militaries is to become more mindful of nation-state flux and the flow of history beyond the confines of an operation. In science fiction, the flux capacitor makes flow conceivable. In military strategy, understanding states of flux makes advantage imaginable.

References

[i] John S. Brown, "The Maturation of Operational Art: Desert Shield and Desert Storm" in Historical Perspectives of the Operational Art, ed. Michael D. Krause and R. Cody Phillips (Washington, DC: US Army Center for Military History, 2005, 439-475), 473-475.

[ii] William A. Reese, "The Principle of the Objective and Promoting National Interests: Desert Shield/Storm--A Case Study," research monograph (Washington, DC: National Defense University, 1993), 31-34.

[iii] Joseph R. Biden, Jr., "Interim National Security Strategic Guidance" (Washington, DC: Office of the President of the United States, March 2021), 14.

[iv] National Intelligence Council, Global Trends: Paradox of Progress (Washington, DC: Chairman, National Intelligence Council, 2017), ix-xi, 6.

[v] Johan Verbeke, "A World in Flux," Egmont Institute Security Policy Brief, no. 92 (30 November 2017), 1, 6-8.

[vi] Robert Axelrod and Michael D. Cohen, Harnessing Complexity: Organizational Implications of a Scientific Frontier (New York: Basic Books, 2000), 32-45.

[vii] Biden, "Interim National Security Strategic Guidance," 7, 17.

[viii] Everett C. Dolman, Pure Strategy: Power and Principles in the Space and Information Age (New York: Routledge, 2005), 5-17.

[ix] David G. Chandler, "Napoleon, Operational Art, and the Jena Campaign" in Historical Perspectives of the Operational Art, ed. Michael D. Krause and R. Cody Phillips. (Washington, DC: US Army Center for Military History, 2005), 27-39.

[x] Brett A. Leeds, "Do Alliances Deter Aggression?" American Journal of Political Science, vol. 47, no. 3 (July, 2003), 427-439.

[xi] Charles R. Bowery, Jr., The Civil War in the Western Theater, 1862 (Washington, DC: US Army Center for Military History, 2014), 30-33, 61-62, 70-71.

[xii] Allan R. Millett, The War for Korea, 1950-1951: They Came from the North (Lawrence: University Press of Kansas, 2010), 239-251.

[xiii] US Army, TRADOC Pamphlet 525-3-1, The US Army in Multi-Domain Operations 2028 (Fort Leavenworth, KS: US Army Training and Doctrine Command, 6 December 2018), v-xii.

[xiv] US War Department, Logistics in World War II: Final Report to the Army Service Forces (Washington, DC: Government Printing Office, 1947), 244-252.

[xv] Joshua C. Ramo, The Seventh Sense: Power, Fortune, and Survival in the Age of Networks (London: Little, Brown, 2016), 84-92.

[xvi] Carl von Clausewitz, On War, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 75-89, 154-155, 240-241.

[xvii] Martin van Creveld. Command in War (Cambridge, MA: Harvard University Press, 1985), 96-102.

[xviii] John R. Boyd, A Discourse on Winning and Losing, ed. by Grant T. Hammond (Maxwell Air Force Base, AL: Air University Press, 2018), 57-59, 104,-106, 132-137.

[xix] Venkatesh Rao, Tempo: Timing, Tactics, and Strategy in Narrative-Driven Decision-Making (Los Angeles: Ribbonfarm, 2011), 17-22, 39-48, 65-71.

[xx] George W. Gawrych, The 1973 Arab-Israeli War: The Albatross of Decisive Victory (Fort Leavenworth, KS: Combat Studies Institute Press, 1996), 1-3, 33-34, 40-44.

[xxi] Department of Defense, Chairman of the Joint Chiefs of Staff, Joint Publication 3-0, Joint Operations (Washington, DC: Office of the Chairman of the Joint Chiefs of Staff, 17 January 2017, incorporating change 1, 22 October 2018), I-13; US Army, Army Doctrine Publication 3-0, Operations (Washington, DC: Army Publishing Directorate, July 2019), 2-1.

[xxii] Clausewitz, On War, 100-103, 117-121.

[xxiii] Boyd, A Discourse on Winning and Losing, 24, 196-207.

[xxiv] Rao, Tempo: Timing, Tactics, and Strategy in Narrative-Driven Decision-Making, 52-54.

[xxv] G. John Ikenberry, After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order After Major Wars (Princeton, NJ: Princeton University Press, 2001), 3-7.

[xxvi] Mary Jo Hatch, Organization Theory: Modern, Symbolic, and Post-Modern Theory, 4th ed. (Oxford: Oxford University Press, 2018), 13-20.

[xxvii] Klaus Krippendorff, The Semantic Turn: A New Foundation for Design (Boca Raton: CRC/Taylor & Francis, 2006), 1-7, 20-22, 56-57, 75.

[xxviii] Peter M. Senge, The Fifth Discipline: The Art and Practice of the Learning Organization (New York: Doubleday, 2006), 1-14.

[xxix] Ramo, The Seventh Sense: Power, Fortune, and Survival in the Age of Networks, 7-10, 29-30.

[xxx] Daniel P. Bolger, "The Ghosts of Omdurman," Parameters 21, no. 1 (Autumn 1991), 34-38.

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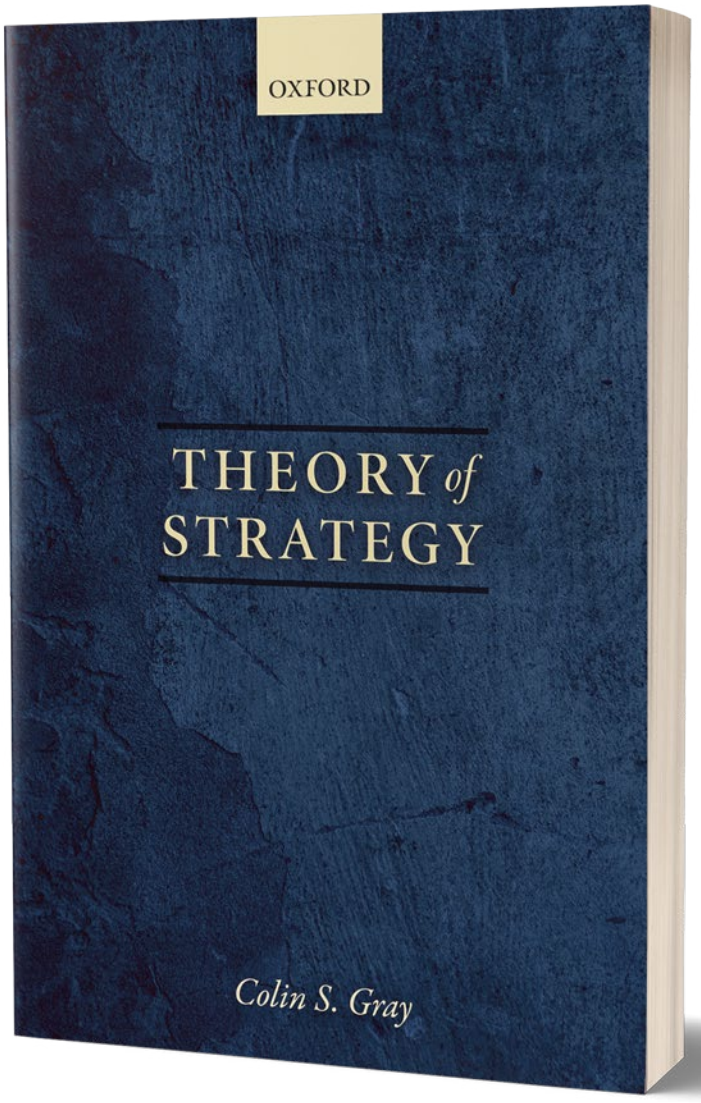

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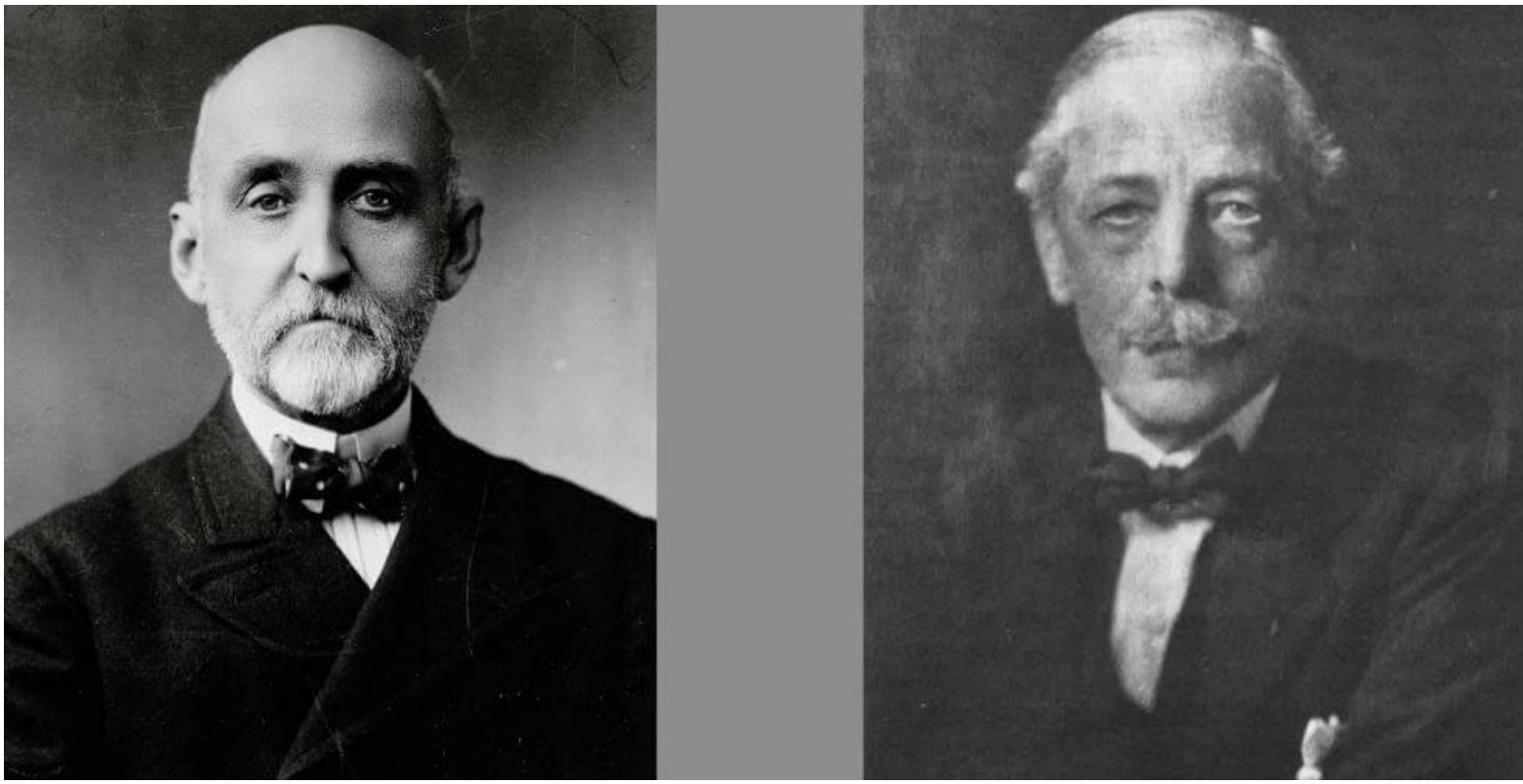
Mahan Versus Corbett in Width, Depth, and Context

Benjamin "BJ" Armstrong - US Naval Academy



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Captain Alfred Thayer Mahan and Sir Julian Corbett are the two most well-known naval strategists and naval educators. Their writings and theories are often taught at war colleges and staff colleges, and they lie at the foundation of most naval strategic writing and teaching even one hundred years after their deaths. In our contemporary lessons on naval strategy and maritime affairs, the ideas of Mahan and Corbett are often offered as separate "Schools of Thought," encouraging students to identify as either "Mahanian" or "Corbettian" and to see the two men and

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their ideas in opposition to one another.[i] This caricature is likely offered because highlighting differences appears an easier pedagogy than explaining similarities. But the result of this is a general understanding that the two strategists disagreed and sets up the need to choose between them.

However, this is a historically and conceptually flawed way to approach them and their naval thinking. By examining the two men in width across their published work, in depth through their biographies, and in context by acknowledging the time and audiences which they wrote for, we can help explain the differences between the two men and understand the significance of the fact that in general they came to the same or similar conclusions.[ii] Looking at them and their writings through these historical lenses rather than via a focus on theory offers a different perspective. This more historically informed approach demonstrates that the most important part of a comparison between the two men and their writing is how, despite the differences in their background and methods, they largely agree on the key elements of naval strategy.

Almost all the staff colleges and war colleges in the modern world, including those in the People's Republic of China for more than a decade, teach about what Mahan and Corbett wrote.[iii] Yet few of them appear to spend much time teaching about who they were. For historians engaged in strategic studies this presents a problem. In learning only about theory, only about selective excerpts of what these strategists said about sea power and strategy but ignoring who they were and where their ideas came from, we are only presented with a theoretical foundation. This does not help us comprehend how they themselves meant their ideas to be applied. Theory alone is useless. As Corbett himself wrote, it's only useful to naval professionals if they understand how to adapt that theory, to modify it, to think about it, within their modern or contemporary context.[iv] For strategic scholars and historians the same rule of thumb applies. Theory is valuable as an element of study that informs analysis, but it cannot be the only element, and we must recognize the unique nature of every historical event.

