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U.S. NAVAL WAR COLLEGE
Est. 1884
NEWPORT, RHODE ISLAND

April 4–7, 2017

Sea Control and Foreign Policy

EMC Chair Symposium
Working Papers



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WELCOME FROM THE EMC CHAIR

Derek S. Reveron
EMC Informationist Chair, U.S. Naval War College

This fifth maritime-centric EMC Chair symposium builds on the 2016 release of *Design for Maintaining Maritime Superiority*, which noted the “U.S. Navy has been a cornerstone of American security and prosperity.” The symposium will consider future directions of U.S. foreign policy and reflect on demands the country places on the Navy, Marine Corps, and Coast Guard to advance and defend national interests. Participants from DOD, academia, and the policy community will convene in Newport to discuss the implications for sea power as the Design challenges the Navy to “Deepen operational relationships with other services, agencies, industry, allies and partners – who operate with the Navy to support our shared interests.” Participants will consider the impact of technology, contested seas, and maritime partnerships on sea control.

In an effort to share expertise with the Fleet and national security community beyond this event, the succeeding pages contain the working papers participants prepared in advance of the symposium. The six panels are:

- **Panel 1: The Future of U.S. Foreign Policy**

The 2016 “Design for Maintaining Maritime Superiority” maintains that U.S. interests lie beyond its shores. With a new presidential administration, panelists will explore the question of what U.S. interests are and how to best serve them, particularly but not only in reference to U.S. maritime power. Panelists consider competition and cooperation in East Asia, U.S. interests and any possible role in containing the escalating conflict in the Middle East, and U.S. grand strategic choices, particularly regarding military posture and diplomatic and military partnerships. Finally, the panelists will reflect on future directions of foreign policy.

- **Panel 2: Seapower and Great Power Dynamics**

While there are important forms of cooperation among the US, Russia, China, and India, the four powers will independently shape the international security environment. With significant investments in maritime capabilities, the four navies are increasingly operating outside their geographic seas and the “Design” notes “the United States is facing a return to great power competition.” Panelists will explore three key questions. First, how will regional rivalries manifest in the maritime domain? Next, what are the prospects for high seas cooperation among Russia, China, and India? Finally, what are the implications for the United States?

- **Panel 3: Echoes of the First World War in the Twenty-First Century**

Within hours following the formal declaration of war against Germany in April, the President of the Naval War College, Rear Admiral William S. Sims, stood among the first American commanders to arrive at the European front. Out of necessity, Sims subsequently assumed the role of senior U.S. Navy officer in European waters. He simultaneously pioneered efforts to negotiate joint wartime collaboration with U.S. Army General John Pershing within the temporary wartime context of the American Expeditionary Force (AEF). By July, Sims also served as the ranking U.S. Navy representative to the Anglo-French Allied Naval Committee. Drawing from British naval traditions, Sims referred to his headquarters as the “London Flagship” and set key foundations in shaping U.S. Navy concepts of strategy and command.

Placing our discussion into the contemporary context, Sims essentially became the first Combined / Joint Maritime Component Commander in American maritime history. Looking to the past for the purposes of examining U.S. Naval strategy in the twenty-first century, our panel will encourage contemporary naval thinkers to consider how Sims and his London Flagship offer a useful perspective on strategy, operations, and intelligence.

- **Panel 4: Geo-economics and Maritime Security**

The neat division of the world into largely self-sufficient states defined by clear geographic borders has been upended by the processes of globalization, which have created new connections among states while simultaneously opening up divides within them. Forging—or forcing—economic connectivity seems to be the driving force for international politics in the 21st century. Geo-economics argues that states seek control over the nodes of the global economy as a source of power and influence. In this new context, the principal drivers of conflict—or conciliation—will be battles over the management of connections: whose hand will turn the various spigots that control and channel the flows of economic activity, whether pipelines, canals, trade routes or internet connections. Given the extent to which the global economic order depends on reliable access to the maritime domain, naval power is essential to keeping the arteries of the international economic system open.

- **Panel 5: Technology, Innovation, and Force Structure**

The U.S. Navy has been at the forefront of science and technology. In the 19th century, it was LT Albert Michelson who measured the speed of light on the shores of the Severn River at the Naval Academy. In the 20th century, it was Admiral Hyman Rickover who pioneered nuclear propulsion. As we enter the 21st century, the “Design” sees we need to “optimize the Navy intellectual enterprise to maximize combat effectiveness and efficiency. Reinvigorate an assessment culture and processes. Understand the lessons of history so as not to relearn them.” To examine future technology, innovation, and force structure, panelists will examine the ability of institutions to adapt/innovate, offer historical perspectives on innovation and force structure, consider how ethical concerns may or may not play out in the development of technology by the US and potential adversaries, and discuss the shift in importance from platforms to payloads across the military enterprise.

- **Panel 6: Sea Control**

Sea control comes in many varieties. Alfred Thayer Mahan exhorted commanders to win "command of the sea," meaning "overbearing power on the sea which drives the enemy's flag from it, or allows it to appear only as a fugitive; and which, by controlling the great common, closes the highways by which commerce moves to and from the enemy's shores." Julian S. Corbett agreed with Mahan that absolute maritime command was desirable, but he also allowed for more limited forms of control. A navy might get by with control of a finite sea area for a limited amount of time, for example. *Jeune école* theorists such as Théophile Aube settled for even less, designing strategies and forces to deny control of important expanses to opponents. The panel will explore the future of sea control through the *Design for Maintaining Maritime Superiority to ensure "Operations short of conflict should be designed to contain and control escalation on terms favorable to the U.S."*

Events like these are possible through the generosity of the Naval War College Foundation, the hard work of our Protocol & Events Department, and the commitment to academic excellence by the Department of the Navy and the U.S. Naval War College.

PANEL 1: THE FUTURE OF U.S. FOREIGN POLICY

RETAINING STRATEGIC INFLUENCE IN ASIA: CHINA, MARITIME POWER, AND U.S. NATIONAL SECURITY STRATEGY

Patrick M. Cronin
Center for New American Security

The loss of U.S. global maritime dominance would put at risk fundamental national interests, essentially most of what we take for granted. Certainly, it would call into question the ability of the United States to command offshore lines of communication, and thereby execute operational plans to counter provocation and proliferation, preserve the independence of democratic allies and partners, ensure the free flow of commerce, and keep potential adversaries on their back foot and far from our shores.

Yet to all appearances American maritime power is steadily eroding. Partly this is a natural consequence of rising new centers of power resulting from a worldwide redistribution of wealth and technology.¹ But it is not the generalized maritime challenge so much as the particularized threat posed by the rise of China's blue water navy—and its ancillary enabling capabilities, all backed by comprehensive instruments of power—that should arrest the attention of U.S. officials and, to the extent they still exist, strategic planners.² The United States is being outmaneuvered in China's Near Seas, and the resulting pressure to fall back could result in severely limiting future U.S. power in the world's most consequential region, what Nicholas Spykman called the "Asiatic Mediterranean."³

A decision to resist or effectively counter China's strategy of indirection and emergence as a maritime power must be addressed within the larger context of U.S.-China relations. Is it possible to fashion a sustainable and successful American foreign policy that seeks to preserve U.S. national and especially maritime power, without falling prey to the myriad pitfalls put forth by scholars (the Thucydides' trap, security dilemmas, inadvertent escalation, regional polarization that would result from forcing allies and partners to choose between China and the United States, etc.)⁴

A forceful response that does not catalyze world war is indeed possible, and I have dubbed this approach to be one of "cooperation through strength."⁵ It is based on maintaining a balance of power as articulated by realists in U.S. foreign policy, such as Henry Kissinger, Robert Zoellick, Richard Armitage, Robert Kaplan, and by Kurt Campbell, and Michael Green, among others.⁶ While they might not agree with all my arguments, I think it is possible to craft a mainstream foreign policy in which bounded competition and peace-through-strength are core principles. If such an American strategy can develop and take hold, it will spring from these mainstream realists and others like them.

The alternative to shoring up our economic, diplomatic, and military power in the Indo-Asia-Pacific region—something dubbed the pivot or rebalance in the last administration—is to give China unimpeded strategic influence to shape the most populous and increasingly most powerful region of the world to its liking and often at the expense of U.S. national security interests and prosperity. This is a significant competition, because it represents a struggle over the global operating system that was largely devised and sustained by the United States after World War II.⁷

But even if we agree that we should be preparing for heightened competition with China, then we should admit that we have been careless, haphazard, and ill-organized and ill-prepared to run that race. We have not yet taken the challenge seriously and as a result we have not thoughtfully, let alone brutally, prioritized our policies, budgets, and organizations to give us a better chance of success.

Where is the serious debate about how the United States can intelligently tackle its foremost long-term competitor? Instead, we seem to be satisfied with annually adjusting downwards our expectations, acquiescing to creeping (and ordinarily breathtaking) assertions of Chinese sovereignty and mounting Chinese capabilities supported by propaganda, capital, and law fare. As a Nation, we seem satisfied with losing influence provided it happens in phases.

Assuming we wanted to be serious and self-interested, we would wish to craft a strategic vision in which one of the central priorities would be how to compete with China over the long term. Some Chinese have been said to drop the pretext of creating a new type of great power relations with the United States, and instead opted to accelerate China's leading role, centered on economic rubrics such as "One Belt, One Road" and the development of maritime power that dominates the *San Hai* (the Three Seas—Yellow, East China and South China) but includes a global reach by ensuring access to two major oceans.

So, too, the United States should forego the liberal conceit of thinking that we will persuade China into convergence, or that we can ever provide Beijing with sufficient strategic reassurance to give up on competition. We should instead embrace a realistic U.S.-China relationship in which both heightened competition and cooperation are adjustable elements.⁸

Geopolitical competition with China should not and cannot mean containment of the world's second largest economy. But it should mean that the United States adopts an overall foreign policy designed to preserve a favorable economic, political, and military order. That means defining a national economic policy that supports higher growth and parallel investment in the sinews of comprehensive power. It also means keeping pace with joint military power -- but especially in maritime and air power -- supported by nuclear deterrence, ballistic missile defense, and superior space and cyber systems. Finally, it means maintaining active and compelling diplomatic engagement, including inter alia the retention of effective allies and the fostering of a broad network of capable security partners to check Chinese adventurism or aggression.

Provided we invest sufficiently in the maintenance of deterrence (and granted this becomes more complicated in a future of artificial intelligence and autonomous defenses), the bounded military competition will mostly remain a battle over gray-zone situations in the contested peacetime environment.⁹ Seeking cooperation where we can and conflict-avoidance where we must, we can help to narrow down the salient of geopolitical competition. Further, because we can live with a non-zero sum, general balance of power, we can decide when and how to press our advantages, and hold at risk China's strategy of slow-motion hegemony and key vulnerabilities to include a critical dependence on chokepoints.

I do not believe we can separate Vladimir Putin's Russia from pursuing a global foreign policy in cooperation with China. The best way for Putin to resurrect Moscow's stature to where it was during the existence of the Soviet Union is for him to work with China to weaken America's residual dominance over the international system. But there are specific areas where cooperation at China's geopolitical expense may be possible (missile control regimes, for instance), and over time (and after Putin) further areas of cooperation may emerge.