Width - One Book or Many

Both Alfred Thayer Mahan and Julian Corbett were hard working and prolific authors. Despite this fact, nearly every discussion of their work, and in particular the surface level comparisons of the two men and their strategic ideas, focus entirely on their single most famous book. Some professors have insisted that this is the proper way to assess them, telling us that "although both authors published numerous other works displaying nuanced views on seapower and world affairs, for better or worse, great strategic thinkers are judged by their masterworks."[v] However, at the very least some historians might suggest that a brief look at what those "other works" entail may be in order.

The vast majority of those who say that they "have read" Alfred Thayer Mahan seem to have focused on a very limited number of pages. In fact, it most often seems that their quotations and citations come from roughly the first eighty pages of The *Influence of Sea Power Upon History, 1660–1783*. These are the pages of the preface, the introduction, and the portion of the first chapter where Mahan lays out his definitions and conceptual ideas. For example, this section contains his "six elements" of sea power. Mahan, however, wrote or contributed to twenty books. A skim through John Hattenforf's bibliography of Mahan's work demonstrates the daunting nature of how voluminous his historical and international affairs writing was.[vi] There are over 160 articles, but if we start including the letters to the editor and interviews done with New York newspapers and others we start to get closer to 300 pieces. Almost all of this, save for one book and one article, came after he published the *Influence of Sea Power Upon History*. In this way Mahan differs from that other oft-quoted great strategist, Carl Von Clausewitz. Clausewitz's *Vom Krieg*, or *On War*, was written closer to the end of his life. It was his magnum opus, the sum total of his knowledge about war and warfare. He did not even finish the book and his wife Marie had to complete the editing and publication for him.[vii] As opposed to the end of his career, *The Influence of Sea Power Upon History* was arguably written at the start of Mahan's career as a naval thinker and as a strategist.

When we consider Mahan in width, a historian or strategist today might ask whether a book written at the start of his career should be the one that we are using to represent the totality of what he thought. It seems unfair or incomplete to ignore where he may have changed his mind, like in his understanding of the Battle of Tsushima, or where he broadened or added nuance, as in his discussion of the determinative links between naval power and a merchant marine. Scholars of strategy should be nervous about those who tell us to limit our sources, those who suggest that a single book, or worse an eighty-page excerpt from that book, is all that is needed for understanding. As Geoffrey Till wrote in his book *Seapower: A Guide for the Twenty-First Century*, "who wrote what" does matter if we are going to understand the subject.[viii]

Considering Corbett in width is a similar, but also slightly different case. For Corbett, the book on which theoretically focused scholars place all their attention on is *Some Principles of Maritime Strategy*. In many ways, this is fair when compared to thinking about *The Influence of Sea Power Upon* History, because Corbett published it roughly twenty years into his career as a writer and historian, and ten years after he started teaching at the Naval War Course at Greenwich. Yet, there was still another decade of Corbett's writing after *Some Principles* was published, and this included nine additional volumes.[ix]

Corbett's output was similar to Mahan's. He published over twenty books and dozens of articles during his time

as a historian and naval educator. For an example of how reading him widely informs our understanding, Corbett's nervousness with "decisive" naval battles developed over time and throughout his writing, but becomes most clear in the moments after Jutland and his writing of the official history a decade after the publication of *Some Principles of Maritime Strategy*.[x]

When considering everything that Corbett and Mahan had to say, pigeonholing our understanding of them into summaries of only their most famous single volumes seems not only unfair. It also seems like a methodologically poor approach to understanding them. In order to truly understand their views on strategy, naval power, and maritime affairs, we must read both Mahan and Corbett in width. Looking for a quick summary of only their most famous books, a "Cliffs Notes" version of their theories that can be summarized in a few sentences, defeats the purpose of what each man was trying to achieve and ignores the wide sea of their thinking on maritime power. By relying on only one of their books or passages from that single book, strategists are left with what Jon Sumida called a "paradox: a body of famous work that has received a great deal of study but has been misunderstood completely."[xi] From the very meaning of the phrase "command of the sea," to the "decisive" nature of fleet battle, both Mahan and Corbett wrote with nuance across multiple publications, nuance which is entirely missed by those who seek to read and consider as little as possible.[xii]

Depth - The Men Wielding the Pen

In examining Corbett and Mahan in depth, it may be most valuable to consider the biography of each man and how their background may have had a role in their approach and their writings. To say that Julian Corbett and Alfred Thayer Mahan were different men seems a bit glib. Yet, there are fundamental differences between the two men, and how they came to naval affairs, which must have had serious effects on their mindset and how they approached the subject.

Alfred Thayer Mahan was a career naval officer. He spent forty years in uniform, from his induction at the U.S. Naval Academy in 1856 to his retirement in 1896. He rose through the ranks, fought in the American Civil War, commanded ships, had his share of incidents at sea and landing forces ashore, and retired at the rank of Captain. His introduction to intellectual pursuits was almost entirely naval. He finished second in his class at Annapolis. Even before his time in Annapolis, Mahan had grown up on the banks of the Hudson River, "on post" at the U.S. Military Academy at West Point. His father, Denis Hart Mahan, was a renowned military professor and future Academic Dean of West Point, and much of Mahan's life as a young man was surrounded by the study of military and naval affairs.[xiii]

Mahan's first published article came in 1879, an essay on naval education and the curriculum in Annapolis which he wrote during his second tour of duty as an instructor at the Naval Academy.[xiv] The work was published by the Naval Institute, which Mahan had immediately gravitated toward when he returned to Annapolis in 1878. He quickly assumed the role of President of the institute, surrounded by naval officers studying and writing about naval affairs, and discussing it as part of their lifelong intellectual pursuit of their profession.[xv] And this was all before Stephen Luce asked him to come to Newport and help found the Naval War College, before he became the "prophet of sea power."

Sir Julian Corbett was raised in an entirely different context as the son of an architect and real estate developer, not a military man. He attended Cambridge University and once he graduated at the top of his class he joined the bar. As a lawyer, or barrister, he mastered his briefs and the value of succinct writing and clear argumentation.[xvi] His engagement with maritime affairs, rather than practical or professional, instead appears to have started as a romantic engagement. After the death of his father, Corbett left the law in order to run his family's estate and become a novelist. His books, romantic tales of the Renaissance, Vikings, and of Elizabethan era sea rovers, were well reviewed but of mixed success.[xvii] While he seems to have blamed his publisher, the hard facts are that many of the books did not sell.[xviii]

During a short period as journalist for the *Pall Mall Gazette* he had his first, and one might say only, direct engagement with military activities when he covered the Dongola Expedition for the newspaper as what the twenty first century would call an embedded reporter.[xix] When he returned, Corbett began working with the noted naval historian John Knox Laughton, who also served as something of a mentor to Mahan via correspondence.[xx] Laughton brought him into the Naval Records Society, and Corbett began learning to work with original sources and started to do the hard work of researching and writing detailed and documented naval history.[xxi] It was these histories, and Laughton's support, which brought him to the attention of the Royal Navy and resulted in the offer for him to become the lecturer on naval history and strategy at the War Course.

Corbett and Mahan had nearly the same job descriptions in their respective naval educational enterprises. Both taught naval history and strategy to officers, and both men became most famous for that work. However, they came to those positions from dramatically different backgrounds. Mahan was a career officer who had years of practical experience which informed but did not dictate his analysis and thinking, and Corbett was a career civilian with almost zero real experience who instead based his work on a deeply scholarly and historical methodology. When looking at the two men in depth, it appears that while they came at their shared subject from these varied and different directions they still arrived at the same conclusions.

Context - Navies and Nations in the World

Context continues, throughout centuries, to be one of the elements of understanding which historians insist on. It is central to how history majors at universities across the world are taught to examine and understand the times, places, and people that they study. Each man this article has been discussing was a naval educator, and both taught at the upper level of professional military education. They were both historians. But they taught and studied in far different places, with different students, and for different navies and marine corps. When thinking about context it is important to start with the state of the U.S. Navy in 1885 when Mahan began working on the lectures that would become *The Influence of Sea Power Upon History*. Through the last decades of the 19th century the U.S. Navy was a fourth or fifth rate power. It lacked modern warships, it lacked the most advanced weapons, and it didn't have a Congress or a country that seemed to care about it. Even Oscar Wilde made fun of the U.S. Navy. When an American character in *The Canterville Ghost* points out that the United States has no ancient ruins to visit, the ghost replies "You have your navy and your manners."[xxii]

When his book was published in 1890, Alfred Thayer Mahan was writing for a navy that would likely lose any major naval battle that they tried to fight. Even as the United States began to be more assertive on the global stage following the end of Reconstruction and westward expansion, it did not have a navy that could do much to back up threats or diplomatic rhetoric.[xxiii] As the U.S. Navy rose at the dawn of the twentieth century, driven by Mahan's friend and frequent correspondent Theodore Roosevelt, doubts remained about the role America and an American navy should play in the world. This was the audience that Mahan was writing for, an American audience that needed to be taught that navies are more than just coastal defense and showing the flag, that they have to prepare for and be able to win battles, and that ability then helps to create sea power. To use a poker analogy, it was the table stakes to being a great power, and the U.S. needed to figure out how to do it. It was not that coastal defense or peacetime operations did not matter, or that commerce raiding was not valuable to an overall strategy, but that these elements alone were insufficient. So it should make sense to us that the large, organized, battle fleet and how it operated was the focus of Mahan's message in *The Influence of Sea Power Upon History* and that his apparent focus on "decisive" battles remained a hallmark across his writings. It was central because that was the message he thought his audience most needed to hear.

Corbett had a fundamentally different audience. His audience was already the global naval hegemon with the largest and most powerful navy in the world. It was assumed that British naval officers knew that they had to win battles. And they had been building large, organized battle fleets, and operating them for generations. Nobody needed to be reminded of the importance of it.[xxiv] In fact, the Royal Navy's focus on battles and their centuries-long embrace of the need for "decisive" sea power became a major concern for Corbett. If Mahan needed to convince Americans that they needed to be able to win big battles, Corbett realized that he needed to teach Britons that just winning them was insufficient. Trafalgar was a glorious moment, and certainly important to the victory over Napoleon. But it clearly did not win the war on its own. Instead, it set the conditions that allowed the British to win.

As a result, Corbett was focused on what to do with your navy besides just winning the big battles. It was insufficient to beat the enemy and then just float around and wonder what happened next. So Corbett's focus was on what to do with a large powerful Navy, rather than simply the importance of having one for battle.

The Grudge Match that Never Was

The sea power scholars and teachers who focus on theory, and who ascribe to a doctrinal approach to Mahan and Corbett, will often suggest that the two men and their ideas are in competition with one another. This interpretation is based on a focused reading of the most famous books of each man. But this approach also loses sight of these strategic writings in width, depth, and context. As a result it offers a skewed view of naval strategy as something that creates competing schools of thought, or that forces naval professionals to make exclusive or procedural choices about a theory to adopt. Instead, a broad examination of these two men and their work, the books and the articles, and considering them closely, the common interpretation and that narrative of competition falls apart. As the Naval War College's Kevin McCraine has written in his recent book *Mahan, Corbett, and the Foundations of Naval Strategic Thought*, the two men are in far more alignment and agreement than would be necessary to consider their ideas as competing with each other.[xxv]

The truth is, the theories are not very far apart at all. In fact, if today's strategists and historians study them while considering the width of the author's expansive bibliographies, the depth of their differing personal biographies and approaches to the subject, and the dramatically different context of their audiences and the nations they were writing for, we quickly realize that there are logical explanations for the areas where they appear to disagree. And these disagreements begin to appear quite minor. At the same time, this closer reading and broader analysis results in the realization that even at their most theoretical they reach the same strategic principles. As Mahan himself wrote to Corbett in 1907, their work "reaching the same conclusion by different paths have reinforced and complemented one another."[xxvi] The disagreements demonstrate the fluid nature of sea power and strategy, and give students of that strategy a reminder that there are no

set answers, and no school solutions, but instead principles to consider and rules to break in order to find the genius of sea power based on present conditions.

References

[i] For examples see Matthew Suarez, "Going to War with China? Ignore Corbett. Dust Off Mahan!" U.S. Naval Institute Proceedings, Vol. 146, No. 12 (December 2020). James Lacey, "A Revolution at Sea: Old is New Again," War on the Rocks (17 October 2019): https://warontherocks.com/2019/10/a-revolution-at-sea-old-is-new-again/ James Holmes, "From Mahan to Corbett?," The Diplomat (11 December 2011): https://thediplomat.com/2011/12/from-mahan-to-corbett/

[ii] The framework used, studying subjects in width, depth, and context, was suggested by Sir Michael Howard in his seminal lecture turned essay "The Use and Abuse of Military History," RUSI Journal, Vol. 107, No. 625 (1962), 4-10.

[iii] James Holmes and Toshi Yoshihara, "The Influence of Mahan Upon China's Maritime Strategy," Comparative Strategy, Vol. 24, No. 1 (2005): 23-51.

[iv] Julian Corbett, Some Principles of Maritime Strategy: With an Introduction and Notes by Eric J. Grove, Classics of Sea Power Edition (Annapolis: Naval Institute Press, 1988), 8-9.

[v] James Lacey, "A Revolution at Sea: Old is New Again." Lacey largely dismisses the wider works of Mahan and therefore makes several assumptions and misleading statements about his work.

[vi] John B. Hattendorf and Lynn C. Hattendorf, A Bibliography of The Works of Alfred Thayer Mahan (Newport, RI: Naval War College Press, 1986).

[vii] Vanya Bellinger, Marie von Clausewitz: The Woman Behind the Making of On War (New York: Oxford, 2015).

[viii] Geoffrey Till, Seapower: A Guide for the Twenty-First Century, Third Edition (London: Routledge, 2013), 86.