Dan Blumenthal's idea of ensuring that China must contend with "unsafe zones" at sea suggests the need to preserve or build American maritime advantages in submarine warfare, ASW, ISR, and distributed fires—something made more feasible when done in tandem with capable allies and serious partner capacity-building programs designed to allow dispersed access, a network of counterweights, and sowing political-military uncertainty to induce greater caution on the part of Beijing officials.¹⁰

This competition with China will not be limited to the Indo-Pacific region, but over the next two decades the biggest implication of China's blue water navy capabilities could well be its potential for complete dominance of the Yellow and East and South China Seas. An India that fails to develop faster, and furthermore the breakdown of U.S.-India cooperation, perhaps accelerated by a future China's distant operations that pin down U.S. security forces to a fortress American posture focused on homeland security, would expose both the Indian Ocean and Western Pacific to Chinese domination.

The U.S. Armed Forces, especially the U.S. Navy in tandem with allies, would have to find a way to check China from dominating the Near Seas bounded by the First Island Chain, and be able to hold the chokepoints leading out to the Indian and Western Pacific Oceans. This geostrategic maritime capability would have to retain qualitative edges in key areas such as submarine warfare and ASW. It would have to depend upon an industrial base necessary to sustain and maintain sufficient numbers of qualitatively superior forces necessary to check a technological peer with greater numbers of forces.

While there is no one scenario for how this might be executed, it would at a minimum require joint and combined military power to be able to mobilize quickly to threaten critical chokepoints that in turn would compel China to find non-military paths to achieve its objectives. It would also require being willing to assume sufficient risk at sea to engage in quick, short skirmishes that reinforce this standoff without escalating into wider conflict or collapsing global markets. This is, of course, generally a page from the Cold War playbook, albeit with electronic warfare increasingly important and space and cyber warfare added to the mix.

Paul Giarra has written trenchantly about how to think about and possibly counter China's maritime salient and search for guaranteed control over vital chokepoints leading out of the South China Sea.¹¹ The strategy envisioned in Giarra's thinking would require a top-down decision to prioritize sustainability and resilience. It would not allow budgets to drive the strategy, but to find a way to pursue a strategy despite fiscal constraints. The military costs would not be small but would require both near-term sustainment and long-term technologies that preserve competitive capabilities in critical areas. Robert Work's emphasis on a Third Offset strategy highlights the need for innovative defense acquisition, but pursued in isolation could constitute our own Assassin's Mace, lulling us into a false sense of security that we could win a short, sharp war, as though a more assertive, confident, and powerful China will always back away at the first blush of high-tech pressure.¹²

The Trump administration's call for a larger defense budget, which in and of itself appears politically difficult, would be but the first of many necessary steps – including the purchase of such basics as more naval munitions, that will be required to retain maritime power both ready and credible to contest gray-zone situations and, if necessary, to wage war at sea.¹³

However, at the present we are victims of our own historical success, because over the last 75 years when we had to fight at sea we prevailed, both in 1941-1945 and throughout the hotly-contested Cold War competition with the Soviet Union. We have come to assume without convincing scrutiny that we can dominate and hold and exploit the First Island Chain and reach the Asian landmass at will. But as suggested above, that assumption is increasingly open to question and provides a dangerous basis for future planning.¹⁴ This is where a deliberate campaign of net assessment and red team gaming must ensue.

Yet our Services and Beltway braintrust seem determined to let budgets drive our strategy. This is a warning sign that we are preparing to fail. We must instead be determined to succeed, to be unremitting in the pursuit of brutal prioritization of our finite national assets. We should be determined to compete in the 21st century's most vital maritime theater, as foreseen by Nicholas Spykman as the Mediterranean of Asia with all the centrality that metaphor implies. The alternative will be to draw back east of Hawaii, focus on the homeland and Western Hemisphere, and allow others to drive the world's future at the expense of freedom, prosperity, and our fundamental security.

Notes:

¹ For instance, see *Global Trends: Paradox of Progress* (Washington, D.C.: National Intelligence Council, January 2017), <https://www.dni.gov/files/images/globalTrends/documents/GT-Main-Report.pdf>. For two recent discussions of the distribution of power to and within Asia see Gideon Rachman, *Easternisation: War and Peace in the Asian Century* (London: The Bodley Head, 2016) and Enrico Fels, *Shifting Power in Asia-Pacific? The Rise of China, Sino-US Competition and Regional Middle Power Allegiance* (Cham, Switzerland: Springer, 2016).

² See Patrick M. Cronin, et al., *Beyond the San Hai: Strategic Implications of China's Emerging Bluewater Navy* (Washington, D.C.: Center for a New American Security, forthcoming May 2017).

³ Francis P. Sempa, "Nicholas Spykman and the Struggle for the Asiatic Mediterranean," January 9, 2015, <http://thediplomat.com/2015/01/nicholas-spykman-and-the-struggle-for-the-asiatic-mediterranean/>.

⁴ Among the numerous scholars issuing such warnings are: Graham Allison, *Destined for War: Can America and China Escape Thucydides's Trap?* (Boston, MA: Houghton Mifflin Harcourt, forthcoming May 2017); Amitai Etzioni, *Avoiding War with China: Two Nations, One World* (Charlottesville, VA: University of Virginia Press, May 2017); Jonathan Holslag, *China's Coming War with Asia* (Cambridge, UK: Polity Press, 2015); and Hugh White, *The China Choice: Why America Should Share Power* (Collingwood, Australia: Black Inc., 2012).

⁵ Patrick M. Cronin and Robert D. Kaplan, “Cooperation from Strength: U.S. Strategy and the South China Sea,” in Patrick M. Cronin, ed., *Cooperation from Strength: The U.S., China and the South China Sea* (Washington, D.C.: Center for a New American Security, January 2012),

https://s3.amazonaws.com/files.cnas.org/documents/CNAS_CooperationFromStrength_Cronin_1.pdf.

⁶ See especially Michael J. Green, *By More Than Providence – Grand Strategy and American Power in the Asia Pacific Since 1783* (New York, NY: Columbia University Press), 2017.

⁷ See Kurt M. Campbell, *The Pivot: The Future of American Statecraft in Asia* (New York, NY: Twelve, 2016).

⁸ I base this argument on many sources, including the influence of classical Chinese strategic thinking. For instance, see Derek M C Yuen, *Deciphering Sun Tzu: How to Read the Art of War* (New York, NY: Oxford University Press, 2014).

⁹ Concerns about how war could be catalyzed by artificial intelligence, autonomous machines, and other technologies are the subject of many current researchers. For example, see Fred Kaplan, *Dark Territory: The Secret History of Cyber War* (New York, NY: Simon and Schuster, 2016), and the fictional treatment of the nonfictional subject by P. W. Singer, *Ghost Fleet: A Novel of the Next World War* (Boston, MA: Houghton Mifflin Harcourt, 2016).

¹⁰ Daniel Blumenthal, “A Strategy for China’s Imperial Overstretch,” *The American Interest*, March 1, 2017,

<http://www.the-american-interest.com/2017/03/01/a-strategy-for-chinas-imperial-overstretch/>.

¹¹ See Paul S. Giarra, “China’s Maritime Salient: Competitive Strategies on the Oceanic Front for the 21st Century,” in Thomas G. Mahnken, ed., *Competitive Strategies for the 21st Century: Theory, History, and Practice* (Palo Alto, CA: Stanford University Press, 2012).

¹² For a superb consideration of the alternative to a short, sharp war, and its requirements, see the Office of Net Assessment’s 2016 Summer Study, “Protracted Great Power War: A Scenario-based Approach.”

¹³ Reporting on China’s stated official reduction of defense spending juxtaposed against Washington’s desire for military budget increases misses vital context to include China’s ability to close the qualitative and quantitative gap in U.S.-China defense capabilities. For instance, see Emily Rauhala, “As Trump Pushes for Bigger U.S. Defense Budget, China Slows Growth Rate of Its Military Spending,” *The Washington Post*, March 4, 2017,

https://www.washingtonpost.com/world/as-trump-pushes-for-bigger-us-defense-budget-china-slows-growth-rate-of-its-military-spending/2017/03/04/ace6105c-0094-11e7-a51a-e16b4bcc6644_story.html?utm_term=.202c8acfbf73.

¹⁴ Certainly, the briefings emanating out of U.S. Pacific Command point to how much China has improved its ability to contest sea control over the past two decades, moving in that time from its coastal waters to beyond the First and event Second Island Chains.

PANEL 1: THE FUTURE OF U.S. FOREIGN POLICY

THE TRAJECTORY OF TECHNOLOGY AND THE *DESIGN FOR MAINTAINING MARITIME SUPERIORITY*

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The United States shapes, monitors, and reacts to events around the world every day – things that require minor (and sometimes major) military and foreign policy actions to implement the established U.S. strategy. Proponents of all of the major strategic alternatives for the United States agree that events that happen elsewhere can affect our security and prosperity at home. But the strategy *question* is how best to invest in and posture our military (and diplomatic and intelligence) assets in a globalized world. Sometimes, the accumulation of changes, notably in technology, suggests a desirable strategic adjustment.

Today, the United States pursues a grand strategy of “deep engagement,” presuming the best way to respond to global events is by trying to influence or even control them through forward presence and a network of alliances. The principal alternative available to the United States is a strategy of “restraint,” patrolling the global commons without regularly penetrating the contested zones near other countries’ homelands and allowing wealthy, capable allies more of a role in their own defense.

The trajectory of technology toward improved sensors and cheaper, faster computer processing power, noted in the *Design for Maintaining Maritime Superiority*, reinforces the argument for restraint. Sensors and processors indeed have vast, complex implications for society and commerce, but their specifically military implications (not discussed in the *Design*) are most important for strategy. For the U.S. military, their most immediate implications are for the U.S. Navy’s ability to approach the coasts of other great powers. Sea clutter and the vastness of the ocean offer less and less concealment, and modern weapons can relatively cheaply exploit the improved surveillance and targeting, as it is now cost-effective to put sophisticated data processors on munitions themselves. Great powers can afford to build anti-access/area denial (A2/AD) systems in sufficient numbers to overwhelm even a sophisticated approaching fleet, because the fleet’s magazine size and rate of fire will always be limited relative to a great power’s land-based forces (though not relative to a minor power’s land-based forces).¹ Meanwhile, despite rapidly improving technology, it remains much more challenging for a naval force to find and identify mobile targets on land in the midst of complex terrain and the much higher density of non-military activity. In international relations terms, the defensive advantage of land forces fending off sea-based forces is increasing.

The current strategy of deep engagement reacts by doubling down on U.S. investment in shipboard defenses – charging into the teeth of the technology trajectory – and by developing strike systems and operational concepts that seek to blind adversaries (attacking their radars and other sensors) and to “shoot the archer, not the arrow” (if they can find launchers and hit them fast enough, exploiting the very high end of new technology to improve sensing of mobile land targets). These investments are not only expensive and uncertain in their payoff but are also quite risky in international relations terms: the temptation to “shoot the archer” means launching strikes against an adversary’s homeland, which in almost any scenario would constitute a substantial political escalation of a conflict. And that temptation is inherent for the United States in any deep engagement posture: any U.S. Navy “presence forces” sailing near other countries’ coasts will

always have some capability to attack, backed by the superpower-scale might of the United States, and in a crisis, those forces might choose to strike first against land-based mobile launchers. Other countries understand the temptation to shoot the archer and will therefore strive to reinforce their maritime contested zones – and that will feed back into U.S. force’s temptation to strike early in a crisis to defang the A2/AD forces. That dynamic is often called a spiral of instability.

Concurrently, the same technology trajectory reduces the costs and risks associated with U.S. allies contributing more to their own defense. U.S. allies can deploy their own A2/AD systems, making it harder (more costly) for potential adversaries to overwhelm them. Some U.S. allies like Japan have the resources and technological skills to produce substantial defenses on their own, but even in those instances (and surely in the cases of smaller U.S. allies), the United States can serve as a backstop, helping fund their efforts create robust contested zones around their home territory without routinely deploying U.S. forces as the allies’ primary line of defense. Even in relationships fraught with long-term animosity, like the relationship between Japan and China, encouraging Japan to invest in clearly defensive systems like mobile land-based anti-ship cruise missiles (with their limited range) will calm spiral dynamics associated with the security dilemma: reducing the direct role of U.S. forces in the potential adversaries’ littorals – the role of superpower forces that the potential adversary might reasonably fear inherently embody significantly more offensive potential than any A2/AD forces that U.S. allies could deploy – would be a net calming influence on international politics.

The U.S. Navy would retain important presence missions and, should deterrence fail, warfighting missions, if the United States adjusted its strategy and operational concepts to better account for the defense-oriented trajectory of military technology. In peacetime, the Navy claims an important role in protecting international commerce, ever more important because of globalization. Commerce mostly transits the blue water outside maritime contested zones, and countries that want to participate in trade can, and in practice have an incentive to, use their own forces to protect commercial ships sailing to their ports.

Unlike the potential missions that force the United States into foreign contested zones near the shore, commanding the commons is not getting dramatically harder, costlier, and riskier as a result of the trajectory of technology. Even in a warfighting scenario, U.S. military superiority in the commons remains nearly unchallenged, based on fully integrated battle groups, composed of more ships and better ships than other countries can field. Other countries cannot counter U.S. blue-water advantages with overwhelming numbers of ships or munitions, as they are just as limited by the capacity and cost as the United States.² As ever, the United States will benefit from investing in a strong, modern Navy, but a learning organization – the explicit aspiration of the *Design* – adjusts its investments and activities in response to changing circumstances, seeking the best way to achieve its goals. Today, that best way is restraint: avoiding increasingly high-cost, high-risk missions near other great powers’ coasts, leveraging allied capabilities to create their own A2/AD envelopes, and achieving American security and prosperity through lower-cost, lower risk command of the blue-water commons.

Notes:

¹ The A2/AD sensor advantage is weaker against undersea systems, though it is still on a trajectory of significant relative improvement. On the other hand, submarines’ size and speed constraints are much greater than those for surface ships, so the *strategic* effect of changes with a lower *technological* impact undersea can be as great as the effect on the surface.

² Indeed, in the deep water, the trajectory of sensor and munitions technology may well even offer the opportunity to expand (rather than contract) the relative U.S. advantage in anti-submarine warfare as it gets harder for adversary submarines to remain concealed as they approach a U.S. strike group.

PANEL 1: THE FUTURE OF U.S. FOREIGN POLICY

ENERGY COMPETITION IN MARITIME EAST ASIA: A RED HERRING FOR U.S. FOREIGN POLICY

Emily Meierding
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Over the last few years, maritime disputes in East Asia have been perceived as an increasing threat to international security. China and Japan's dispute over the East China Sea heated up in 2012, when Tokyo nationalized the contested Senkaku/Diaoyu Islands. In the South China Sea, China's artificial island building, since 2014, has heightened regional tensions. Concerns are widespread that these territorial contests could escalate into outright militarized conflicts, which could draw in the United States, either through its commitments to regional allies or through direct great power competition with China.

This essay focuses on one component of East Asian maritime disputes: energy resources. Oil and natural gas fields are at stake in the East China Sea and South China Sea and many journalists and policymakers have suggested that these valuable resources play a major role in driving the territorial contests. As former US Secretary of the Navy Ray Mabus asserted: "It's not those rocks in the water, it's what's underneath them...the minerals and the oil and gas."¹

I argue, in contrast, that oil and gas resources are quite benign, in comparison to other issues at stake in East Asian maritime disputes. Energy resources can encourage competition, especially for countries that share a history of hostility. However, these contests rarely escalate into outright militarized confrontations and, when such incidents occur, national leaders quickly contain them. In addition, in the East and South China Sea disputes, oil and gas have inspired some interstate cooperation. Consequently, when attempting to manage these contests, US civilian and military officials should focus their attention to other issues: in particular, nationalism, regional power struggles, and great power competition between the United States and China.

To elaborate on this argument, the essay briefly outlines the East China Sea and South China Sea disputes, discusses how energy resources have influenced the contests' trajectories, and highlights implications of these dynamics for US foreign policy under the Trump administration.

The Disputes

There are technically four claimants in the East China Sea dispute: China, Japan, Taiwan, and South Korea. However, the dispute is currently centered on China and Japan. The states' territorial contest emerged in the late 1960s, but has evolved to encompass a wide range of issues, including continental shelf and maritime boundary delimitation, Senkaku/Diaoyu Islands sovereignty, offshore energy resources, fisheries, control over airspace, and control over sea lanes. In addition, the dispute has become a vehicle for both countries to express their displeasure over other activities. China, for example, has initiated dispute incidents in response to Japanese leaders' visits to Yasukuni Shrine, the publication of controversial textbooks, and joint Japan-US military exercises.²

In the South China Sea, six participants are competing over offshore areas: China, Taiwan, the Philippines, Brunei, Malaysia, and Vietnam. The contests that pose the greatest threat to international security are those between China and Vietnam and China and the Philippines. The South China Sea dispute has

existed since at least the 1930s, although it did not intensify until the 1990s. It also involves numerous contentious issues, including maritime and continental shelf boundaries, the Spratly Islands (contested by four claimants), the Paracel Islands (contested by China and Vietnam), energy resources, fisheries, and control over airspace and sea lanes. In addition, the South China Sea has become the primary locale for competition between China and the United States over maritime power, authority, and influence in East Asia.

The Roles of Energy Resources

The East and South China Seas both contain oil and gas resources. However, the precise amounts at stake in each area are uncertain. The Chinese government consistently offers the most optimistic assessments of the seas' hydrocarbon endowments. In contrast, figures provided by the International Energy Administration (IEA) are far more conservative. Regardless of the precise amount of resources at stake, however, levels are sufficient to pique substantial littoral states interest.

In both disputes, energy resources have encouraged competition. The East China Sea dispute emerged in the late 1960s, after a UN-sponsored research program reported that the continental shelf between Taiwan and Japan might be "one of the most prolific oil reservoirs in the world."³ Over the next two years, all four of the sea's bordering entities claimed parts of the continental shelf. Similarly, the South China Sea dispute intensified in the 1990s, during the period when China was becoming a net oil importer, heightening the state's need for reliable energy supplies.

However, in spite of this amplified competition, oil and gas resources have not encouraged much militarized conflict in either dispute. In the East China Sea, China and Japan have engaged in only one "militarized interstate dispute" (MID) over gas fields (2005). In contrast, there have been over a dozen militarized incidents around the Senkaku/Diaoyu Islands, 200-300 miles to the southwest, and an additional two related to sea lanes. China and Japan's 2005 gas confrontation was also fairly mild; the PLA(N) moved ships into areas near Chinese gas platforms, but no shots were fired. In the South China Sea, China and Vietnam have engaged in several militarized incidents concerning oil exploration, including the notorious 2014 clashes over a Chinese drilling rig. However, national leaders were quick to contain this confrontation and later reiterated their commitments to peaceful dispute resolution.

In comparison to the other issues at stake in East Asian maritime disputes, energy resources have not been very provocative. Moreover, they are unlikely to become more contentious in the future. The amounts of oil and gas at stake in both seas are moderate. The costs of exploiting many of these resources are also high, due to their geographical locales. And, oil and gas prices are likely to remain low, for at least the next five years. Even when prices rise, fighting for oil will not be an efficient way of obtaining additional resources.

Within both disputes, energy resources have also inspired international cooperation. In 2008, China and Japan established the *Principled Consensus on the East China Sea and Other Issues*, which created a small joint development zone along the states' maritime median line and permitted Japan's participation in development of a Chinese gas field. In the South China Sea, during the mid-2000s, national oil companies from China, the Philippines, and Vietnam jointly surveyed for potential hydrocarbon resources around the Spratly Islands. This collaboration collapsed in 2008 because of Philippine domestic politics. However, other regional leaders have continued to promote joint oil and gas development as a means of moderating East Asia's maritime disputes.⁴

U.S. Foreign Policy

Secretary of State Rex Tillerson has personal experience with the South China Sea dispute, through his former career as CEO of Exxon Mobil. In 2009, the company acquired rights for gas exploration off Vietnam's central coast, in areas that are also claimed by China. Beijing protested the concessions but, with Tillerson at its helm, Exxon Mobil rejected pressure to terminate the agreements. Tillerson also flew to China in the midst of the 2014 Sino-Vietnamese rig confrontation to meet with Chinese oil company executives. Such encounters may encourage Secretary Tillerson to view East Asian maritime disputes through an energy lens.

However, this will not be a constructive strategy. As indicated by the discussion above, in these contests, energy resources are a red herring. They inspire competition. However, they do not pose a serious threat to international security, as they do not provoke significant militarized conflicts. Moreover, although claimant states have engaged in some hydrocarbon cooperation, these achievements have not helped states to resolve their broader territorial disputes. Consequently, focusing on oil and gas will not advance the United States' foreign policy aims of preventing crises or facilitating dispute resolution. In East Asian maritime disputes, energy resources are neither *casus belli* nor silver bullet.

Consequently, U.S. foreign policy should focus on more contentious issues, including the United States and China's competition for maritime authority in East Asia and regional power struggles, particularly between China and Japan, rather than being distracted by energy competition.

Notes:

¹ Columbia Center for Global Energy Policy, interview with Secretary Mabus (podcast), 29 May 2015.

² Krista E. Wiegand, "China's Strategy in the Senkaku/Diaoyu Islands Dispute: Issue Linkage and Coercive Diplomacy," *Asian Security*, Vol. 5, No. 2 (2009).

³ K.O. Emery et al. "Geological Structure and Some Characteristics of the East China Sea and Yellow Sea," Economic Commission for Asia and the Far East, Committee for Co-Ordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas (CCOP), Technical Bulletin, Vol. 2, p. 3043.

⁴These include former Taiwanese President Ma Ying-jeou, Malaysian Prime Minister Najib Razak, and, periodically, the Philippines' President Rodrigo Duterte.