[ix] John B. Hattendorf, "A Bibliography of the Works of Julian S. Corbett," in John Hattendorf and James Goldrick, eds., Mahan is Not Enough (Newport, RI: Naval War College Press, 1993), 295-310.

[x] Andrew Lambert, "Writing the Battle: Jutland in Sir Julian Corbett's Naval Operations," The Mariner's Mirror, Vol. 103, No. 2 (2017): 183-184.

[xi] Jon Sumida, Inventing Grand Strategy and Teaching Command: The Classics Works of Alfred Thayer Mahan Reconsidered (Baltimore, MD: Johns Hopkins University Press, 2000), 5.

[xii] Comparing and explaining even just the most significant elements of naval strategy examined by Mahan and Corbett is well beyond the scope of this article, and offering a few pointers defeats the purpose of studying in width, depth, and context. The best book length examination of the topic which puts the two authors in dialogue is Kevin McCraine, Mahan, Corbett, and the Foundations of Naval Strategic Thought (Annapolis, MD: Naval Institute Press, 2021).

[xiii] Edward Hagerman, "From Jomini to Dennis Hart Mahan: The Evolution of Trench Warfare and the American Civil War," Civil War History, Vol. 13, No. 3 (1967): 201-203.

[xiv] Alfred Thayer Mahan, "Naval Education," U.S. Naval Institute's Proceedings, Vol. 5, No. 4 (1879): 345-376.

[xv] Benjamin Armstrong and John Freymann, Developing the Naval Mind (Annapolis, Naval Institute Press, 2021), 12-13.

[xvi] Andrew Lambert, 21st Century Corbett: Maritime Strategy and Nava Policy for the Modern Era (Annapolis: Naval Institute Press, 2017), 7-8. J.J. Widen, Theorist of Maritime Strategy: Sir Julian Corbett and his Contribution to Military and Naval Thought (London: Routledge, 2012), 15.

[xvii] "Notes on Novels," Dublin Review, Vol. 16, No. 1 (Jul 1886), 164-165. "Novels of the Week," The Athenaeum, No. 3210 (4 May 1889).

[xviii] Eric Grove, "Introduction" in Some Principles of Maritime Strategy: With an Introduction and Notes by Eric J. Grove, Classics of Sea Power Edition (Annapolis: Naval Institute Press, 1988), xi-xii. Andrew Lambert contests the characterization of Grove and biographer Donald Schurman, instead claiming literary success for Corbett, in Lambert, The British Way of War: Julian Corbett and the Battle for a National Strategy (New Haven, CT: Yale University Press, 2021), 32-37.

[xix] "Dispatches from Julian Stafford Corbett to Pall Mall Gazette as Special Correspondent in the Soudan (Dongola) Expedition" (1896), Royal Museums Greenwich Collection, CBT/3/3; MS81/143. For an example see "The Situation in Egypt," Pall Mall Gazette (18 March 1896), page 1, column 3.

[xx] A.T. Mahan to J.K. Laughton, 20 March 1896, in Andrew Lambert, ed., Letters and Papers of Professor Sir John Knox Laughton, 1830-1915 (London: Naval Records Society, 2002), 125-126. Nature of the Mahan, Laughton correspondence, 120.

[xxi] Andrew Lambert, The Foundations of Naval History: John Knox Laughton, the Royal Navy and the Historical Profession (London: Chatham Publishing, 1998), 147-158.

[xxii] Oscar Wilde, The Canterville Ghost (London: John W. Luce and Company, 1906), 81.

[xxiii] Craig Symonds, The U.S. Navy: A Concise History (New York: Oxford University Press, 2016), 58-61.

[xxiv] Kevin McCraine, Mahan, Corbett, and the Foundations of Naval Strategic Thought (Annapolis, MD: Naval Institute Press, 2021), 28-30.

[xxv] Ibid., 251.

[xxvi] A.T. Mahan to J.S. Corbett, 12 Aug 1907, in Robert Seager and Doris Maguire, eds., The Letters and Papers of Alfred Thayer Mahan, Volume III (Annapolis, MD: Naval Institute Press, 1975), 223.

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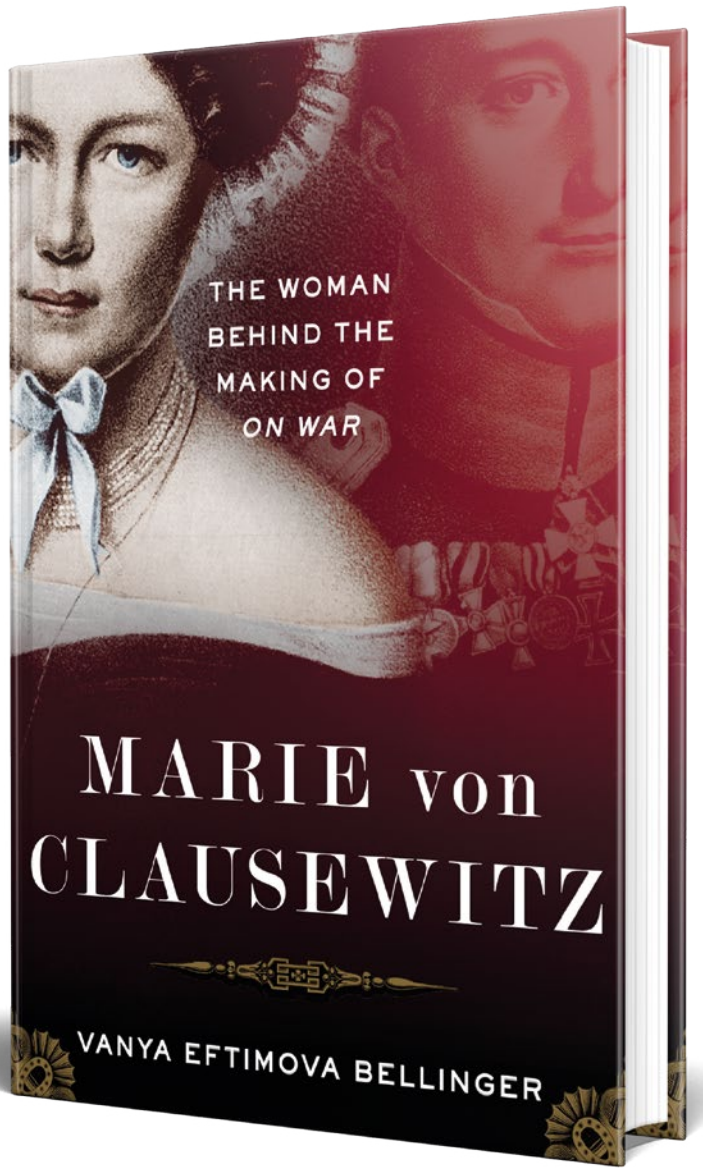

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Fortified Strategic Complexes

David Betz - Department of War Studies, King's College London

Image credit: Military Wiki, "Gun emplacement in Fort Campbell, built in the 1930s," https://bit.ly/3tbv3y4

About the author

David Betz is Professor of War in the Modern World in the Department of War Studies, King's College London where he heads the MA War Studies programme. His main research interests at present are strategy and historical and contemporary fortifications.

The last work on fortification as an active subject of military affairs with significant prospects *for the future was* written over a century ago by the British military engineer Sir George Sydenham Clarke. Even then, he pointed out that there was no 'school of thought regarding fortification', that elementary principles are still 'floating in solution', and no 'consensus of mature opinion' has been attained.[i]

The situation today is not much different. The topic is either overlooked in the strategic studies literature, addressed peremptorily or narrowly tactically, or treated as something of historical interest rather than immediately relevant.[ii]

This is a problem for the field because the simple fact is that fortification is at the core of contemporary conflicts, not at its boundaries, not a historical concern but an increasingly vital aspect of contemporary war and warfare.[iii] Fortified strategic complexes are at the forefront of the military efforts of a range of major and minor states to serve national policy—a phenomenon which I suggest is somewhat recognised (as they are usually hard to miss) but poorly understood.[iv]

As a first step, it is worth considering some common assumptions about the subject by way of arriving at a more embracing understanding of fortification that will help us to better illuminate what is going on and to inform practice.

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I. On Fortification

What is a fortification? Probably every person to whom this simple question is posed will think for a moment that the answer is easy. Very practically, one might say that fortifications are structures which enhance the power of defence;[v] somewhat more abstractly, perhaps, that they represent the 'endless duel between immobility and manoeuvre';[vi] or even philosophically, that they are a physical manifestation of the fear of being attacked.[vii] But a little reflection on the widely divergent structures with different purposes to which the appellation may be applied will suffice to show that a definition is not so readily found as might have been expected.

For one thing, while resistance to attack is a primary quality of a fortification it is striking how often they incorporate design features that weaken their defensive capability.[viii] Likewise, while fortifications are often situated in naturally inaccessible terrain, the better to resist attack, we just as often find them in places that are far from ideal defensively. [ix] We may surmise, therefore, that the design and siting of fortifications reflects more than military considerations. Commercial needs, political context, and even cultural aesthetics supersede tactical exigency in decisions about where and in what form they are employed.

For another, while fortifications as fixed structures are themselves immobile, their role in operations is very often to act as a base of mobility for one's own forces while at the same time restricting or channelling the movement of one's enemy.[x] In other words, they are in no way antithetical to manoeuvre; indeed, the construction of a fortification may well constitute a 'manoeuvre' insofar as its intended effect is to dislocate an opponent and to stymie their strategies. [xi] Once again, we may surmise that fortification plays a role in operations that is complex and far-reaching.

Moreover, while many fortifications are constructed for fear of attack, it is equally apparent how frequently they play the central role in the conquest of new territory.[xii] In short, fortifications serve offensive strategies just as well as defensive ones. From this we may surmise that the utility of fortifications in war and warfare are more flexible than might be supposed from their superficial simplicity.

Finally, while we often judge the quality of this or that fortification as a singular construction, fortification as a strategy really comes to the fore when the fortresses are seen as comprising parts of a larger network.[xiii] From this we may surmise that the appropriate frame of reference for answering the perennial question 'do walls work' is strategic, which is to say that we should be precise about for what policy objective that they work (or fail to work) and judge them on that basis.

Indeed, it is not too much of a stretch to suggest that fortifications are quintessentially strategic in nature. Obvious hints toward this quality would include their cost and durability as well as their significant peacetime importance. While expedient and cheap fortifications abound, it has often been the case that serious fortifications have consumed a high fraction of national expenditure over a period of many years. Hadrian's Wall or China's Great Wall spring to mind as well-known examples but there are plenty more recent.[xiv] One might argue that fortification is the oldest recognisably complex human strategy.[xv] Even today, the traces of the fortified compounds and linear barriers built with great expense and effort by the first settled peoples to ward off the attacks of nomadic raiders are visible on the landscape.

In contemporary terms such sums equal or exceed that which a government might consider when investing in something like a fleet of nuclear submarines or a continental anti-ballistic missile system. Like those sorts of assets, fortifications are a highly durable good. They also possess a similar peacetime role, both as deterrent and as an enduring symbol of national power.

For these reasons I suggest that it is useful to think of what I term 'fortified strategic complexes', by which I mean large-scale projects of military engineering designed to shape a conflict or confrontation by altering the conditions of movement in an area over an extended period. The point at hand, though, is that fortification strategies remain highly relevant. Let us look at some examples.

II. Pacification

The 13th century conquest of Wales by England was, as the cliché goes, more of a process than an event. Long after the closure of 'major combat operations' the recalcitrant Welsh had to be pacified into acceptance of their new rulers. The means by which this was achieved: a network of castles and fortified colony towns, many of which still exist as monuments of the skill of mediaeval military engineering. The project was immensely costly—it effectively bankrupted the treasury of Edward I. Ultimately, though, it worked. [xvi]

The English did not invent this strategy of pacification by any means. The Normans did the same thing to the Saxons under William the Conqueror, as did the Romans for that matter throughout the Empire, and so too has done practically every other expansionist power in history from Tsarist Russia to the United States of America.[xvii] The European imperial powers did it on a global scale, which is why their fortresses dot the map from the Arctic circle to the Tropics and beyond.[xviii]

It is not that fortified strategic complexes for pacification always lead to success, for no strategy does; it is, rather, that all such campaigns—successful or otherwise—require them. The recently concluded war in Afghanistan provides an illuminating example.

A noteworthy thing about the layer of strategic stratigraphy just laid down in Afghanistan is how neatly it overlaps with past efforts. NATO 'castles' were often built around the remains of Soviet fortified outposts, which in turn were heaped on the site of derelict British fortresses, some of which rested on even older ones built by or against invaders ranging from the Mongols to the Macedonians. By 2010 it was reported that Afghanistan had 700 fortified bases and outposts, approximately 300 of them held by the Afghan national army and police—all now abandoned or held by the Taliban.[xix]

Despite all the advancements in weapons and transport and communications technology that have occurred over centuries NATO troops very largely occupied the same places to do the same things as armies of the distant past. Overlooking every major road juncture, constricted transport route, and population centre was to be found a fortified installation. The distance between them: approximately one day's march—a density of about one strongpoint for every 20-25 square kilometres. Their position: basically, where Alexander the Great located his forts. Their function: the same—observation, reporting, communications repeating, and overlapping patrolling.

Combat Outpost (COP) Coleman in the eastern Kunar province was built around a nineteenth-century British border fortress, while COP Castle (the hint is in the name) in Helmand province incorporated a twelfth-century castle once besieged by Genghis Khan's army. A full list of such examples would be very long.[xx] Where these structures differed marginally from their predecessors was in the profligate employment of HESCO bastion—essentially a modern gabion. A remarkably useful redesign of a very old piece of military technology, HESCO is to the War on Terror what the Huey helicopter was to Vietnam—effective, unglamorous, and ubiquitous.