PANEL 1: THE FUTURE OF U.S. FOREIGN POLICY

U.S. FOREIGN POLICY IN THE MIDDLE EAST AMIDST REGIONAL DISORDER AND ENTANGLED ALLIANCES

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Introduction

Since the end of the Cold War and especially since 9/11, a cascade of crises in the Middle East has challenged a number of core U.S. national security interests including: protecting the homeland, preventing the spread of Weapons of Mass Destruction (WMD), ensuring the secure and stable supply of oil, and advancing democratic reform. Most recently, the Arab uprisings have reset a regional order and produced intractable, internationalized civil wars. Meanwhile, Iran's regional ambitions and the future of ISIS (Islamic State in Iraq and Syria) present serious challenges to the state system and to U.S. regional allies.

The Trump administration has highlighted two foreign policy objectives related to U.S. national security interests in the Middle East: first, eradicating "radical Islamic terrorism" and defeating ISIS and, second, preventing Iran from developing a nuclear weapon. Although the Trump administration has not articulated its vision for the Middle East yet, this essay examines some of the threats and opportunities the United States will face in the region. The main point is that the region's disorder and divergent threat perceptions among allies and across issues will present challenges for the United States to achieve its objectives.

U.S. interests in the Middle East

The United States has a number of permanent national security interests in the Middle East that range from important to vital. These interests include preventing the spread of Weapons of Mass Destruction (WMD), protecting allies and partners, ensuring the secure flow of oil, countering terrorism, and promoting democratic reform and human rights. The fundamental aim of these interests is to protect the homeland and ensure the prosperity of the nation. President Trump's pledge to eradicate radical Islamic terrorism waged operationally through a war on ISIS and to renegotiate the Joint Comprehensive Plan of Action (JCPOA) indicates that his foreign policy objectives focus on counter-terrorism and preventing the spread of WMDs in the Middle East. The Trump administration's mixed statements about the Israeli-Palestinian conflict do not provide us with much of an indication as to where this issue fits into his foreign policy plans except that this area will not likely be a high priority.

The first objective is to destroy the Islamic State as part of a broader effort to eradicate radical Islamic terrorism. ISIS represents a foreign policy challenge and a domestic threat. The Islamic State poses a terrorist threat to the United States' homeland through its direct and indirect assistance to lone terrorist actors. ISIS also threatens United States' allies and the stability of the region through its acts as an insurgent group and quasi-state that challenges borders and threatens political stability.

While the threat that ISIS poses to U.S. citizens should not be dismissed, the threat that ISIS poses to U.S. allies in the region and to the regional order is more significant. ISIS has challenged the regional state system and put pressure on neighboring governments by displacing large populations that strain the resources of neighboring states.

But it is the Islamic State's capacity to destabilize neighboring regimes through its ideological appeal that presents both a current and future challenge. The Islamic State's most powerful weapon is its ability to project its ideas and ideology. ISIS can do this not only by mobilizing individuals for violent action but also by challenging the legitimacy and political stability of local regimes through its messaging. However long the Islamic State endures in its current form, it has proven that its capability to project its ideas may be its greatest strength.

Second, the administration will face the difficult task of containing Iran's regional aspirations, including monitoring Iran's nuclear program. During the campaign, President Trump threatened to tear up the Iran deal and Secretary of Defense Mattis called Iran, "the single biggest sponsor of terrorism in the world."¹ At this time, however, the extent to which the Trump administration will maintain the Joint Comprehensive Plan of Action (JCPOA) remains unclear. The JCPOA seems to still be in place even as Iran has conducted a number of ballistic missile tests that certainly fall outside the spirit of the agreement and the United States has responded by imposing new sanctions. Nonetheless, the most important flashpoint is how each side will respond to the other's provocative moves given domestic opposition on both sides. For example, U.S. actions, either in the form of military responses to Iranian naval maneuvers or Iranian ballistic missile tests, may affect Iranian domestic political attitudes toward the agreement. These actions may in turn precipitate further U.S. action. Any of these moves run the risk of increasing domestic pressure in both Iran and the United States that may exacerbate a crisis.

U.S. Foreign Policy Amidst Regional Disorder and Entangled Alliances

There are two significant challenges to the Trump administration's realization of its objectives. The first is the region's social and political environment. After leading a relatively stable regional order of "moderate" Arab Sunni states against an Iranian led axis during the 2000s, the United States faces a region in political disorder where state-state alignments are shifting and the issues that caused the Arab uprisings remain unresolved. To provide some context, it has only been five years since the Arab uprisings swept the region and overturned a number of authoritarian regimes. Three of the states that faced massive protests - Yemen, Libya, and Syria - are still in the midst of brutal civil wars in which regional states and great powers are involved. War-torn Iraq is battling the Islamic State and will continue to face significant civil and political strife even after Iraq liberates its territory from the Islamic State. One of the biggest region-wide challenges is that many of the factors that facilitated the social uprisings - youth unemployment, corruption, and lack of hope - remain and will continue to fester. The counter-revolutionary forces may have subdued the revolutionary impulses but the political, social, and economic grievances that led to the uprisings remain unresolved.

The second key challenge is that the United States must coordinate policy among allies that have divergent threat perceptions across issue areas. The core problem is that regional actors' threat perceptions often diverge from each other and the United States. For example, U.S., Saudi Arabia, and Turkey may align over their desire to defeat ISIS but these U.S. allies do not prioritize threats the same way. While both Saudi Arabia and Turkey oppose ISIS, Saudi Arabia perceives Iran as a greater threat than Turkey does. Meanwhile, Ankara is more concerned about empowered Kurdish populations inside Turkey and on its borders than it is about ISIS. To further complicate this picture, Saudi Arabia's arch rival, Iran, plays an important role supporting anti-ISIS, Shi'a militias in Iraq and is crucial to President Assad's survival in Syria.

The coalition to defeat ISIS does not carry over to other areas such as combatting Iranian regional influence. Iran's support for Assad is what wrangles Arab Sunnis who want to see Iranian regional influence reduced. The important point is that U.S. regional allies and adversaries assess threats differently and will prioritize their own efforts according to their local threat environments. This will continue to be one of the biggest challenges for the United States.

Yet one opportunity for the Trump administration is a reset with some U.S. partners. In contrast to previous administrations, the Trump administration is not interested in promoting political reform in the Middle East. This will provide the United States with greater flexibility in its regional relations. By not involving itself in the

domestic affairs of other countries, the Trump administration may remove a sticking point of bilateral relations with Arab authoritarian regimes that can sometime cause tensions. Lastly, the Trump administration's public stance on Iran may reduce some Obama era fears about that Iran's influence may grow unchecked. One caveat is that these opportunities may be mitigated by the effects of Trump's travel ban that is seen as anti-Muslim and anti-Arab.

The Future: Rethinking Success

United States' policy has focused on how to defeat the Islamic State and how to constrain Iran's nuclear ambitions as well as its regional influence. Yet, there are no perfect solutions to containing Iran or physically defeating the Islamic State, especially in Syria. Indeed, there seems to be an assumption that once these goals are achieved, the region will become more stable. In fact, in the event that Islamic State is physically defeated in Iraq and Syria, it is unlikely that this defeat will remove the ideas and environment which make ISIS attractive. Radical Islamic terrorism and terrorism more generally will likely remain. Moreover, if the JCPOA remains in place, U.S. regional allies such as the Gulf States and Israel may not feel more secure if Iran continues to project power throughout the region. But if the JCPOA comes under threat, the absence of replacement may trigger regional threat perceptions. Many of these uncertainties will be affected on what role Russia willing to play in the region, particularly its evolving relationship with Iran and Syria.

In sum, these open questions highlight that the United States should think very seriously about how these issues may be connected to each other and to broader regional political trends. The unresolved societal tensions that caused the Arab uprisings will continue to be a liability for returning to a stable regional order. Furthermore, the divergent threat perceptions among regional actors and between regional partners and the United States will prove a change to the most pressing issue: How will the region look in the future?

Notes:

¹ "Iran is world's biggest state sponsor of terrorism, US says," <http://www.bbc.com/news/world-us-canada-38868039>, February 4, 2017

PANEL 2: SEAPOWER AND GREAT POWER DYNAMICS

CHINA AS A GLOBAL MARITIME POWER

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With a focus on China, this paper will address three questions. First, how will regional rivalries manifest in the maritime domain? Second, what are the prospects for high seas cooperation among Russia, China, and India? Third, what are the implications for the United States of the previous issues?

The most crucial regional maritime rivalries China is confronting concern contested territorial sovereignty, resource acquisition, and matters of national pride.

I. Territorial Sovereignty.

These are well-known and vital issues of national sovereignty and security from China’s perspective. Quite simply, Beijing considers the Yellow, East and South China seas to be areas of vital national security interest. That evaluation also may apply to Korea, Japan, and the other South China Sea claimants, of course, but none of those countries have China’s comprehensive national view of these “three seas” geographically, politically, and historically.

--Does it apply to the United States? Has Washington ever spelled out our national security interests in those seas, other than as “freedom of navigation”?

Countering this nationalistic view from Beijing is the centuries-old concept of the “maritime commons,” which views the “high seas” as an area of free access and transit. The United Nations Convention on the Law of the Seas (UNCLOS) is the most recent attempt to delineate the “maritime commons” and the “high seas,” but even this near-universally ratified convention contains significant areas where clarity is lacking.

This particularly is relevant when considering the “declarations” made by states when they signed and ratified the UNCLOS. China, for example, issued four declarations when it signed, and a fifth declaration when it ratified, the UNCLOS. In these declarations, Beijing essentially refused to agree with some very important treaty articles. These are as follows:

Upon ratification (7 June 1996)^{1/}:

1. In accordance with the provisions of the United Nations Convention on the Law of the Sea, the People's Republic of China shall enjoy sovereign rights and jurisdiction over an exclusive economic zone of 200 nautical miles and the continental shelf.
2. The People's Republic of China will effect, through consultations, the delimitation of the boundary of the maritime jurisdiction with the States with coasts opposite or adjacent to China respectively on the basis of international law and in accordance with the principle of equitability.
3. The People's Republic of China reaffirms its sovereignty over all its archipelagos and islands as listed in article 2 of the Law of the People's Republic of China on the territorial sea and the contiguous zone, which was promulgated on 25 February 1992.
4. The People's Republic of China reaffirms that the provisions of the United Nations Convention on the Law of the Sea concerning innocent passage through the territorial sea shall not prejudice the right of a coastal State to request, in accordance with its laws and regulations, a foreign State to

obtain advance approval from or give prior notification to the coastal State for the passage of its warships through the territorial sea of the coastal State.

Declaration made after ratification (25 August 2006)

5. The Government of the People's Republic of China does not accept any of the procedures provided for in Section 2 of Part XV of the Convention with respect to all the categories of disputes referred to in paragraph 1 (a) (b) and (c) of Article 298 of the Convention.

Potentially more serious is the February 2017 report of Beijing's revision of its "Maritime Safety Law" that would require all submarines to travel on the surface in "Chinese waters," perhaps extending to the 200nm EEZ limit.