Arguably, the peculiarly jury-rigged character of the fortified posture of ISAF in Afghanistan was its undoing. The fact is that most troops deployed there– 90 per cent or more–never or very rarely left their overtly armoured cantonments, in which (paradoxically, for a twenty-year campaign) they mostly lived in a ramshackle mix of tents and shipping containers. Big, fortified bases like Kandahar Airfield, or Bagram, with a day-time population like that of a mid-size town (and corresponding amenities and entertainments) cost hundreds of millions to build. Yet the 'body language' of their obviously temporary quality—containing nothing that could not either be packed in a transport or abandoned without much regret—was unmistakable: timidity rather than strength, lack of will rather than durability, and an ever-present urgency to leave.[xxi]

Nonetheless, to look at a map of ISAF deployments in the country alongside maps of the castellation of Wales, the myriad English fortifications of Normandy in the Hundred Years War, or the network of forts along the riverine systems of the American West or Siberia is to recognize an obvious pattern. It is rather like the normal distribution statisticians show in a bell curve: a consistent repetition indicative of an underlying logic, in this case of how—now as before—pacification is enacted militarily on the ground.[xxii]

III. Separation

Up to the point that their empire began to stagnate and then contract the Romans pursued a predictable and very effective strategy. Where their armies encountered lands and people worth conquering, and where they had the capacity to do so, they did, brutally and relentlessly. Where they encountered opponents whom they could not conquer but with whom they could treat, i.e., come to agreements to which both sides would hold (more or less), they made lasting political arrangements. Where the empire abutted on people who they could not conquer but who lacked the political order to make meaningful treaties, they built walls.[xxiii]

Hadrian's Wall and the Limes through Germany between the Rhine and the Danube are well-known, and still visible, examples of this strategic logic. The collection of linear barriers constructed over centuries that make up China's Great Wall arose out of similar conditions.[xxiv] What tends to pass popular recognition is quite how frequently, for how long, and how many societies have built such fortifications. Archaeologists have identified hundreds of pre-modern linear barriers ranging from dozens to hundreds of miles in length.[xxv] The boundaries in Western and Central Asia between steppe peoples and settled populations is especially littered with the colossal wrecks of forgotten walls.[xxvi]

Continuous frontier fortifications of great scale are clearly back in style. The US-Mexico border, which has been progressively fortified over decades, though more controversially recently, is a case in point. Properly speaking, this sort of fortified strategic complex, is an anti-migration barrier rather than a conventional military defence. Likewise, Europe's increasingly powerful border fortifications are designed as anti-migration barriers, though increasingly couched as a response to a 'hybrid' military threat in which population flows have been weaponised.

Other examples of anti-migratory but highly policed linear barriers include the 3,000-mile India-Bangladesh border which has been progressively fortified in a multi-decade project first proposed by Prime Minister Indira Gandhi in the early 1980s a few years before she was assassinated.[xxvii] Between 2001 and 2010 Indian security forces are estimated to have shot more than 930 Bangladeshis attempting to cross the border.[xxviii]

By no means, however, is migration the single (or primary)

motivation behind such constructions. It is estimated that by the end of 2021 Pakistan will have built (or recommissioned) as many as 1,000 forts and border posts along its border with Afghanistan.[xxix] These are but one part of a fortified strategic complex that includes approximately 1,500 miles of dual chain link and barbed wire fencing, plus a 400-mile-long, eleven-feet-deep and fourteen-feet-wide ditch, combined with an array of cameras and other electronic sensors, built at a reported cost of $500 million.[xxx] The Afghanistan-Pakistan region is impressively heavily fortified–but similar levels of effort are observable elsewhere in the world too.

Perhaps the most well-known is Morocco's Western Sahara Wall, often referred to as the 'Sand Wall'.[xxxi] The appellation is not surprising as the vast majority of its 1,600-mile length is of a sand berm and ditch construction. It is also, however, somewhat misleading as to the degree of effort and sophistication of its construction. Dotted with relentless regularity, easily observable on Google Earth, every three to five miles along the Sand Wall are forts manned by as many as 100,000 Moroccan soldiers. The gaps, moreover, are covered by high fences in many places, several layers of barbed wire, a range of electronic surveillance devices, and approximately seven million land mines. By any measure this is a serious work of fortification that has occupied the bulk of national military effort for the last thirty years.

The number of such barriers in the world today varies according to how and what one counts.[xxxii] Some such as that between Kenya and Somalia are seemingly half-built or mired in delay;[xxxiii] the so-called 'European Rampart' on Ukraine's border with Russia, now scheduled for completion in 2025, a decade after works began, is another example;[xxxiv] others such as the North & South Korean DMZ are thoroughly militarized to the point of practical impregnability outside of a major war. In recent years, among the largest and most technically sophisticated have been built in the Middle East, *inter alia* by Turkey on its border with Syria, and by Saudi Arabia initially on its border with Iraq and now along the Yemeni border as well.[xxxv]

There are two significant and related points here. One, national peripheral barriers are truly big business. The investment in the works described is hard to estimate because it rarely appears as one budget line in national defence accounts; it is, rather, spread across a range of public works covered by different ministries. We know, however, from the public estimates of US-Mexico border installations that it is measured in the billions. More generally, an indication of scale can be gleaned from things like the IFSEC Global Directory, which currently lists 355 companies selling 'perimeter security' products (and a further 709 selling associated systems). The perimeter security business alone is estimated now to be worth $61 billion annually, with the potential to rise to $96.5 billion by 2026.[xxxvi]

Two, these are serious works of military engineering. Even those aimed solely at preventing unarmed civilians from crossing borders illegally are impressively complex and powerful structures. The Spanish enclaves of Ceuta and Melilla in North Africa in recent years have witnessed quasi-mediaeval battles in which large and well-organized groups of migrants have accomplished several escalades in the face of increasingly overmatched resistance by border guards.[xxxvii] Those which are intended as barriers against armed infiltration, such as Israel's West Bank and Gaza fortifications or even more so those of Saudi Arabia and Turkey, are truly powerful military assets integrated in national security strategies.

IV. Consolidation

On the eve of the First World War all the major European powers subscribed to a large degree to a national security strategy based on grand fortifications.[xxxviii] Whole countries were armoured by parallel lines of fortresses along their frontiers, while important cities and communications centres were similarly fortified. The greatest of these defensive complexes such as the Belgian fortresses of the Meuse Valley or those of the French at Verdun, both built to ward off German attack on likely invasion routes, were potent symbols of national pride and the military engineers who designed them, like Generals Henri Alexis Brialmont and Sere de Rivieres respectively, were well known public figures.[xxxix] The strategic logic: territory-wise, what you own is what you can hold.

But the credibility of such strategies was badly shaken by the arrival of war. In the first few weeks of the First World War, forts which were thought to have been impregnable were blasted into submission by specialist German siege artillery like the 42cm Krupp gun, one of whose 1,600lb shells cracked open the concrete shell of Fort de Loncin, a Meuse fort near Liege, and exploded its powder magazine killing 250 Belgian soldiers and compelling its surrender.

Even more famously, France's Maginot Line, a mighty network of underground fortresses built in the 1930s, impeded German operations hardly at all. Even today, as a result, the words 'Maginot Line' are used as a simile for something expensive, retrograde, and doomed to failure. In fact, fortifications gave good service throughout the world wars.[xl] Nonetheless, nuclear weapons and high-intensity conventional warfare became the preoccupations of strategic thinkers while fortification came to be seen as a 'redundant science'.[xli]

Again, though, grand strategic fortifications are back in use. For coming on two decades, China has been building man-made islands in the South China Sea through massive dredging of sand piled over shallow reefs. Though it once promised not to fortify them it has done so extensively with particularly powerful installations now to be found at Fiery

Cross, Mischief, and Subi reefs in the Spratlys as well as on Woody Island in the Paracels. There are additionally many smaller fortified islands each proclaiming and backing up China's territorial claims.[xlii]

That this chain of fortifications is at sea on islands that nature has not intended to be there is testament to Chinese ambition and capacity for engineering mega projects. The strategic logic, however, is no different from that which motivated the construction of great belts of fortresses through Europe over a century ago. Indubitably, these are fortresses: in place of great guns, they deploy anti-ship missiles and military-grade runways; in place of a glacis, they depend upon powerful radars, surface-air missiles, and point-defence artillery; in place of casements, they feature protected magazines and armoured missile and aircraft shelters.

One might suggest, too, that Russia today for all its overt belligerency is pursuing essentially a fortification strategy. Secure behind its Kaliningrad bastion projecting into central Europe, protected by batteries of hypersonic missiles capable of threatening deep civil and military targets in the West with powerful conventional strikes in minutes, it has the wherewithal to meddle in the affairs of its close neighbours without too great fear of retaliation. With the completion soon of the Nordstream-2 gas pipeline, it shall also be effectively clear of the threat of siege by sanction.

Of course, ultimately, there is no such thing as an impregnable fortress—nor are fortified strategic complexes by any means a sure thing. Chance being a central quality of war, we should be very surprised at the suggestion of anything like surety. In the case of a power consolidating territorial control, a fortification strategy simply increases the cost to any potential attacker of the achievement of their objectives by force.

It remains to be seen whether China's 'Great Wall at Sea' will deter or defeat any challenges to their claims. It does not seem, though, a particularly desperate gamble or forlorn hope. Indeed, for the time being no one seems at all eager to test.[xliii] This seems also to be true of Russia.

Conclusion

Western defence establishments, abetted by the universities and think tanks, are out of step with reality. Their doctrines are based on beliefs and assumptions that are incorrect. For 30 years since the fall of the Berlin Wall and the triumph of globalisation we have been told that ours is a time extraordinary openness and mobility. Scholars use the term 'liquid modernity' to describe the now 'fluid' human condition. According to this thesis, the world ought to look a particular way. In the words of its author, Zygmunt Bauman:

…the world must be free of fences, barriers, fortified borders and checkpoints. Any dense and tight network of social bonds, and particularly a territorially rooted tight network, is an obstacle to be cleared out of the way.[xliv]

Either by deliberate effect, the conscious policy of powerful people and groups in government and industry, or as a natural expression of the network spirit of our connected age, the long age of walls and barriers, or any sorts of impediment to flows, was supposed to be over. A new age was supposed to have dawned, one in which heavy fortifications rooted in a physical place would be out of place. In various ways, notably the belief that high-tech armies can replace mass with speed and information and the cult-like affirmation of manoeuvre warfare, the theory also has significant purchase on the military mind.

The trouble is that while not altogether wrong about the power of information technology, for example, the simple fact is that stuff still matters. Fortified strategic complexes are at the heart of contemporary military affairs. We can see this to be the case when we look without blinders at the way in which we actually fight as opposed to what is taught about how we fight in staff colleges. We can see this in our daily lives as normal citizens every time we cross a frontier, or indeed in these COVID-days, attempt to enter a restaurant or a nightclub. We can see it in the strategies of our most likely opponents, who seem less burdened by flawed assumptions. We should catch up.

References

[i] George Sydenham Clarke, Fortification: Its Past Achievements, Recent Developments, and Future Prospects, 1st Ed (London: John Murray, 1890), p. iii.

[ii] See, for e.g., Beatrice Heuser's characterisation of the science of fortification as 'not obsolete' but 'overtaken' by technical changes, in The Evolution of Strategy (Cambridge: Cambridge University Press, 2010), p. 82).

[iii] David Betz, 'Citadels and Marching Forts: How Non-Technological Drivers are Pointing Future Warfare Towards Techniques from the Past', Scandinavian Journal of Military Studies, Vol. 2, No. 1 (2019), pp. 30–41.

[iv] David Betz, 'On Guard: The Contemporary Salience of Military Fortification', Engelsberg Ideas (19 November 2021), https://engelsbergideas.com/essays/on-guard-the-contemporary-salience-of-military-fortification/

[v] See Hansjorg Schwalm, 'Fortification' in Franklin D. Margiotta (ed.), Brassey's Land Forces Encyclopaedia (Washington DC: 2000), p. 395.

[vi] 'Fortification and Siegecraft' in Oxford Companion to Military History (Oxford: Oxford University Press, 2001), p. 312.

[vii] See David Frye, Walls: A History of Civilization (London: Faber and Faber, 2018), p. 8.

[viii] A surprising thing about renaissance city fortifications, for instance, is how often security was compromised by the design of magnificent gateways that owed more to urban design than military defence. See Simon Pepper, 'Siege Law, Siege Ritual, and Symbolism in City Walls' in James D. Tracy (ed.), City Walls: The Urban Enceinte in Global Perspective (Cambridge: Cambridge University Press, 2000), p. 586.

[ix] O.H. Creighton discusses the complex and only partly military logic of siting of mediaeval fortresses in Castles and Landscapes (Bristol: Equinox, 2002), chap. 3.

[x] As Philip Warner puts it in The Mediaeval Castle (New York: Barnes and Noble, 1971), p. 5 the primary function of the castle was to dominate as a base of patrolling not to act as a refuge.

[xi] For example, note the description of the T-Wall built during the 2008 Battle of Sadr City as the 'equivalent of a Roman siege engine' in David E. Johnson et al, The Battle of Sadr City: Reimagining Urban Combat (Santa Monica, CA: Rand, 2013), p. xxii.

[xii] See, for example, Geoffrey Parker, 'The Artillery Fortress as an Engine of European Overseas Expansion, 1480–1750', in Tracy (ed.), City Walls, pp. 386–415.

[xiii] A point illustrated well by R.C. Smail in his account of the strategy of Crusading Warfare, 1097–1193 (Cambridge: Cambridge University Press, 1956), esp. chap. vii.

[xiv] On account of inflation it is often easier to grasp the relative costs of fortifications in past times in terms of key components rather than money. The Maginot Line, the poster child of expensive fortifications, required 1.5 million cubic metres of reinforced concrete, for example. In comparison, the German AtlantikWall, built against the threat of Allied cross-Channel invasion, consumed 17 million. Even that huge sum, though, is exceeded by an order of magnitude by the 200 million planned for the defences of Germany against aerial bombardment—an amount that would have equalled that of all civilian construction for the previous 20 years. See William Allcorn, The Maginot Line, 1928–45 (Oxford: Osprey, 2003), p. 9; Steven Zaloga, Defences of the Third Reich, 1941–45 (Oxford: Osprey, 2012), p. 27.

[xv] See Lawrence H. Keeley, War Before Civilisation (Oxford: Oxford University Press, 1996), pp. 55–58.

[xvi] Christopher Gravett, The Castles of Edward I in Wales, 1277–1307. Also see for insight on the economics of castle-building in Jurgen Brauer and Hubert Van Tuyll, Castles, Battles and Bombs (Chicago: Chicago University Press, 2008), pp. 53–65.

[xvii] Konstantin Nossov, Russian Fortresses, 1480–1682 (Oxford: Osprey, 2006), and Ron Field, Forts of the American Frontier, 1820–91 (Oxford: Osprey, 2005).

[xviii] Quentin Hughes, Military Architecture (London: Hugh Evelyn, 1974), p. 145.

[xix] Cited in Betz, 'On Guard'.

[xx] Betz, 'On Guard'.

[xxi] As noted by Todd Greentree in 'What went Wrong in Afghanistan?', Parameters, Vol. 51, No. 4 (Winter 2021), p. 16.

[xxii] Michael Jones finds in 'War and Fourteenth Century France' in Anne Curry and Michael Huhes (eds.), Arms, Armies and Fortifications of the Hundred Years War (Woodbridge: Boydell Press, 1994), p. 110 that the average density of strongpoints in The Hundred Years War was approximately one per 20 or 25 square kilometres. Not much different from today.

[xxiii] See the introductory discussion of Roman frontiers in Philip Parker, The Empire Stops Here: A Journey Along the

Frontiers of the Roman World (London: Pimlico, 2010), pp. 1-14 and David J. Breeze, The Frontiers of Imperial Rome (Barnsley: Pen and Sword, 2011), esp. chap. 3.

[xxiv] That the Great Wall is a misnomer is forcefully argued by John Man in the introduction of The Great Wall (London: Bantam, 2008).

[xxv] Peter Spring, Great Walls and Linear Barriers (Barnsley: Pen and Sword, 2015), p. 7.

[xxvi] Frye, Walls, pp. 145-59.

[xxvii] 'Border walls to go up between India, Pakistan, Bangladesh and Afghanistan', Global Construction Review (30 March 2017), https://www.globalconstructionreview.com/border-walls-go-betw7een-ind7ia-pakis7tan/

[xxviii] '"Trigger Happy": Excessive Use of Force by Indian Troops at the Bangladesh Border', Human Rights Watch (9 December 2010), https://www.hrw.org/report/2010/12/09/trigger-happy/excessive-use-force-indian-troops-bangladesh-border

[xxix] 'Security forces successfully overcome terrorism, border fencing: report', Dunya News (26 August 2021), https://dunyanews.tv/en/Pakistan/616813-Security-forces-successfully-overcome-terrorism-border-fencing-report

[xxx] See 'Pakistan Completes Majority Of Afghan Border Fence', Voice of America (4 January 2021), https://unipath-magazine.com/pakistan-completes-majority-of-afghan-border-fence/#:~:text=During%20the%20spring%202020%20coronavirus%20pandemic%2C%20Pakistan%20announced,the%20historically%20porous%20frontier%20between%20the%20two%20countries

[xxxi] 'Western Sahara. The wall that nobody talks about', SouthWorld (1 November 2019), https://www.southworld.net/western-sahara-the-wall-that-nobody-talks-about/

[xxxii] Andrew Lisa, 'Thirty Border Walls Around the World Today', Stacker (31 January 2019), https://stacker.com/stories/2451/30-border-walls-around-world-today

[xxxiii] Patrick Vidija, 'Kenya suspends construction of Somalia border wall to ease tensions', The Star (31 March 2018), https://www.the-star.co.ke/news/2018-03-31-kenya-suspends-construction-of-somalia-border-wall-to-ease-tensions/

[xxxiv] 'Ukraine-Russia Border Fence / European Bulwark', Global Security (6 May 2021), https://www.globalsecurity.org/military/world/ukraine/border-fence.htm

[xxxv] 'Turkey-Syria Wall', Global Security (20 June 2018), https://www.globalsecurity.org/military/world/europe/tu-syria-wall.htm

[xxxvi] Cited in Betz, 'On Guard'.

[xxxvii] 'Spanish toehold in Africa "under siege" by Morocco', The Times (17 March 2020), https://www.thetimes.co.uk/article/spain-s-african-outposts-under-siege-from-hostile-neighbours-pvr92bl6b

[xxxviii] Ian Hogg, Fortress (New York: St. Martin's Press, 1975), p. 110.

[xxxix] See Clayton Donnell, The German Fortresses of Metz, 1870-1944 (Oxford: Osprey, 2008), The Forts of the Meuse in World War I (Oxford: Osprey, 2011), and The Fortifications of Verdun, 1874-1917.

[xl] The nineteenth century German fortifications around Metz held up Patton's Third Army from September to December of 1944 with savage fighting. See Donnell, The German Fortress of Metz. Vivian Rowe's sympathetic account of Maginot, The Great Wall of France, describes it as a 'triumph' (London: Putnam, 1959). The argument is compelling.

[xli] According to the blurb on the dustjacket of Hogg, Fortress.

[xlii] Gregory Poling, 'The Conventional Wisdom on China's Island Bases is Dangerously Wrong', War on the Rocks (10 January 2020), https://warontherocks.com/2020/01/the-conventional-wisdom-on-chinas-island-bases-is-dangerously-wrong/

[xliii] Hanna Beech, 'China's Sea Control Is a Done Deal, "Short of War With the U.S."', New York Times (20 September 2018), https://www.nytimes.com/2018/09/20/world/asia/south-china-sea-navy.html

[xliv] Zygmunt Bauman, Liquid Modernity (Cambridge: Polity, 2000), p. 14.

On Strategy: A Primer

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Drones in the Nagorno-Karabakh War: Analyzing the Data

Eado Hecht - Israel Defense Forces Tactical Command College

Image from Radio Free Europe at https://bit.ly/3FdxQt4 - Still released by Azerbaijan's Defense Ministry, October 1, UAV.

About the author

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The use of remotely piloted or autonomous aircraft, from now on called 'drones', has increased dramatically over the past two decades and has generated a debate on whether they are merely one more tool of war or a revolution in warfare. This debate escalated during the Second Nagorno-Karabakh War, but most articles simply stated opinions without providing actual data to support them.

Many accounts of the war describe it as a one-sided, an Azeri drones versus Armenian ground forces event with Azeri ground forces figuratively "riding

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on the backs" of the drones to victory with a minimum of fighting by them. To quote a typical example:

> "Azerbaijan's UAVs obliterated Armenia's formidable array of ground-based air defences, after which they systematically decimated Armenia's ground force matériel, including tanks, artillery pieces, and supply trucks. This onslaught forced Armenia to accept a humiliating ceasefire imposed by Russia.
>
> ... It can be said that this was the first postmodern conflict, in that it was the first in which unmanned-aircraft overwhelmed a conventional ground force, grinding it down to the point of impotence and paving the way for the Azeri ground forces to roll in and take possession of a strategic chokepoint."[i]

Do the available numbers support statements such as this?

And if so – were drones necessary to achieve this result, or could it have been achieved by 'ordinary' aircraft?

Nagorno-Karabakh in Numbers

First a qualification – neither side in the conflict has released reliable numbers. Reading the daily claims of both sides during the war clearly shows exaggeration and misdirection by both.[ii] Numbers published daily contradicted numbers published previously and later.

Since only Azerbaijan employed armed drones, both munition-dropping and suicide versions, the focus is on the capabilities and limitations exposed by them. However, beyond the technical aspects of the drones themselves, there are tactical and professional aspects on the Azeri side that may have prevented them from fully exploiting drone capabilities and technical, tactical, and professional aspects on the Armenian side[iii] that may have assisted the Azeris in achieving more than they would have against a better-prepared foe. A data study collecting all the publicly available video and photographs of destroyed Armenian equipment, separating proven drone-kills, proven kills by other-weapons and kills by unknown weapons, has been published by an independent research team named Oryx,[iv] but it contains fewer targets than the total claimed destroyed by the Azeris. Perhaps the proven destructions by drones are fewer than the total destroyed by drones, and perhaps the number of photographically proven drone-destructions is virtually all there were. The rest were destroyed by other weapons that had no photographic back-up. In any case, the following analysis must be treated with caution. The opposite is more accurate, in that all claims for or against the future of drones based on this war do not utilize the available data, so are less reliable.

After the war, President Aliyev published a summary of Armenian equipment destroyed and captured by the Azeris.[v] For our purposes only the destroyed equipment matters. Some of the captured items were damaged and some were abandoned undamaged, but there is no account separating the two. The following table compares Aliyev's statement with the Oryx video and photograph collection.

Target Type	Aliyev	Oryx			
		Total	Certainly Drone	Certainly Not Drone	Unknown
Tanks	287	143	101	21	21
Other AFVs	69	42	21	6	15
Artillery	511	233	212	7	14
Anti-tank guns and missile-launchers	53	8	4	0	4
Anti-aircraft guns and missile-launchers	73	65	54	2	9
Radars and Electronic Warfare	13 9	13 3	13 1	0	0 2
Trucks[vi]	252	236	157	3	76
Total Items	1,267	743	563	39	141

It should be remembered that the photographic sample provided by the Azeris shows only the successes – never the misses.

The total photographic sample covers nearly 60% of Aliyev's claim and 75% of the sample was destroyed by drones, i.e., almost 45% of the total claimed by Aliyev were definitely destroyed by drones. Even assuming that this is the complete portion of targets destroyed by drones, this is certainly a sizeable proportion. However, the actual proportion might be larger since we do not know how many more items were destroyed by drones without publication of photographic evidence. As far as the destroyed trucks and most other soft skinned-vehicles are concerned, it is likely to be almost all of them, given the locations they were destroyed – some distance from the front lines. It is also unlikely that they were targeted by artillery in those locations. The Azeri air force did conduct approximately 600 sorties by manned-aircraft,[vii] mostly Su-25s and attack-helicopters, but there is only anecdotal information on their targets.

Ostensibly the claims of Azeri ground forces riding to success on the back of a storm of drones are vindicated. However, this conclusion is complicated by other data.

First and foremost, the casualties suffered by the Azeris, which is a minimum of 2,900 admitted killed and a few thousand wounded.[viii] This was not a ground force that fought a battle made easy by the effects of massive drone

strikes. This ground force had to fight casualty-intensive battles to defeat a determined enemy, no less well equipped and no less proficient than itself – a peer enemy. The drones definitely tipped the balance in favour of the Azeris, but by themselves, they did not win the war – not even close.

Furthermore, 563 certain destructions by drone's average to only 13 per day of the 44 day war. Adding 75% of the equipment claimed destroyed by Aliyev (assuming the ratio of targets destroyed by drones to total targets destroyed is the same as the photographic sample) raises this to only 22 targets per day. Reducing days on which there were no drone strikes (at least four such days, according to the Armenians). There were 14 days in which the Azeris did not publish new drone-strike videos (though whether because they had none or chose not to is not known), and concentrating more strikes on particular days to fit the waxing and waning of the ground combat and the vagaries of official Azeri statements, does not suggest an overwhelming rate of destruction. Furthermore, declared Armenian fatalities are less than 1.5 times those of the Azeris (currently almost 4,000 dead and missing), but comparing equipment losses is almost impossible as there is very little photographic evidence. The Azeris have not provided any numbers on their equipment losses and Armenian claims seem grossly exaggerated (784 tanks and other AFVs by morning of 8th November[ix]).

The fact is that on the first days of the war repeated Azeri ground attacks failed to penetrate Armenian defences[x] and that even after they finally succeeded, exploiting this success faced stiff resistance and they suffered a few more tactical defeats before the final victory. The war was won by Azeri perseverance in the face of heavy casualties and many small defeats while gradually wearing-down Armenian forces no-less determined than the Azeris[xi] and gradually taking ground till the Armenian political and military leadership realized that the situation was irretrievably lost, and further resistance would cost more casualties and territory but achieve nothing.

Perusing the Azeri Ministry of Defence statements suggests that on the first days the drone force focused on destroying Armenian air defences. Based on their official statements, strikes on air defences continued throughout the war at a slower pace, suggesting that the Azeris were satisfied with the initial results. However, the strike videos they released showed much fewer air defence targets struck than declared – so either the declarations were exaggerated, or the videos were only a chosen sample. The numbers declared accumulated gradually to 61 air defence targets on 7th October (Day ten of the war), but then, on 9th October, they reduced the accumulated total to only 27 and gradually added more until Aliyev's final statement of 73 items all together.

A similar pattern can be seen also in regard to the variety of other targets attacked: publication of statements much higher than the video evidence; an accumulation of enemy targets destroyed reaching a peak at noon 9th October, and that evening a reduction in the accumulated claims (tanks and other AFVs from 275 to 232 and artillery systems from 286 to 242) and a much more gradual accumulation from then to the end of the war. The number of strike videos released always trailing behind the textual claims. It should be remembered that not all these targets were hit by drones.