Other nations also issued such declarations, particularly with respect to requiring permission for armed vessels to operate in the exclusive economic zone and to the limits of the continental shelf, including, for instance, India, Malaysia, Pakistan, Thailand, and Vietnam.

[(b) The Government of the Republic of India understands that the provisions of the Convention do not authorize other States to carry out in the exclusive economic zone and on the continental shelf military exercises or maneuvers, in particular those involving the use of weapons or explosives without the consent of the coastal State.]

The three most important maritime territorial/sovereignty disputes for China are well known to this audience: the East China Sea, the South China Sea, and Taiwan. The first involves seabed resources and the Senkaku/Diaoyu Islands sovereignty issue; the second also involves seabed resources and land feature sovereignty issues—although a more complicated level than those in the East China Sea; finally, in my view, the Taiwan sovereignty issue remains Beijing's number one sovereignty concern, as it does for the People's Liberation Army (PLA).

Second, other conflictual maritime issues include various fishing claims, both with specific nations, such as both Koreas, and globally, where China's huge fishing fleet ignores both national and international restrictions and concerns. Finally, Beijing actively plays the "nationalism" card when addressing domestic and foreign issues. This of course is not unique to China, but given that country's size and investment in so many contentious maritime issues, nationalism is a significant factor, especially with regard to relations with Japan. It is perhaps significant that while China has often been willing to compromise on continental boundary disputes, it has done so in only one case of a maritime dispute, in the Tonkin/Beibu Gulf.

II. Prospects for High Seas Cooperation among Russia, China, and India

High seas cooperation between China and Russia is occurring on a regular basis, evident in regularly scheduled naval and other military exercises between the two nations' militaries. In September 2016, for instance, three Russian combatants and two supply ships joined ten PLAN ships in a week-long exercise in the South China Sea. Moscow has endorsed all of Beijing's positions in maritime sovereignty disputes, although fisheries disputes remain.

Indian and Chinese navy ships have conducted port visits in each other's country, and to some third nations. They have not participated in any meaningful maritime exercises, however, and are not likely to do so in the near future. This is due to Sino-Indian disputes, as well as to the close Chinese-Pakistani alliance and Indian concern about the increasing PLAN presence in the Indian Ocean.

That said, there may be future Indian-Chinese naval cooperation during emergency events such as Non-combatant Evacuation Operations (NEO) or disaster-relief operations.

Russia and India, however, continue to maintain a close military relationship, based in large part on Moscow's arms sales to New Delhi. These continue to include naval combatants from nuclear-powered

submarines to aircraft carriers. I note, however, that a counter move in the Indian navy exists in favor of shifting to U.S.-supplied naval weaponry and systems. That shift exists, to an extent, but remains nascent (SH3s, P8s, but not F/A-18s).

The two nations' navies continue to conduct a long-established series of naval exercises, most recently in December 2016. Yet, the prospects for high-seas cooperation between China and India are slight; those between China and Russia likely to continue and to increase in frequency and complexity; those between India and Russia also likely to continue. Two interesting factors cloud China's relations with India and Vietnam. The first is Russia's continuing status as India's primary arms supplier and their generally good relationship, while the second is Russia's similar role with Vietnam. The Russian-U.S. relationship, both at sea and in general, may well be on the verge of significant change, given the publicly expressed views of President Donald Trump.

III. Implications for the United States

The United States is intricately involved in how both of these slates of issues are resolved—or not resolved. In the first case, the U.S. relationships with all the nations disputing Chinese claims are significant. These involve, on one level, mutual defense treaties with South Korea, Japan, the Philippines, and Australia.

At a lesser, but still important level are the U.S. defense relationships with Taiwan, New Zealand, and Thailand. Third are significant U.S. military (naval) relationships with Vietnam, Brunei, Indonesia, Malaysia, Cambodia, Bangladesh, India, and Pakistan. (from Beijing's perspective, when one considers, in addition to these treaties and relations the U.S. military presence in Afghanistan, exercises with Mongolia, and relationships with Central Asian states, the U.S. is indeed "surrounding" China!)

With respect to the second issue, the United States has established and continues to engage in cooperative maritime efforts with China. These range from the Northern Pacific Fisheries Patrol, which also includes Russia, to port visit exchanges, joint exercises in both U.S. and Chinese waters, and war-gaming exercises that include possible future maritime NEO and emergency relief operations in concert if not fully joint.

Well-established cooperative programs exist between the USN and the PLAN. The first of these, the long series of Military Maritime Consultative Agreement (MMCA) meetings, may be little more than a talk shop, but valuable nonetheless, for bringing together flag officers from each navy on a regular basis. The second established measure is much more important. The Code for Unplanned Encounters at Sea (CUES) is a more practical agreement, reminiscent of the Incidents at Sea agreement established by the United States and the Soviet Union to prevent unintended escalation of encounters between ships of the respective navies.

The U.S.-China CUES pact has recently been supplemented by an addendum extending similar conditions and procedures to encounters in the air. This may prove a particularly valuable preventive step, reducing, if not eliminating, an incident like the 2001 EP3-J8II collision.

Future prospects for these activities seems tenuous, however, given apparent attitudes in Xi Jinping's Zhongnanhai and Donald Trump's White House. And maintaining and hopefully expanding maritime relationships with Russia may well have to await the next Moscow ruler.

Two primary problems exist for future U.S. maritime relations on the high seas (or in littoral waters, for that matter). The first is the continuing U.S. refusal to sign and ratify the UNCLOS treaty. Second, and much more important, is that maintaining U.S. maritime interests, which are global and vital, requires rectification of the current imbalance between USN resources and national tasking.

PANEL 2: SEAPOWER AND GREAT POWER DYNAMICS

RUSSIA: A LAND POWER MEETS SEAPOWER

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Russia's great power status has always rested solidly on its foundation as the world's largest and most formidable land power. In fact, both Peter and Catherine the Great, nominally the father and mother of Russia's Navy, had to defy Russian culture and tradition as they built navies in pursuit of territorial expansion and great power status. Only in the "Gorshkov Era" of Soviet times (1956-1985) did the Russian navy ply the world's oceans in great numbers, and even then, its vessel of choice was the submarine. The current chapter of Russian naval rejuvenation under Vladimir Putin is putting a new spin on how Russia uses its navy, although completely within the parameters set by his predecessors.

To refresh...

Throughout the Cold War and until 1989, the Soviet Navy was the quantitative equal of the U.S. Fleet in every element of naval power except carrier aviation. Her submarine force, while qualitatively inferior, outnumbered ours. Her ballistic missile submarines patrolled off our coasts and her attack submarines were routinely tracked as they transited the Greenland-Iceland-UK (GIUK) Gap in large numbers. It all came to a screeching halt with the fall of the Soviet Union. The now Russian Navy was tied to the pier, submarines leaking radioactive waste, and surface ships unable to operate without frequent engineering breakdowns. The small number of ships built by Russian shipyards were mostly sold to clients in search of economical naval platforms.

This changed abruptly in 2008 with the confluence of three events. First, Russia began its recovery from the global recession and the price of oil skyrocketed. This was Russia's great enabler. Second, Anatoliy Serdyukov took over as Minister of Defense with a reform agenda aimed at professionalization and jointness, and, finally, the Putin-Medvedev team put together a military building and modernization 10-year plan that gave great emphasis to the Navy.

Over this last decade, Russia's navy has seen steady growth and qualitative improvements. Today, Russia is slowly beginning to deliver ships and submarines to its navy, along with exporting them to India, Vietnam, Egypt and Indonesia. But most importantly, the Russian Federation Navy (RFN) is going back to sea. Their submarines are once again patrolling the world's oceans in limited numbers -- and we all know about their intelligence gatherers off our eastern seaboard. The Commander of NATO's Maritime Command asserted that "Russian submarine activity in the North Atlantic is currently equaling or surpassing Cold War levels."¹ The former Commander of U.S. Naval Forces Europe, Admiral Mark Ferguson, characterizes the RFN as having developed an 'arc of steel' from the Arctic Ocean to the Mediterranean Sea.

The admiral's point was not that Russian seapower was equal to the U.S. and NATO navies on the high seas. Rather, that the Russian Navy had put us on notice in the Atlantic as well as developed the European equivalent of an 'anti-access/area denial' capability in those regions near the Russian homeland. Additionally, this naval capability could be used both to punish weak adversaries, to add to Russia's international diplomatic presence and prestige and to showcase Russian naval technology for arms export, Russia's second leading source of foreign currency after petroleum products.

Witness Syria

In 2013, Russia established a ‘permanent flotilla’ in the eastern Mediterranean, to be manned by ships from all four of its fleets. After the Obama administration’s ‘red line’ pronouncement on Bashar al-Assad’s chemical weapons, only this Russian force was in position to escort the Norwegian vessels carrying Syrian chemical weapons to their destruction destination. The world acknowledged Putin’s naval diplomatic initiative. Then, as the Russian Air Force needed additional air defense for its base in Humaymim (Syria), the Black Sea Fleet cruiser *Moskva* assumed the role of air defense commander. Russian air forces were then augmented by the arrival of Russia’s sole aircraft carrier, *Admiral Kuznetsov*, last fall. Finally, in an act that surprised most of the world, the Russian Navy launched multiple cruise missile attacks on so-called terrorist positions in Syria from over a thousand miles away, with *Kalibr* cruise missiles from both Buyan-M patrol boats in the Caspian Sea as well as diesel submarines in the Mediterranean. At a cost of probably less than the deployment of a U.S. Navy carrier strike group, Russia achieved significant diplomatic and military leverage in the Eastern Mediterranean while also creating significant interest in the sale of its cruise missiles, through the judicious and efficient use of its style of seapower.

The speed with which the Russian Federation Navy (RFN) has moved in the “joint” direction is noteworthy over the last decade. In the Arctic Ocean, the Baltic and Black Seas, the RFN is now protected by ground-based air defense systems incorporating Russia’s latest S-300 and S-400 systems. Russian aviation units supporting all four fleets routinely practice locating and destroying naval targets. This, along with improved diesel submarines (largely operating in the Black Sea), is what Admiral Ferguson had in mind as he used his post-Cold War mantra, reminiscent of the “Iron Curtain.”

Seapower, therefore can take many shapes and sizes in great power calculus. A historic land power whose second-rate economy is hardly dependent on the global commons ought to have no interest in control of the world’s oceans. Russia does not. However, Russian seapower today provides Vladimir Putin with precisely the tools of national power that the leader of a land power requires. First, his growing fleet of ballistic missile submarines will provide a reliable second-strike nuclear deterrent force as his attack submarines keep NATO navies on edge. Second, the global presence of small numbers of his surface combatants provides diplomatic presence and prestige while also showcasing Russian weapons technology. Third, the RFN can conduct selective operations against limited opponents, as long as they are near Russian territory. Fourth, and most importantly, Russian seapower can control Russia’s flanks and deny naval entry into the region. The Russian Navy, without carrier-based aviation, can still act as a deterrent to encroaching foreign navies planning to reclaim recently annexed land (Crimea) as well to intimidate NATO Alliance partners into disunity.