Perusing the photographic evidence of drone strikes suggests Azeri preferences in attacking targets: nearly twice as many artillery targets were struck than tanks and other AFVs. Trucks are about 28% of the photographic sample of drone-destroyed targets – more than tanks and AFVs (22%) but less than artillery (38%). Adding the other types of soft-vehicles struck and taking into account that even without photographic evidence, the location of most of the trucks and vehicles when destroyed or damaged was in areas that strongly suggest they too were hit by drones or other aircraft, changes the proportions but still does not necessarily change the order of priority the Azeris apparently ascribed to the different target types. What is clear is that the majority of the drone strikes were not against Armenian forces in the front line – the focus is on the artillery support, the armoured reserves and the logistics (not only trucks – also supply bases, especially ammunition storage).

To conclude: it is very clear that without the drones the Azeris would not have achieved the success that they did. However, it is just as clear that the drones did not win the war by themselves and did not make the ground battle easy. Given the available data, computing the exact share in victory between drones and ground forces more accurately than that is impossible.

Failure of Armenia's Air Defence

By war's end, the Armenians claimed to have shot down a grand total of 264 drones, 25 combat aircraft and 16 helicopters,[xii] however, provided no evidence. If these numbers are true, then the Armenian air defence is definitely worthy of the adjective "formidable" as quoted above. The Azeris deny anything close to these numbers but provide no real numbers or evidence of their own. What is clear is that even if the Armenians did shoot down 264 drones, the Azeris apparently had many more available – enough to achieve the results described above. There is no way to provide other numbers, but the achievements of the Armenian drones and air force in general suggest that the Armenian claims are a gross exaggeration.

To paraphrase British Prime Minister Stanley Baldwin argument in 1932, "The drone will always get through"?[xiii] Or, at least enough of them to ultimately make the defensive futile?

This should not be inferred from the Second Nagorno-Karabakh War. A careful study of Armenia's air defence shows that it was not "formidable", certainly not where drones are concerned. Exact amounts of the various missile systems are not available, but they included a combination of Strela-10 (SA-13), Osa (SA-8), Kub (SA-6), Krug (SA-4), S-300 and Tor. Except the Tor, all were older less capable versions.

Only the Tor was a threat to the Bayraktar TB-2 and Israeli-made suicide-drones.[xiv] The effective range of the Strella-10s and Osas against the TB-2 drone sized targets was shorter than the range of the missiles these carried; whereas the longer-ranged Kubs, Krugs and S-300s were optimized against targets bigger and faster than the drones, so to them the drones were invisible.[xv] Apparently there were only 6 Tors. Given the overall size of Nagorno-Karabakh and its mountainous terrain, 6 Tors were a drop in the bucket compared to the number needed to create a robust defence with overlapping fields-of-fire to provide cover for each other. One Tor was destroyed towards the end of the war. The Azeris observed it with a drone from a safe distance till it folded its antenna and drove into a garage for maintenance or rest. As soon as it was unable to defend itself, it was bombarded with a number of suicide drones. Not only were the Armenians lacking in numbers of relevant systems, but neither did they use those they had properly – sending them alone rather than providing each other cover. So basing computations of the future capability of drones against air defences on the Nagorno-Karabakh war is misleading. It cannot be assumed in advance that future enemies will be as weak as the Armenians were.

An important question is why did the Armenians not acquire better systems – this war was not the first time they had faced drone strikes launched by the Azeris. The Azeris had used Israel-made suicide drones in a number of previous skirmishes since 2016. However, apparently the Armenians believed they were protected. After a four-day skirmish in July 2020, an Armenian Major-General stated that during that skirmish: "... the Armenian army destroyed more than a dozen Israeli strike drones that were in the Azerbaijani arsenal within a matter of days. These drones were made of the best technology and they were considered indestructible."[xvi] The only change made by the Azeris from the July skirmish to the war, was to add a new drone to their arsenal – the missile-firing Bayraktar TB2 drone, enabling them to strike targets up to 8 kilometers away. The vast majority of the strike videos released by the Azeri Ministry of Defence were filmed by the TB2s, but these include videos of suicide-drone strikes, so it is not quite clear how many of these videos show actual TB2 strikes or the TB2 is merely the spotter for the suicide-drone attack. If the new missile-firing drone is the reason for the change in level of success, it would suggest that the Armenian air defences had been perhaps sufficiently effective in shooting-down of suicide-drones, which need to approach the target and therefore operate deep in the defensive envelope of the defensive systems, including ordinary anti-aircraft guns. An alternative explanation is that the Azeris had used their suicide-drones sparingly, so the Armenians were lulled into complacency by their presumed success in defeating this weapon.

One weakness of the remotely piloted drone is the threat that the enemy might override the controls and force it to crash by jamming or spoofing the signals sent by its pilot. One report claimed that 9 Azeri drones had been brought down in this manner when they flew too near a Russian army base in Armenia.[xvii] After the war, an Armenian general stated that the Armenians had successfully used a Russian electronic warfare system for several days. He did not specify whether the system brought down the drones or just forced them to maintain pilot control.[xviii]

The lesson is clear – armies must develop and procure large numbers of anti-drone capable systems. Systems optimized to confront manned-aircraft are usually not sufficient to confront the smaller drones – though against larger drones they can be effective.[xix]

Some analysts have suggested the issue was the lack of Armenian combat-field-craft – they were parked or drove in the open with insufficient use of camouflage or terrain concealment and often were too tightly bunched into a convenient target to be detected and attacked. However, better combat-field-craft would not have solved the Armenians' problem. The terrain over most of the theater is devoid of tall vegetation or other options of concealment. Furthermore, some strike videos clearly show failed attempts to conceal equipment in small woods or under camouflage nets. The ability of the drones to conduct long sweeps of an area with multi-spectral cameras enabled them to find these targets too. Furthermore, concealment prevents movement – how would the Armenians have brought up reinforcements or conducted counter-attacks while hiding? Also, the concept of spreading out against small guided steep trajectory munitions is almost irrelevant – unlike statistical or flat-trajectory munitions, the miss, if it occurs will be very close to the target, and the warheads are fairly small.

The only solution is to provide active interception of the drones and the munitions – an 'interception dome' of mobile weapons that can cover an area large enough for a ground forces company or battalion to maneuver in and can move with that unit to maintain that dome wherever it goes. Electronic warfare is useful but might accidentally bring down friendly drones, whereas interception weapons can be equipped to discern friendly from hostile drones. Another issue is that whether using physical interceptors or electronic warfare, the defending unit continuously signals its own location and that of the unit it is defending to the enemy's signals intelligence.

Conclusions

What can be learned from this war on the topic of drones?

First a qualification – an issue not discussed here is the tactical effect of drone-swarms as opposed to single drones, since none were employed.

Second – it is clear that the hype was exaggerated. The Azeri drones were essential for their victory, but did not win the war alone, severe ground fighting was necessary.

Some of the lessons are not new – when one side has an advantage in the air, he gains a considerable advantage on the ground too. To quote Erwin Rommel, who faced manned-aircraft – not drones: "Anyone who has to fight, even with the most modern weapons, against an enemy in complete command of the air, fights like a savage against modern European troops, under the same handicaps and with same chances of success."[xx]

The Azeris did not command the air, but the ability of their drones to exploit a specific gap in the Armenian air defence, gave them freedom to use the air and gradually, as they destroyed more and more Armenian air defence assets, provided operational freedom to use manned-aircraft too. However, this gap was created by Armenian mistakes, not by the essential nature of drone warfare. Furthermore, the gap can probably only be reduced, not fully closed, because of even smaller drones used by the Islamic State and other organizations. The converse is that the smaller the drones needed to exploit what remains of that gap, the smaller the size of the munitions they can carry and therefore the smaller their tactical effect. In fact, most of the drones today can carry munitions equivalent only to attack-helicopters. Whenever a bigger bomb is needed manned aircraft are still needed to carry them. This will probably change in the future, but is correct for several years at least.

The effect of drones on the fighting in Nagorno-Karabakh was a replication of events in Syria and Libya. Though again, one should be wary of statements over-hyping the effects there too.

> "Turkey used its fleet of drones to lay waste to Syrian Arab Army (SAA) tanks, vehicles, and air defenses, while Azerbaijan was able to do much the same against Armenian forces in Nagorno Karabakh."[xxi]

This misrepresents events in Nagorno-Karabakh and in Syria. Syrian regime forces were initially surprised and shocked as they had no air defence assets facing a Rebel force devoid of aircraft. However, after suffering many fewer casualties than claimed in press releases by the Turks, the Syrian recovered within 24 to 48 hours, halted the Rebel ground attack the Turkish drone-offensive was supporting and counter-attacked to retake all ground lost to the Rebels and more. In Syria and Libya, the drones attacked in a permissive environment regarding anti-drone defences. However, it should be remembered that manned aircraft have been operating like this for many years, even when the enemy ostensibly has some air defence capability – see the Israeli air force's almost complete freedom of action since 1982.

However, exaggerated though the hype may be, the obvious lesson from all these events is that ground forces need to invest significantly in developing and procuring effective anti-small-drone equipment. Once the technological issue is solved, as it should be fairly easily, the tactical issue must be addressed – training units to deploy and maneuver together with the new equipment so as not to accidentally move outside the protective dome they provide and learning to operate one's own drones through that dome.

Drones do provide some new tactical capabilities: longer loitering times compared to manned-aircraft; the ability of the pilot, sitting in an office, to calmly survey the ground and focus on detection and targeting and when he tries – to exchange seats with someone fresh; the quality of the pilot's surveillance equipment. But they do not, in as of themselves, radically change the ability or utility of airpower on the battlefield. The results achieved in Nagorno-Karabakh were not better than those achieved by drone-less properly handled air forces in previous wars. Had the Azeris employed an air force with capabilities similar to those of the USA, Israel or similar armies, the result would have been at least the same, and some would argue even better – given the more powerful bombs carried by manned aircraft.

A tactical revolution is not in the offing, however a strategic revolution is. It comes not from the tactical capabilities of the drones, but from their cheapness, simplicity and availability compared to manned aircraft. States and organizations who cannot afford a full-capability air force of manned-aircraft can now acquire a capability that may not be as comprehensive or as powerful as manned aircraft. Thus this is a huge leap from nothing, or almost nothing, to capabilities they could only dream of. For states like the USA, Western Europe, Turkey and Israel, with large, advanced air forces of manned-aircraft, the drones are an incremental, albeit useful, improvement. For states like Azerbaijan, unable to fund and maintain an air force, though it had a smaller weaker air force, this was a radical enhancement in military capability. For an organization like Hezbollah, which cannot even establish and maintain an air force like Azerbaijan's and which only began to use armed-drones during its involvement in the Syrian Civil War, this is an enormous leap up. For decades the Israeli army has been used to fighting without looking up to see whose aircraft was rumbling overhead, knowing with virtually 100% certainty it was Israeli. It can no longer be certain of that and must prepare to operate under unfriendly skies. Achieving air-superiority in one fell swoop as in 1967 is no longer an option. That is undoubtedly true also in other

parts of the world.

Therefore, the lessons of Nagorno-Karabakh are that advanced air forces have very little to learn from this war. Conversely – air defence forces and ground forces, even of armies that have advanced air forces, must take into account and prepare to meet a new threat that enables poorer and even primitive military forces to create an aerial threat that did not exist before.

References

[i] Uzi Rubin, The Second Nagorno-Karabakh War: A Milestone in Military Affairs, The Begin-Sadat Center for Strategic Studies, December 2020, https://besacenter.org/nagorno-karabakh-war-milestone/, pp 4, 5. The quotes from this source are only an example of many similar claims.

[ii] The Azeris do not admit this but comparing their statements at different times reveals their inaccuracy. On the Armenian side, nine days after the war ended, Armenian General Movses Hakobyan, Chief Military Inspector of the Armed Forces, resigned and claimed that all the official statements by the Armenian Ministry of Defence had been lies. "Movses Hakobyan reveals military secrets about Armenia's defeat", Vestnik Kavkaza, 19 November 2020, https://vestnikkavkaza.net/news/Movses-Hakobyan-reveals-military-secrets-about-Armenia-s-defeat.html. Even without accepting Hakobyan's statement as completely accurate, a detailed reading of those statements suggests a great deal of obfuscation.

[iii] Officially the Armenian side included two separate political and military entities: the Republic of Artsakh in the Nagorno-Karabakh territory and its ally the Republic of Armenia which only assisted Artsakh. For this article, the difference does not matter. For the sake of brevity and clarity and without going into political and legal implications, they will be referred to in general as Armenians.

[iv] Stijn Mitzer, Joost Oliemans, Jakub Janovsky, 'Dan' & 'COIN', "The Fight For Nagorno-Karabakh: Documenting Losses on The Sides Of Armenia and Azerbaijan", ORYX, https://www.oryxspioenkop.com/2020/09/the-fight-for-nagorno-karabakh.html. The list is updated occasionally as new information is found. The version downloaded is updated to 25 October 2021. The current author has considered and corrected a couple of small errors.

[v] President Aliyev's Speech to the Nation, 1st December 2020, https://mod.gov.az/en/news/president-of-azerbaijan-ilham-aliyev-addressed-the-nation-video-33929.html.

[vi] Aliyev's statement did not include the wide variety of other utility vehicles – jeeps, vans etc. According to Oryx data, these include approximately 85 more vehicles destroyed by drones.

[vii] P. H. Pukhov (Editor), Storm Over Caucasus (Russian), Center for Analysis of Strategies and Technologies, 2021, p 49.

[viii] Here too propaganda issues muddy the waters – the Azeris deny, though multiple other sources attest to, the involvement of Syrian mercenaries, who apparently suffered 250 to 540 killed depending on the source. Also, the Azeris have not released total figures for wounded – only that on 3 December 2020, three weeks after the war ended and about 10 weeks from its beginning, 1,245 soldiers were still in medical institutions (Azerbaijan Ministry of Defence Statement, 3 December 2020). Given the usual statistics of wounded versus killed in wars conducted with large forces employing mostly heavy weapons, typical severity of wounds and recovery times that number suggests several thousand wounded throughout the war. The Armenians claimed to have inflicted 7,630 casualties (Armenian Ministry of Defence Spokesperson, 8 November 2020) . Their statements were often proven inaccurate so should be used with caution – this would suggest about 4,500 wounded.

[ix] Official statement by the Armenian Ministry of Defence, 15:00, 8 November, 2020. This was their last statement on the subject though the war continued for another 39 hours. Photographic evidence collected by the Oryx team documents the destruction of 91 Azeri tanks, infantry fighting vehicles and armoured personnel carriers, another 26 damaged and a few more abandoned and captured by the Armenians. However, the Armenians had much less photographic evidence to provide, because drones photograph their actions whereas ground weapons do not.

[x] Official Azeri statements claimed successes on all these days with lists of Azeri villages abandoned in the previous war (1989 – 1994) were liberated. Even assuming they are telling the truth, the locations of these villages shows they are all right on the front line, a bit to the right or a bit to the left of the previous location claimed to be liberated. Also, as the war progressed, journalists visiting 'liberated' villages often found them still in Armenian hands. The Azeris apparently conducted a number of photo-op raids in which combat teams with cameras infiltrated behind Armenian forces to film the liberation of locations but withdrew shortly after.

[xi] There have been reports of Armenian troops and units deserting against fewer reports claiming the same on Azeri troops. In war, there are often moments of crisis in which men and units break. Sometimes these are permanent and sometimes temporary. It is possible that in the last days of the war, more Armenians despaired so there was a greater inclination to retreat than to fight, but definitely during the first half of the war, the Armenians stood their ground and counter-attacked frequently and on the last days too there were fierce battles.

[xii] Official statement by the Armenian Ministry of Defence, 15:00, 8 November, 2020.

[xiii] "The bomber will always get through" – in a speech to parliament about the futility of trying to defend against the strategic bombing of a country's civilian heartland. The only way to win, suggested Baldwin, was to bomb the rival even more powerfully than he could bomb Britain so that the rival would capitulate before Britain was forced to.

[xiv] For an explanation of the technical issues of the equipment used by the Armenians, see an article written by a former Serb air defence officer who had operated similar systems: Zoran Vukosavljević, "Okršaji azerbejdžanskih dronova i Sistema PVO Jermenije: Koje su lekcije za Srbiju?", Tango Six, 20 Oktober 2020, https://tangosix.rs/2020/20/10/analiza-okrsaji-azerbejdzanskih-dronova-i-sistema-pvo-jermenije-koje-su-lekcije-za-srbiju/

[xv] Optimization to see targets only bigger than… and faster than… is done to reduce false detections from various phenomena including birds.

[xvi] Ashot Hakobyan, "General Daniel Balayan: 'Azerbaijanis brought this fight upon themselves ",Aravot – Armenia News, 21 July 2020, https://www.aravot-en.am/2020/07/21/260526/

[xvii] "Russia Shot-Down A Total Of Nine Turkish Bayraktar Drones Near Its Armenian Military Base – Russian Media Reports", EurAsian Times, October 21, 2020, https://eurasiantimes.com/russia-shot-down-a-total-of-nine-turkish-bayraktar-drones-near-its-armenia-military-base-russian-media-reports/

[xviii] " Armenia: General accused Prime Minister Pashinyan of blunders in the war in Karabakh" (Russian), BBC News – Russian, 19 November 2020, https://www.bbc.com/russian/features-55005875.

[xix] See for example the shooting-down of an American surveillance drone by Iranian air defences in summer 2019.

[xx] Erwin Rommel, The Rommel Papers, De Capo Press, 1953, p 285.

[xxi] John Flannelly, "Drone Effectiveness Against Air Defenses, Not Tanks, Is the Real Concern", The Defence Post, 7 December 2020, https://www.thedefensepost.com/2020/12/07/drone-effectiveness-air-defense/

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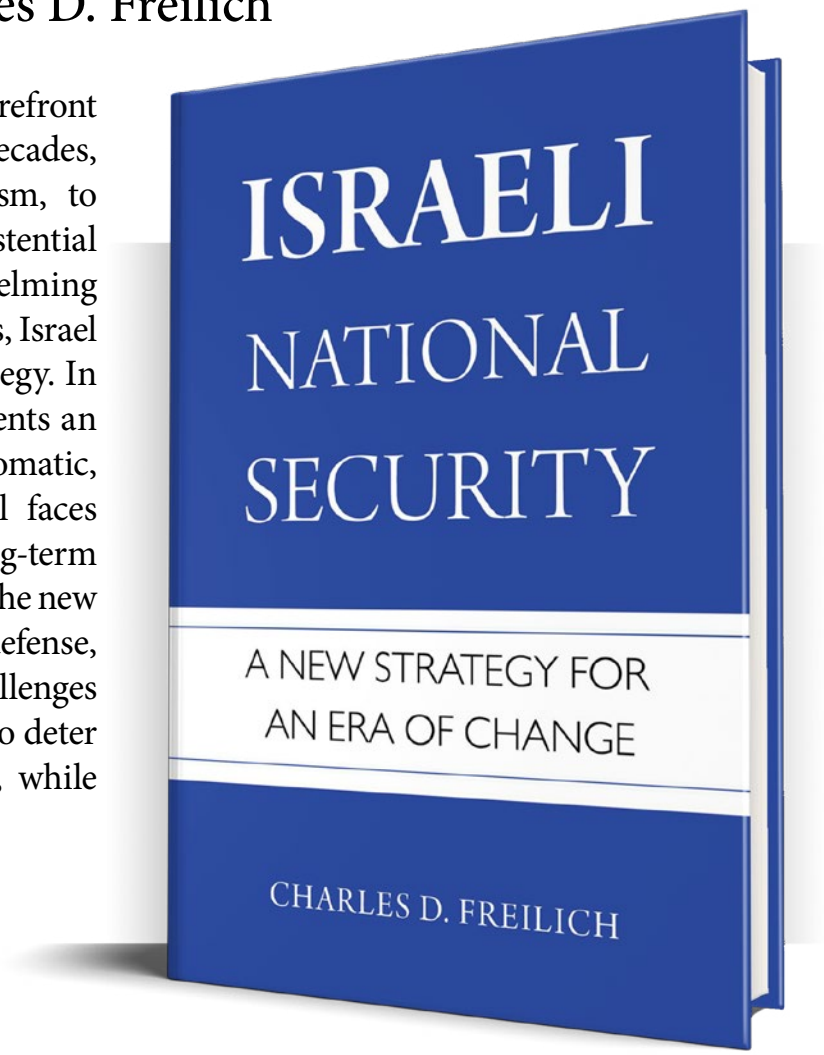

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The Screenwriter's Guide to NATO Civil-Military Relations

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Disclaimer: This article reflects the views of the author alone and does not represent the views of NATO, its allies, or institutions.

"Mandrake, do you recall what Clemenceau once said about war?... He said, 'War is too important to be left to the generals.' When he said that, fifty years ago, he may have been right. But today war is too important to be left to the politicians. They have neither the time, the training, nor the inclination for strategic thought."[i]

Beyond the ramblings on Communist subversion and the theft of 'bodily fluids', Base Commander Jack D. Ripper's fictional dialogue with Group Captain Lionel Mandrake in *Dr. Strangelove* (played by Sterling Hayden and Peter Sellers respectively) is a perceptive commentary on the core issue of civil-military relations. For whom is war "more important"?

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Distinctly lacking from *Dr. Strangelove* as well as answers to the question above is one organization in particular, NATO. For a film on the high politics of nuclear deterrence between the United States and the USSR, particularly one with a British character, it is a distinctly glaring omission. Major Cold War crises almost always included consultation between NATO allies, from the Korean War to the collapse of the Soviet Union.

This is the case across books, films, and TV as well. Occasionally a film might begin with the collapse of NATO, like *Red Dawn*[ii], or the Alliance is merely a side mention to the drama of the story, like in the Bond film *Thunderball*[iii] or the more recent German-language TV show *Deutschland 83*.[iv] In the Tom Clancy novel *Red Storm Rising*[v], NATO is peripheral, merely occupying the same space as US forces.

This supporting character role for NATO in film, TV, and literature has its parallel in a particular niche corner of the academic world. In civil-military relations, that field which General Ripper alluded to earlier by invoking Clemenceau, NATO has been at best an extra with a speaking part, at worst mere scenery. Indeed, there has never been a dedicated and sufficiently broad study of civil-military relations with NATO in the spotlight.

To begin filling this academic gap this article returns to Ripper's question, for whom in NATO is war more important? The simple answer is both the generals *and* the politicians. A more involved answer is that it depends on specific circumstance, the players involved, the nature of the war and its costs. Non-discretionary wars involve a greater commitment from both while wars of choice, such as in Afghanistan or Iraq, will probably be of greater interest to politicians. However, what we will see here is that to divide between the military and political is to detach two groups that share unique responsibilities in matters of war and peace, particularly in an alliance like NATO.

Why NATO civil-military relations?

The internal dynamics between civil and military authorities in NATO have been, on the whole, and especially on the surface, harmonious. This however does not eliminate NATO as an interesting case. As Mara Karlin, an academic recently turned Deputy Undersecretary of Defense, has written about the generally bland civil-military relations in the Pentagon, "Infrequent or utterly ineffective dialogue may be an anomaly in practice, but the magnitude of the consequences of [a] lack of communication caution against being overly optimistic."[vi] Just because generally effective cooperation has been the norm, does not mean this norm has never been deviated from. Contentious politics and internal conflict within NATO structures may be rare, but its consequences are often strongly felt.

Meeting this standard does not take the study of NATO civil-military relations out of the woods yet. Both Samuel Huntington, the patriarch of civil-military relations theory, and the scholar Peter Feaver have been reticent to explore the alliance's institutions. NATO's internal dynamics are described as a "tangled mess" that "defies easy modelling," by Feaver[vii] while Huntington's normative ideals of the proper civil-military relationship dismisses many of NATO's institutions as either "impractical" or unideal.[viii]

Some historians have been less reticent in their approach, however. Diego Ruiz Palmer[ix] and Lawrence Kaplan[x] have led efforts to overcome the tendency to look at the political and institutional history of the Alliance as separated from its military history. Despite this, in the introduction to a recent volume on NATO historiography, NATO historian Linda Risso has succinctly argued that the political and military institutions are "strongly interdependent, and they mutually influence each other to a point that has yet to be examined in a satisfactory account."

Revisiting NATO through Civil-Military Relations

Scholars in general make little mention of NATO civil-military relations, though specific mention should be made of Robert Jordan's Cold War-era companion analyses of NATO leadership[xi], as well as Ryan Hendrickson's work on the post-Cold War office of the Secretary General. These, however, hardly scratch the surface given the breadth of NATO institutions. It is important then to re-examine the major theories in the field, and to critically assess if they can adequately equip researchers with the tools to approach civil-military relations in the case of NATO.

Samuel Huntington proposed a model of civil-military relations termed 'objective civilian control'. Objective control, to Huntington, was the clear delineation of political and military spheres, and the total subordination of the latter to the former, while political officials are equally expected to stay out of military affairs. As put succinctly in *The Soldier and the State*, "A minister of war need not have a detailed knowledge of military affairs, and soldiers often make poor ministers."[xii]

The Soldier and the State also critiqued the post-Second World War trend of 'fusionism', that military leaders should consider non-military (economic, diplomatic, etc.) factors into account in their military judgement, and commented negatively on 'soldier-statesmen' in uniform who acted in largely diplomatic roles and advocated for political agendas.[xiii]

Contrasted to Huntington, sociologist Morris Janowitz proposes the opposite ideal. Rather than strict military 'professionals', Janowitz argued that armed forces need political-military managers[xiv], who can effectively operate within the international security environment,

with a major responsibility being the management of alliances.[xv] Beyond ascribing a specific "political-military officer", Janowitz further argues that, "Every ranking field commander stationed abroad is, by virtue of his very position, a political agent…" Janowitz's ideal officer, the political-military manager, is a reflection not only that war is an extension of politics, but that military affairs are inherently and inseparably political.

Competing theories, however, from researchers such as Rebecca Schiff[xvi] and Douglas Bland[xvii], abound. British historian Hew Strachan has noted how Huntington's theories in particular are important only for understanding American politics in 1950s but remain limited in other contexts.[xviii] Gordon Craig has warned more broadly that "it is difficult to frame a theoretical definition of appropriate roles that is not so broad as to be meaningless,"[xix] while the author David Betz has argued convincingly that in cases where little in the academic literature can provide a guidebook, "it pays to be wary of theory."[xx] Avoiding then categorical formulations of civil-military relations (particularly those based solely on the US case), the literature can provide only a loose framework, as well as some useful concepts like Janowitz's "political-military manager" and Huntington's "fusionism".

A Window into NATO Civil-Military Relations

NATO officials may loosely fit the "fusionist" and "political-military manager" concepts. Neither political or military policy, strategy, or even operations is developed or conducted in total isolation from the other. Military officers have often performed political roles, while political leaders have been deeply involved in military affairs.