One Last Thought

President Putin loves to use his navy. At a recent press conference, he boasted that *Admiral Kuznetsov*’s deployment to the Mediterranean was his “personal initiative.”² Based on the frequency with which he attends naval events and dresses in its uniforms, it is not unreasonable that he identifies with his navy. After all, as a judo master, he may very well fashion himself the naval destroyer: sleek, lean, vicious, lethal, stealthy and a very impressive sight to witness.

Notes:

¹ *Janes Sentinel Security Assessment – Russia and the CIS*, IHS, London, 2017, Executive Summary, p.9

² “Putin thanked Sailors and Industrialists for the Sortie of the *Admiral Kuznetsov* to the Mediterranean,” Press Conference 23 February, 2017,

<https://mail.google.com/mail/u/0/?ui=2&ik=c35103f459&view=pt&search=inbox&th=15a703e8815181c1&siml=15a703e8815181c1>

PANEL 2: SEAPOWER AND GREAT POWER DYNAMICS

REGIONAL HEGEMONY IN A MULTIPOLAR WORLD

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As noted in the Chief of Naval Operation's January 2016 *A Design for Maintaining Maritime Superiority*, we are witnessing a return to great power competition. Yet this return is gradual and must be viewed in terms of aspiring regional hegemony in a multipolar world rather than a reemergence of the bipolar world order that dominated the post World War II era. While Russia and China have made significant military and economic advances, they remain largely regional powers aspiring to exert a sphere of influence on their neighbors, or near abroad. India, also an emerging power with impressive economic and military growth, receives less attention but will continue to be a significant factor in shaping the international security environment. This paper will examine these rising powers and briefly examine areas of potential conflict and cooperation.

Russia has dominated the recent news cycle for a wide range of aggressive actions, ranging from interference in the US elections, to buzzing of the USS PORTER in the Black Sea, maneuvers in Ukraine, and a sustained combat role in Syria. Many have suggested these actions indicate a renewal of the Cold War, but we would be remiss if we presumed the resurgent Russian power of today followed a script from the Soviet Union's Cold War strategy. An examination of early Cold War strategic documents and guidance, such as NSC-68 or George Kennan's Long Telegram, presents stark differences in the motivations and objectives of Russian leadership, but does offer valuable lessons. Kennan's insights formed the cornerstone of US policy against the Soviet Union; he argued that Soviet security behavior was shaped by internal political, ideological, and historical factors. Yet his description of Soviet "political action is a fluid stream which moves constantly, wherever it is permitted to move, toward a given goal" applies equally to Putin's Russia of today.¹ It is imperative to first understand the motivations of present-day Russia and how it differs from the Soviet Union. Upon assuming the presidency from a beleaguered Boris Yeltsin at the turn of the millennium, Vladimir Putin made clear his intention to restore Russian power. He has methodically worked to do so, buoyed by large economic growth spurred by Russia's gas and oil. As Russia worked to modernize its military, Putin became bolder in his foreign interactions, as seen most clearly in the 2008 Georgian invasion, participation in the Syrian conflict, and the annexation of Crimea in 2014 despite heavy international condemnation.

On 18 March 2014, Putin gave a speech to both houses of parliament at the Kremlin in which he declared "Russia is an independent, active participant in international affairs; like other countries, it has its own national interests that need to be taken into account and respected."² In this speech, Putin provided insights into potential alliances, noting "we are grateful to the people of China, whose leaders have always considered the situation in Ukraine and Crimea taking into account the full historical and political context, and greatly appreciate India's reserve and objectivity."³

Despite the recognition of both China and India in his Crimea speech, it is unlikely that a Russia-China-India alliance will soon emerge. However, Russia has been working to build relations with these two countries, particularly China. The Chinese-Russian relationship has historically been a tenuous one, yet the signing of numerous gas and oil deals as well as an increase in joint naval exercises portends closer ties. In September 2016, China and Russia completed an eight-day naval exercise in the South China Sea. This included five Russian navy ships, ninety marines, and two helicopters to pair with

the ten Chinese ships, nearly twenty aircraft, and one hundred sixty marines; the drills included island seizing exercises.⁴

China has long expressed a desire for regional hegemony and is pursuing a naval strategy that would enable this. ONI noted in 2015 that China has more than 300 surface combatants, submarines, amphibious ships, and missile-armed patrol craft; it further predicts a Chinese fleet of more than 400 ships by 2020.⁵ Yet numbers alone are poor indicators of a fleet's might – one must factor weaponry, tonnage, capabilities, and operational experience. Clearly, the US has been the sole global blue water navy since the collapse of the Soviet Union, but it is equally clear that the US absolute dominance on the high seas is coming to an end.

While the Chinese naval fleet does not presently equal the US naval fleet, the PLA(N) is working to achieve greater capabilities and proficiency operating on the high seas. The construction of a base in Djibouti reflects the commitment to extended patrols. China is not the only nation reemerging as a blue water power - Russia has deployed numerous warships to the Eastern Mediterranean in support of Syrian operations and routinely deploys combatants and surveillance ships to the Western Hemisphere, as recently noted by the spy ship that transited international waters off the US eastern seaboard.

Alarmists will note the more frequent deployments of Chinese and Russian naval vessels, but one must be careful to appropriately assess both their capability and proficiency. The US will continue to dominate the high seas in both areas into the near future. Current US defense spending levels are equivalent to the next seven countries combined – without factoring the Trump Administration's newly announced proposed increase of \$54B. In 2015, China spent just over \$214B on defense, compared to Russia's \$91B and India's \$51B.⁶ While defense spending is notoriously challenging to account for, there is little doubt that the US massively outspends these aspiring powers.

While confrontation must never be discounted, the US must adopt a strategy of both cooperation and deterrence. Graham Allison's famous examination of sixteen cases of rising powers rivaling a ruling power in the last five hundred years noted that war resulted in all but four of the cases.⁷ Though 'Thucydides Trap' portends that war may be more probable than peace, it is not inevitable, particularly in modern times. It is thus imperative to prepare for war – but also to seek increased cooperation to build trust and avoid miscalculations due to misunderstandings.

There are numerous areas that could be more fully explored for cooperation between one or more rising powers. The Arctic represents an area of significant interest to Russia, the US, and even China given its potential economic value. The Arctic Council has provided a useful forum for increased dialogue and cooperation, but the US Navy and Coast Guard should also seek to include Russia and China in multilateral Arctic operations. Search and Rescue and crisis response provide low threat areas of cooperation that would also develop critical skills for any future emergency – which becomes increasingly likely as the traffic in the region climbs.

Multilateral drills – particularly ones focused on humanitarian operations – present other opportunities for engagement. Russia and China were invited to participate in RIMPAC in 2012 and 2014, respectively. India and China participated in RIMPAC 2016, though Russia had not been invited and instead dispatched a spy ship to trail the exercises. Inviting all three countries to RIMPAC 2018 would offer an opportunity to build positive relations and improve cooperation.

Cooperation is imperative on the high seas and multilateral agreements like the 2014 Code for Unplanned Encounters at Sea (CUES), signed by twenty-one Pacific nations at the Western Pacific Naval Symposium, serve an important purpose to open communications and establish standards of conduct. CUES was designed to prevent inadvertent escalation of tensions at sea, reminiscent of the 1972 US-USSR Agreement on the Prevention of Incidents On and Over the High Seas (INCSEA). While INCSEA responsibilities were assumed by the Russian Federation, an increase in recent incidents between US and Russian forces at sea indicate that a revision of the agreement may be necessary. It should not be limited to just the US and Russia, but consideration should be given to inviting other countries to participate in drafting a new, relevant agreement.

While there are many additional opportunities for engagement, these represent areas that would present low-risk opportunities to improve relations while also ensuring a more effective response for humanitarian and crisis response in the future. Cooperation with Russia, China, and India can yield positive relations and present an opportunity to improve communications, reducing the risk of inadvertent escalations due to misunderstandings. Yet we must be mindful of Allison's findings and continue with a realistic naval strategy to ensure supremacy if challenged.

¹ George Kennan. "The Sources of Soviet Conduct." *Foreign Affairs*. 1946.

<https://www.foreignaffairs.com/articles/russian-federation/1947-07-01/sources-soviet-conduct>

² BBC. "Crimea Crisis: Russian President Putin's speech annotated." 19 March 2014. *BBC News*.

<http://www.bbc.com/news/world-europe-26652058>

³ Ibid.

⁴ Sam LaGrone. "China, Russia Kick Off Joint South China Sea Exercise; Includes 'Island Seizing' Drill." 12 September 2016. *USNI News*. <https://news.usni.org/2016/09/12/china-russia-start-joint-south-china-sea-naval-exercise-includes-island-seizing-drill>

⁵ Ronald O'Rourke. "China Naval Modernization: Implications for US Navy Capabilities – Background and Issues for Congress." *Congressional Research Service*. 17 June 2016. <https://fas.org/sgp/crs/row/RL33153.pdf> p. 49-50.

⁶ SIPRI. "Military Expenditure by country, in constant USD, 2006-2015." *Stockholm International Peace Research Institute*. <https://www.sipri.org/sites/default/files/Milex-constant-USD.pdf>

⁷ Graham Allison. <https://www.theatlantic.com/international/archive/2015/09/united-states-china-war-thucydides-trap/406756/>

PANEL 2: SEAPOWER AND GREAT POWER DYNAMICS

TOP-DOWN PEACEMAKING: STATES, SOCIETIES AND PEACEMAKING BETWEEN REGIONAL RIVALS

Norrin M. Ripsman
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How do regional rivalries stabilize? While bitter rivalries can simmer for decades, punctuated by occasional wars, they sometimes terminate in peace treaties. My research investigates how these peace settlements come about and why some are stable and long-lasting, while others are fragile and/or short-lived. In particular, I examine whether peace is brought about and maintained by societal pressure on the state, or whether the state is the engine of peacemaking. I investigate these questions with an analysis of the universe of twentieth century peace agreements concluded between regional rivals that lasted for at least ten years.

Two key theoretical possibilities are suggested by the international relations literature. A bottom-up approach, derived from liberal and constructivist theories, suggests that peacemaking can be achieved by changing societal attitudes or by altering domestic institutions to allow for societal input into policy. In other words, by creating common interests through economic exchange or common identities through participation in regional security institutions, or by democratizing the states in question, the conditions can be created for society to compel peacemaking. Alternatively, a top-down approach, informed by realist and statist theories, views peacemaking as the product of states pursuing their own interests, both domestically and internationally. External pressures, such the existence of more pressing threats than the traditional rival or the demands of a more powerful state, can compel states to make peace, as can the need to institutionalize a new regime or shore up a more established leadership's precarious power position when facing an internal political or economic crisis.

My findings, published in Norrin M. Ripsman, *Peacemaking from Above, Peace from Below: Ending Conflict Between Regional Rivals* (Ithaca, NY: Cornell University Press, 2016), are that each of these approaches explain only one phase of the peacemaking process. The transition to peace is a top-down process led by states for statist reasons, whereas stabilizing peace depends on engaging society in the post-agreement period with mechanisms inspired by bottom-up approaches. In every single twentieth-century case of successful peacemaking between regional rivals, peace was negotiated by states, often over the vociferous objections of the public and key societal groups. In contrast, at the time of the treaties there was no evidence of public pressure for peace, any common regional identities that overwhelmed bilateral hostility, nor – except in the case of the Sino-Japanese treaty, where it played only a minimal role – demands for peace from the business communities of either state. Thus the movement toward peace was top-down, with society playing no role whatsoever.

After a treaty is signed, however, societal buy-in determines whether a treaty becomes stable or not. Thus, it becomes critical to socialize the rival populations at this stage by engaging in economic and cultural exchange, embedding them in cooperative regional institutions, and linking the treaty to the broader democratic peace by democratizing the states in question. In this regard, states like France and Germany, which socialized the peace settlement in this manner, enjoyed a stable peace settlement that not only has been respected and unchallenged, but has largely been devoid of attempt at revision or high level bilateral crises. Peace settlements that were not socialized in this manner have been less than stable. Some, like the Israeli-Egyptian or Israeli-Jordanian treaties have endured for statist reasons, but while the basic security settlements have held and the treaties were not repudiated by either

party, they lacked underlying stability as demonstrated by frequent bilateral crises and attempts by one or both parties to revise the treaty. Finally, settlements like the Russo-Turkish treaty that were not socialized with mechanisms inspired by bottom-up theories simply unraveled when state interests changed. Societal, therefore, become critical for turning a surface-level statist peace into one that can enduring changes of government and state interests.

The lesson is that third party states and international institutions interested in promoting regional peacemaking need to tailor their strategies to the appropriate stage of the peacemaking process. Before a treaty is signed, strategies need to target the rival state's leaderships, rather than society. At this stage, economic and other incentives that will benefit the state itself or its leadership could help encourage negotiations, as could pressure in the form of threats or economic sanctions that might exacerbate the leadership's domestic difficulties. Furthermore, it would help if third parties could help prevent an escalation of conflict during the negotiation process, at that can undermine peacemaking efforts. Conversely, once a peace treaty is signed, the target societies are the appropriate focus of third party efforts. In particular, efforts to provide the rival societies an economic peace dividend, as well as measures that encourage bilateral contact are likely to be useful strategies to help cement the peace. At the same time, outside actors can assist in monitoring the treaty and reassuring both states and societies that peace will hold.

What are the implications of these findings for naval strategy? To begin with, naval forces are not the principal tools through which peace can be promoted or maintained. Nonetheless, to the extent that naval forces can be used to support the third-party strategies mentioned above, they can play a supporting role. That means, in the first instance, to help monitor cease-fires and keep both sides' militaries apart to create space for peacemaking. In addition, if power projection is needed in support of threats and great power pressure on the regional rivals, or if a blockade can enforce economic sanctions, naval power can be useful in the first stage. In the post-agreement stage, outside naval forces can participate in monitoring the treaty to help reassure both parties. Therefore, while naval strategy is not central to peacemaking, it can be used in a limited fashion to support the mission.

PANEL 3: ECHOES OF THE FIRST WORLD WAR IN THE TWENTY-FIRST CENTURY

“SMASHING IDOLS”: LOOKING BACK AT SIMS FROM THE 21ST CENTURY

Benjamin “BJ” Armstrong
U.S. Naval Academy

Just as the First World War was beginning in Europe, Captain William Sowden Sims lay at anchor in Guantanamo Bay, sure that his career was coming to an end. He had been serving the U.S. Navy for over thirty years, but in a tropical melancholy he was convinced that he was about to be forced into retirement. Sims commanded the Atlantic Torpedo Flotilla, considered a backwater of a command and not the type of assignment from which his career could recover. Granted, he had re-invented the way the U.S. Navy used small combatants and he had inspired a staff process that would set a new standard for America’s maritime forces.¹ But, he did not seem to think those accomplishments would matter to the Admirals who ran the Navy. Prior to becoming Commodore, he had been assigned to the Naval War College not once, but twice. He had back-to-back orders as both a student and then an instructor. Newport was where the personnel detailers in the Bureau of Navigation sent the riff raff and the officers that they did not want in the fleet. In the Cuban sun, Sims turned to his Chief of Staff and good friend from their War College days, Dudley Knox, and asked him to see if he could collect photographs from the lieutenants and lieutenant commanders who skippered the destroyers in his flotilla. He wanted something to remember them by as his next set of orders approached and he considered his looming departure from the Navy.²

With the centennial of the First World War upon us, we expect to look back at the conduct of the war itself and the aftermath. We see the photographs of Admiral Sims standing with Assistant Secretary of the Navy Franklin Roosevelt in London, or with Admiral Jellicoe and his British counterparts, and it becomes very easy to focus on his leadership at the London Flagship and achievements during the war. It is easy to forget that he was never really supposed to be there, and he was never really supposed to have the power that he amassed in London. Examining the path that led Sims to his eventual position as Commander, U.S. Naval Forces Operating in European Waters offers observations for the naval profession in the 21st century, alongside the strategic and operational lessons offered by study of the war itself.³

There were a number of times, over the course of William Sims’ forty years of naval service that it looked as if his career was ending. The first was of his own choosing; when in 1890 he tired of the navy and thought about leaving. Unsure that he wanted to make a career out of the navy, and feeling undervalued as a junior officer in a system that promoted slowly, he began searching for other options. Rather than leave the service completely, he applied for and received a furlough from the Secretary of the Navy. Today’s Navy calls these “career intermissions,” and Sims took off his uniform and went to Paris for a year where he lived a Hemingway-esque life several decades before Papa himself. He studied the French language and culture, spent time in the cafes, became a regular at the French theater, and befriended a pair of expatriate American artists who took him to visit their Bohemian friends across Europe.⁴ He came back from his year on furlough as a different man, and to a job as the Training Officer aboard a cadet training ship. Through teaching the mariner’s trade to a group of excited young men, he rediscovered why he wanted to be a naval officer and, refreshed, he continued in the service.⁵

The second near-end of his career occurred after the turn of the century when he decided, as a Lieutenant, that it was time to reform the U.S. Navy’s gunnery practices. He needed to make some enemies

to do it. He angered plenty of officers senior to him, and the naval establishment nearly blacklisted him because of his insubordination. President Theodore Roosevelt saved him, to a certain extent. Roosevelt told the Navy to give him job of Inspector of Target Practice, where Sims fundamentally changed how the U.S. Navy trained for war. As a reward for his hard work at reform, Roosevelt then gave him command of a battleship, the USS *Minnesota*. But he was years ahead of his peers, and jumped several officers more senior to him on the navy list. He did not make friends from his special treatment.⁶

While in command of *Minnesota*, after Roosevelt had left office, Sims once again put himself in an uncomfortable position. At a dinner at London's Guildhall in December of 1910, honoring the visit of several U.S. Navy ships to the United Kingdom, Sims gave a toast. It was a toast that "reverberated from Berlin to Washington," when he suggested that the United States and Great

Britain were, by nature and national character, natural allies who should come to one another's defense if challenged by another power. As 1911 was set to begin, there was only one other nation he could have been referencing: Imperial Germany. The toast, and its hearty reception by the Londoners and Naval Officers crowded into the hall, caught the attention of the newspaper reporters present. The proposal by a U.S. naval officer, that the Americans and British should ally themselves, was directly at odds from the official policy of the Administration of President Taft and countered the view of many Americans who still saw Britain as a potential adversary. The Department of the Navy formally censured Commander Sims, and relieved him of command of *Minnesota*. The leadership sent him into "genteel exile" in Newport, at the War College, which had become a place to stash underperforming officers or those who could not return to sea duty.⁷

Sims' career, enroute to his wartime command and leadership, rode through crests and troughs. He burned many bridges and made plenty of enemies in the service during the process. But he also inspired many officers who served under his command. For a portion of the junior officer corps going into the Great War, he had become a role model and an exemplar of effective leadership. He was a proponent of the adoption of mission command, connecting it to both the legacy of Admiral Nelson and the German ideas of *anfragstaktik*, and firmly believed in giving junior officers authority and responsibility. His legacy stretched across the interwar years as officers who had served with him like King, Halsey, and Stark rose to positions of senior leadership. Even after World War II, Captain B.B. Wygant wrote an article for *Proceedings* recalling his own service under Sims and suggesting he was the proper role model for the Navy as it entered the Cold War Era.⁸

Naval professionals look at the track, which brought William Sims to the docks at Liverpool immediately following the American Declaration of War in 1917, and see much that reminds them of the 21st century. Career Intermissions are again a part of naval personnel policy, even if it may be a small program with a questionable future. The adoption of mission command across the joint force was one of Chairman of the Joint Chiefs Dempsey's key efforts. Some also might see the return of war gaming to a larger part of the curriculum at the Naval War College in recent months as a Simsian effort. Yet the despite these clear parallels, the fundamental question remains unaddressed. How does an officer survive a promotion and personnel system that has a little tolerance for risk and a low, or no, defect mindset? Sims repeatedly ended up with positions that should not have

been career enhancing. He made many enemies in the service. Part of what we see from an effort to brief Sims' personnel record is the hard work needed to do even the less glamorous jobs well. Part of what we see is the role of contingency in the study of history, or put another way, the place of luck and timing. But even admitting to those elements of the history, it is still hard to say that today's naval officer corps would tolerate a modern version of William Sims, or that he would be allowed to survive - even in backwater orders - to be available when he suddenly become the right man, at the right place, at the right time.

Notes:

¹ Frank A. Blazich, Jr., “The Ablest Men’ American Naval Planning Section London and the Adriatic, 1917-1918, *The Northern Mariner*, Vol. 26, No. 4 (October 2016), 383-405.

² William S. Sims Papers, Box 69: Dudley W. Knox, 1912-1928. Library of Congress, Washington D.C.

³ For more on the World War I specifics see: David Kohnen, “U.S.Navy’s Great War Centurion,” *Naval History*, Vol. 31, No. 2 (April 2017). Chuck Steele, “America’s Greatest Great War Flag Officer,” *Naval History*, Vol. 27, No. 3 (June 2013).

⁴ BJ Armstrong, “How Did the Navy’s Greats Become Great: The Power of Career Intermissions,” *War on the Rocks* (14 May 2015): <https://warontherocks.com/>

⁵ Elting Morison, *Admiral Sims and the Modern American Navy* (Boston: Houghton Mifflin Co., 1942), 29-31.

⁶ Benjamin Armstrong, “Armaments & Innovations - Continuous-Aim Fire: Learning How to Shoot” *Naval History*, Vol. 29, No. 2 (December 2010).

⁷ Michael McMaster and Kenneth Hagan, “His Remarks Reverberated from Berlin to Washington,” *U.S. Naval Institute Proceedings*, Vol. 136, No. 12 (December 2010), 66-71.

⁸ Benyaurd B. Wygant, “Admiral Sims as I Knew Him,” *U.S. Naval Institute Proceedings*, Vol. 77, No. 10 (October 1951), 1089-1091.