Take for instance the role of Supreme Allied Commander Europe (SACEUR), and the staff of Supreme Headquarters Allied Power Europe (SHAPE). Eisenhower, as the first SACEUR, served the almost exclusively political function of building support for the new organisation in allied governments and populations. General Alfred Gruenther, the third to hold the international post (1953-1956), had the task of convincing German political leaders that continued conscription was compatible with the 'massive retaliation' doctrine.[xxi]

Even more tellingly, General Lauris Norstad (1956-1963) and the SHAPE staff were intimately involved in the drafting of political directives, beyond what might be considered the normal scope of 'military advice'. A declassified internal SHAPE history details the development of the 1957 Political Directive, which updated assessments of trends in Soviet policy that would form the basis of force reviews. Described in the internal history, "SACEUR and his staff took every opportunity to observe informally the development of this document within the framework of the civilian structure." SHAPE staff concluded after several interventions in drafting that sought to avoid "political decision which could limit severely the military commander's authority," that "the Political Directive is generally acceptable to Allied Command Europe as guidance for the development of forward planning.'"[xxii]

This role played by SACEUR, as well as many subordinate commanders in Europe, was, and is today, the precise stereotype of the political-military manager. NATO military officials have often found themselves in the position of not only developing military plans for the defence of Europe, but also being a key player in securing a less tangible part of the Alliance: its solidarity.

Ensuring Alliance cohesion and solidarity is and has always been the ultimate political task in NATO. And it hardly falls to SACEUR alone. Both political and military authorities play an important task in this, again balanced with the equal task of ensuring effective deterrence and defence. The North Atlantic Council (NAC) and the subordinate Military Committee (MC), the two committees made up of all allies, are the ultimate symbols of cohesion and sources of authority in NATO, with only the NAC having the Washington Treaty as the source of its authority.

It is challenging enough to explore the relationship between the set of one nation's institutions, but what of a 'international political-military organization', that blends both the national and the international, military and political? Feaver's work on principal-agent models in civil-military relations provides useful concepts. In the context of civil-military relations, political leaders represent the 'principal' while the military is the 'agent', contracted to carry out political orders. [xxiii] In his brief reflections on NATO, Feaver describes the Alliance principal as 'divided', in that rather than having a single individual or authority, such as a prime minister or president, the power of the principal is spread between the NATO allies, making the 'game' between principal and agent only more complex. [xxiv] For example the military authorities are divided in a host of ways, be it through the multinational MC or 'dual-hatted' commanders with equal loyalties to the NAC and American authorities.

Further complicating matters is the role of the Secretary-General. Though not facing the dual hat challenge of NATO commanders, the Secretary-General experiences unique issues. As head of the International Staff (IS), the role is intended to chair NAC meetings and seek consensus, often through complex multi-player compromises in developing and agreeing NATO policies. However, neither the Secretary-General nor the IS have decision-making authority, only NAC does, and their role as principal or agent remains murky. Many have become closely involved in military affairs, such as Secretary General Dirk Stikker's (1961-1964) close monitoring of high-readiness forces and nuclear targeting[xxv] or even Willy Claes (1994-1995) taking the extreme measure of initiating the NATO air campaign

in Bosnia without consulting or informing the NAC.[xxvi]

In practice, these functions and their interactions were often quite successful. From Gruenther's political engagement with allies, Norstad's hand in shaping political directives, and Secretary General Stikker's close monitoring of forces and targeting, all led to a high degree of strategic coherence that led to many NATO successes, including the integration of West Germany, delicate manoeuvring around nuclear issues, and a consistently shared view between senior political and military leaders on the proper direction of policy and planning.

What happens, however, when this harmony does not come about? What can happen within NATO if fusionism is eschewed for a stricter political-military division by leaders?

Czechoslovakia and Strategic Civil-Military Incoherency

In the late 1960s, SACEUR General Lyman Lemnitzer (1963-1969) took a more "Huntingtonian" view with a strictly military definition of his role, and deliberately limited SHAPE input into policy matters. Lemnitzer being more confrontational than diplomatic, this had a strong effect on the military's relationship with both the NAC and then Secretary General Manlio Brosio (1964-1971).[xxvii]

In May 1967, then, a new guidance to the military authorities was issued, with comparatively less input from SACEUR and the military authorities in general. It emphasised that military planning should distinguish between political intentions and military capabilities, and that increases in warning levels should focus on political indicators such as a shift in Soviet policy. The Defence Planning Committee explicitly admitted that "reliance on [the probability of political warning time prior to military action] would involve considerable risk," it was nonetheless approved as Alliance policy at the May 1967 Defence Ministers meeting. [xxviii]

In other years, this may have been rather routine. But beginning in January 1968, significant political tensions grew in Central Europe. The Prague Spring[xxix], a period of political liberalisation under Alexander Dubček in Czechoslovakia (ČSSR), shook the inner workings of the Warsaw Pact and the broader Soviet sphere. Tensions rose over the course of 1968, as leaders in Prague continued to break from the Moscow orthodoxy.

In Brussels, reports from SACEUR raised concerns about the capability and risk of the Warsaw Pact to quickly intervene in Czechoslovakia.[xxx] Any Soviet invasion could threaten the border with West Germany or cause a destabilising conflict. In the Political Committee however, the risk of such an intervention was dismissed, given the focus on intentions rather than capabilities.[xxxi] Warsaw Pact manoeuvres, though foreboding, stood alongside the Bratislava Declaration between Warsaw Pact leaders, including Dubček, reaffirming fidelity to Marxism-Leninism and a withdrawal of Soviet troops stationed inside the ČSSR to its border. Soviet intentions, it seemed, remained committed to peaceful resolution.

Some military leaders were in agreement with the Committee, particularly the local commander of the Central Army Group (CENTAG), General James Polk. Put clearly by Polk after the invasion, "we…were dealing very largely in Soviet intentions and not hard capabilities: we simply did not think it would happen."[xxxii] Reflective of both Feaver's concept of divided principals and agents, the military did not have a single view on the capability vs. intention matter. Nor did the political principal. Secretary General Brosio agreed with Lemnitzer's assessment that Warsaw Pact troops were "pressuring" Czechoslovak authorities, and that there was a latent form of military risk to the situation.

Optimism, either in Prague or Brussels, was misplaced as history bore out. On the night of 20-21 August 1968 Warsaw Pact troops invaded. "NATO had no tactical warning whatsoever," a Military Committee report described later[xxxiii], while Alliance officials and military forces relied mainly on press reports. The intention-based approach to warning had not led to heightened intelligence gathering. NATO radar had even missed Soviet aircraft entering Czechoslovakia. As put succinctly by Timothy Andrews Sayle, "NATO had proved unable to recognise Warsaw Pact military actions in the heart of Europe."[xxxiv] After the invasion, Lemnitzer was unable to argue of the importance of this event for the Alliance, with diplomats continuing to trust Soviet assurances. [xxxv]

This case is important for a number of reasons. One, it provides more nuance to the historical record of NATO in the détente period of the late 1960s. Though a period of generally reduced tensions, there was clearly misplaced optimism and undue trust in assurances from Moscow. Secondly, it reinforces the important historical civil-military lesson (and warning) of the dangers of incoherence at the strategic level. Taking a more strictly military role in his approach to policy-making, Lemnitzer neglected the political-military manager's role in being an active player in international security affairs. More generally, it highlights the importance of civil-military relations throughout NATO's history, in that the strategic incoherence towards the Czechoslovak crisis was uniquely "NATO" and a result of its structures.

A Screenwriter's Guide

Writing about NATO civil-military relations is a bit like writing a movie about the topic. It would require a broad cast of characters, from across military and political

structures. It would have to be a 'slow-burn', with a gradual build-up to crisis over many years. Largely devoid of action, the true drama would be between the personalities of the characters and the forces between the institutions they represent. Less Tom Clancy think rather of a cross between *West Wing* and *Yes, Minister*.

NATO might not be the easiest study, nor may it seem at first glance immediately exciting or dramatic. Yet the history of the Cold War in Europe was largely written and negotiated behind the closed doors of the Alliance's political and military establishments. In the margins and footnotes of bland policy documents lies the major 20th century debates on deterring nuclear war, East-West relations, and civil-military relations.

Beyond a potential screenplay and manuscript on NATO history, there is a hint for scholars of civil-military relations to the question posed by Ripper's quote of Clemenceau to Mandrake. For whom is war more important? The simple answer is both. The more complex answer, it depends on the specific circumstances, the actors involved, the nature of the war, and its costs (e.g., cost to society at large or cost to the military force). "Existential" or "total" wars naturally entail a higher degree of involvement for both, while discretionary wars of choice, such as Afghanistan or Iraq, will probably be of greater interest to the political side. To arbitrarily divide between the military and political at the strategic level is to wilfully separate two spheres that desperately need each other's views and advice. Recent debates underline the challenges of these tendencies highlighted here in the case of NATO.[xxxvi] There is a clear role for a 'fusionist' or a 'political-military manager' who is willing to blur the lines in practice to achieve more effective strategy. What is historically evident, is that rigid adherence to an "ideal form" or the strict division of military and political categories at the highest levels is to court disaster.

References

[i] Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb, directed by Stanley Kubrick (1964; Culver City, CA: Columbia Pictures Home Video, 2005), DVD.

[ii] Red Dawn, directed by John Milius (1984; Los Angeles, CA: Twentieth Century Fox Home Entertainment, 2000), Streaming.

[iii] Thunderball, directed by Terence Young (1965; Los Angeles, CA: Twentieth Century Fox Home Entertainment, 2008), Streaming.

[iv] Deutschland 83, directed by Samira Radsi (2015; London, UK: Universal Pictures (UK), 2015), DVD.

[v] Tom Clancy, Red Storm Rising (New York, NY: G.P. Putnam's Sons, 1986).

[vi] Mara Karlin, "Civilian Oversight in the Pentagon," in Reconsidering American Civil-Military Relations, ed. Lionel Beehner, Risa Brooks, and Daniel Maurer (New York: Oxford University Press, 2021), pg. 90.

[vii] Peter D. Feaver, Armed Servants: Agency, Oversight, and Civil Military Relations (Cambridge: Harvard University Press, 2005), pg. 281.

[viii] Samuel P. Huntington, The Soldier and the State: The Theory and Politics of Civil-Military Relations (Cambridge: Harvard University Press, 1957), pg. 356-357.

[ix] Diego A. Ruiz Palmer, "The NATO-Warsaw Pact Competition in the 1970s and 1980s: a revolution in military affairs in the making or the end of a strategic age?" Cold War History 14, no. 4 (2014): 533-573.

[x] Lawrence S. Kaplan, "General Lyman L. Lemnitzer and NATO, 1948-1969: a deferential leader," Cold War History 19, no. 3 (2019): 323-341.

[xi] Robert S. Jordan, Political Leadership in NATO: A Study in Multinational Diplomacy (Boulder: Westview Press, 1979); Robert S. Jordan, Generals in International Politics: NATO's Supreme Allied Commander, Europe (Lexington: University Press of Kentucky, 1987); Ryan C. Hendrickson, Diplomacy and War at NATO: The Secretary General and Military Action after the Cold War (Columbia: University of Missouri Press, 2006).

[xii] Huntington, 58.

[xiii] Huntington, 351-353.

[xiv] Morris Janowitz, The Professional Soldier: A Social and Political Portrait (New York: Free Press, 1971), pg. 70.

[xv] Janowitz, pg. 334.

[xvi] Rebecca L. Schiff, "Civil-Military Relations Reconsidered: A Theory of Concordance," Armed Forces and Society 22, no. 1 (1995): 7-24.

[xvii] Douglas L. Bland, "A Unified Theory of Civil-Military Relations," Armed Forces and Society 26, no. 1 (1999): 7-26.

[xviii] Hew Strachan, "The Civil-military 'Gap' in Britain," Journal of Strategic Studies 26, no. 2 (2003): 46-63.

[xix] Gordon A. Craig, "The Political Leader as Strategist," in Makers of Modern Strategy from Machiavelli to the Nuclear Age, ed. Peter Paret (Princeton: Princeton University Press, 1986), 482.

[xx] David J. Betz, Civil-Military Relations in Russia and Eastern Europe (New York: Routledge, 2004), 7.

[xxi] Janowitz, 314.

[xxii] SHAPE Historical Office, SHAPE 57/67, History 1957: The Political Directive (Mons: NATO Archives, 1967): 12-16.

[xxiii] Feaver.

[xxiv] Feaver, 280.

[xxv] Jordan (1979), 139-140.

[xxvi] Richard Holbrooke, To End a War (New York: Random House, 1998), 99.

[xxvii] Jordan (1979), 226-228.

[xxviii] "Annex II to DPC/D (67) 23, Guidance to the NATO Military Authorities" in NATO Strategy Documents 1949 - 1969, ed. Gregory W. Pedlow (Mons: SHAPE Historical Office, 1997), 333-344.

[xxix] Günter Bischof, Stefan Karner, and Peter Ruggenthaler, The Prague Spring and the Warsaw Pact Invasion of Czechoslovakia in 1968 (Lanham: Lexington Press, 2009).

[xxx] "PO/68/430 August 1968 DPC Report on Situation in Czechoslovakia," (Brussels: NATO Archives); "IMSWM-259-68 Crisis Management Aspect of the Invasion of Czechoslovakia" (Brussels: NATO Archives).

[xxxi] PO/68/430.

[xxxii] James H. Polk, "Reflections on the Czechoslovakian Invasion, 1968," Strategic Review (Winter 1977), 33.

[xxxiii] "MCM-0085-1968," (Brussels: NATO Archives).

[xxxiv] Timothy Andrews Sayle, Enduring Alliance: A History of NATO and the Postwar Global Order (Ithaca: Cornell University Press, 2019), 161.

[xxxv] Kaplan, 338-339.

[xxxvi] Kori Schake, Peter D. Feaver, Risa Brooks, Jim Golby, and Heidi Urben. "Masters and Commanders: Are Civil-Military Relations in Crisis?" Foreign Affairs 100, no. 2 (2021): 230-238.

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