PANEL 3: ECHOES OF THE FIRST WORLD WAR IN THE TWENTY-FIRST CENTURY

A CENTURY OF PERSPECTIVE ON NAVAL STRATEGY

Nicholas Jellicoe

A hundred years ago today, America entered the First World War. An allied victory was not a foregone conclusion and many in the business lobby were hostile given British practices of shipping interception and inspection in the North Sea. Germany's strategic mishandling of the submarine offensive reversed these opinions.

Successful strategic planning depends on context. The current lack of clarity from Washington is causing inevitable obstacles for the successful implementation of CS21R. U.S. policy towards both rivals and partners is vague: witness flip-flops on "One China" and on the Israel "Two state" policies. The need for secretary of Defense Mattis and secretary of State Tillerson to underline unquestioned U.S. backing for NATO and Europe came after the BREXIT vote when a key underpinning of European co-operation was eroded and an important component of NATO already weakened. Turkey or the Philippines' recent behavior is equally dangerous. Now is the time to push hard – in partnership with NATO – for restructuring and reform, to build on, rather than erode the alliance.

Lessons from Jutland

Centuries prior to Jutland, Britain possessed a well-oiled global maritime fighting machine. The Royal Navy had a vast infrastructure and a total belief in its own invincibility. Unchallenged for a hundred years, it was steeped in tradition when it had its nose bloodied by its younger German rival. Tradition had become a millstone against a relatively "legacy-free" opponent. In peace, the RN had developed into a bureaucratic, seniority-based institution. Command initiative and tactical risk were almost non-existent. Today - after years of relative inaction - the USN faces similar threats.

The successful maintenance of economic blockade through sea power was a key British war objective in 1914. Despite Jutland's controversial tactical disappointment, the battle still changed the war's outcome. Unrestricted submarine warfare provoked U.S. entry into the war. The German Navy may still have had the impact of a "Fleet in being", but its demoralization led to its eventual mutiny and its final act of self-immolation in Scapa Flow in 1919. Anglo-American naval parity quickly followed. None of these outcomes could have been predicted a week after Jutland.

The Role of History

History gives a wider context to the study of military strategy, historians and strategists each playing a role. The view from the outside can bring wider clarity, which the inside-out perspective might overlook. The outside view – the historian's view - may be less expert, less knowledgeable but may see a wider horizon. A healthy overlap, a balance, is needed. The inevitable politicization of today's War on Terror could lead us back to a McNamara-like obsession with body-count numbers, sound-bytes, and media-friendly metrics. We're largely missing strategic metrics in the public discussion. A painful reminder is that the Napoleonic wars continued for ten years after Trafalgar; the First World War continued for two years after Jutland.

Under Fisher's far-sighted stewardship, the RN's strategic focus shifted from the Mediterranean to the North Sea to face Germany, the new economic powerhouse of Europe, and then widened to also include the Atlantic with the submarine war of 1917. The U.S. is similarly shifting focus in the first part of the 21st century from the Atlantic to the Pacific where it faces accelerated naval growth from an increasingly economically powerful China.

China is the serious long-term threat. Russia is the short-term one. Name the world's top ten technology, banking or communications companies. Not one is Russian. They're Chinese. Russia's floundering economy uses external conflict for internal political gain. A *Lager* mentality. Fighting a common outside enemy to unite (or quash) diverse internal opposition. Despite China's "nine dotted line" strategy and huge PLA/N investments, one question may be: is the U.S. shift to the Pacific premature? Arguably, we face an equal, but more immediate threat in the Mediterranean and Baltic regions. We might also face a new medium-term threat in the Arctic sea where increased commercial conflict over oil, mineral, and fishing rights plus a new channel through which China's navy can threaten, represents a more potential for conflict.

Jellicoe and the U.S. Navy

When political support is not seen as being stable, personal contacts within the military become more important for intelligence, planning and training. Jellicoe and Sims' friendship went back to China, to 1900. Jellicoe not only trusted Sims, he also knew – I suspect – that he could use the friendship as a conduit through which to speedily obtain urgently needed U.S. resources. Intelligence was never held back (though Admiral Benson, whose unfavorable opinions towards the British were as strong as Sims's favorable opinions were, often doubted this). Jellicoe probably "laid it on" (in much the same way as he did in early 1917 with Lloyd George's War Cabinet. He felt most cabinet members did not understand just how close Britain was to defeat at that point of the war). Operations are driven by intelligence. During Jellicoe's time at the Admiralty, Intelligence-sharing was encouraged and Sims's friendship with Reginald "Blinker" Hall (who became DNI in 1914) gave Sims further, unparalleled access to Britain's Room 40, its naval intelligence group. The current feud between the Executive branch and the Intelligence Community is, therefore, extremely dangerous.

A mere 26 days after the battle, Sims received Jellicoe's written evaluation of Jutland and was able to use this knowledge to brief SECNAV Daniels. Sim's priority in 1917 was to provide resources as fast as possible. The first group to arrive in Queenstown on May 6th were the best available, war-ready ships the USN possessed. The USN hadn't been ready for war and other ships had to make up for the shortfall in crews. Today, how ready – *really* ready – are we? One hears so many stories of hardware malfunctions, lack of realistic battle training and bureaucratic inertia that it's difficult to feel confidence from the outside.

Personal relationships between rival services give insight into an adversary's people, technologies and tactics. The working relationships between the U.S. Coast Guard and their Chinese counterpart is an opportunity on which to expand to foster stronger relationships between USN and NATO navy officers and their counterparts in the PLA/N. Sims accepted the RN's existing command structure and put his own ships under their direct command to avoid any time-wasting. He also accepted British war doctrine given Britain's two and a half years' war experience. It made sense. Are we as pragmatic and flexible today as Sims was then?

Credibility is key to effective deterrence. After only ten years, Jutland signaled the slow decline of the *Dreadnought* although both our navies' reliance continued without clear alternatives. The carrier age was born in 1918-1919 but only really came of age twenty years later in the Pacific. It is interesting that both ship-types share many of the same questions of prestige, cost, public profile and risk. The low cost, range and killing power of today's ship-killer missile threat might constitute a higher credible threat to our navies than we care to admit. Much like the maligned idea of submarine warfare in 1914, or the torpedo that might have failed to deliver the goods at Jutland, but in later years fully developed into a lethal weapon.

Jutland's real value was its controversial outcome. Many nostalgically look back to Nelson: navy men like Lord West, Andrew Gordon, Roskill and, even one of your own, Holloway Frost. Others talk more to the strategic context of the battle, like historian Arthur Marder. There's great emotional and media appeal to talk of "engaging the enemy more closely" versus Jellicoe's more cerebral command style. I often wonder

what a Jellicoe-Beatty team might have been like had JRJ been Beatty's Chief of Staff instead of his C-in-C. Beatty's intuition tempered by Jellicoe's intellect might have been a superb combination. I also wonder whether we would have ever had the degree of soul-searching and consequent reform had Jutland been a more easily understood "victory".

The Second Trafalgar

The challenge last year, in Jutland's Centenary year, was how to communicate the battle's significance and place in British maritime tradition. We wanted to pass its history onto a new generation. Did we succeed? Not entirely. But we made strong progress.

I do not feel that the Royal Navy fully grasped that Jutland was the obvious hook that could be the opportunity for, or the event around which the service could explain its current role to the public and to use this to lobby for a larger share of defense dollars. Britain is a country that has largely forgotten its maritime tradition. The naval role in a globalized, "Just-in-time" economy is now more important than ever. There was a high risk that Jutland was going to be overwhelmed by a tsunami of media attention to the land war, to Gallipoli, the Somme, to Verdun. To the generation lost in the filth and intimate brutality of trench war. The war at sea left no scars. The battlefield of the sea washed away the evidence. The slow strangulation of the German war economy was not easily understood, held little glamour and equally difficult to communicate to a nation whose understanding of war was romanticized and fed by a media which contributed to the unrealistic expectations of a "decisive battle" at sea.

The fundamental communication consideration today is language: to preserve history with a new generation, we must engage audiences digitally, be visually and graphically enticing. Look at how your own children consume media. Not how you do. While I hate to say it, the printed word is increasingly irrelevant. My simple 24-minute Jutland animation that was shown here last year when Jutland was gamed made – literally - 200 times more impact than my book. For both the layman and, I dare say, even some in the military, this complex battle and its consequences were finally easier to grasp. Museums in Germany, the UK and Denmark that had never even met, partnered and found a new way to share content, artifacts and tools. This is the new way going forward to recount history and its lessons.

PANEL 3: ECHOES OF THE FIRST WORLD WAR IN THE TWENTY-FIRST CENTURY

ECHOES OF THE “LONDON FLAGSHIP” IN RECENT (1999-2017) BOOKS AND ESSAYS

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Popular media coverage of the First World War centenary typically omits mention of naval events or the key role of coalition warfare in the outcome. As the centenary of 1917’s Atlantic crisis of unrestricted submarine warfare approaches, the lay reader must search diligently for information about naval aspects of the war. A search of Google Images for “World War 1 remembered” shows only land war related items. BBC.co.uk has links to interactive guides about WWI,¹ but there is only one BBC interactive guide with naval aspects, titled “Jutland, Orkney & an ideal navy base”² with links to further information about the Battle of Jutland, Dazzle Camouflage, and the Scapa Flow Museum. Further searching reveals that the National Museum of the Royal Navy at Portsmouth Historic Dockyard has a Jutland Exhibit: “36 Hours: Jutland, 1916, the Battle that Won the War”. A web-site - Centenary News - has a link to an Irish Examiner (02-08-17) article disclosing planned centenary events in Queenstown (Cobh; Cork) for 4 May 2017³. The Royal British Legion web site has a “Jutland 100”⁴ section, with further links to the spectacular Jellicoe Jutland battle animation and web-site⁵. Wikipedia, and the naval history wiki “The Dreadnought Project” are rich resources, and rewards may be high for targeted topic searching, but piecing multiple discrete factual objects together into a broad overview or analysis will be challenging. Examples of productive Wikipedia search topics include, for example: “Rodman 6th Battle Squadron,” “Rodman Battleship Division 9,” “Sir Lewis Bayly,” “Convoys in World War I,” “Seymour Expedition Jellicoe,” and the like. On Wikipedia, a search for “London Flagship” returns no results.

A general search-engine query for “London Flagship Sims” yields an article by David Kohnen of NWC on the USNWC “MOC Warfighter” web site, titled: “*History MOC Warfighters Should Know, The “London Flagship”: Estimate of the Situation for U.S. Navy Operations in a World at War*”⁶ Happily, references in the Kohnen article provide a roadmap of links to legacy scholarship and memoirs:

1919 Hunter:	<i>Beatty, Jellicoe, Sims and Rodman: Yankee Gobs and British Tars as Seen by an “Anglomaniac;”</i>
1920 Sims:	<i>Victory at Sea;</i>
1921 Hale:	<i>Naval Investigation;</i>
1921 Kittredge:	<i>Naval Lessons of the Great War;</i>
1922 Taussig:	<i>Destroyer Experiences during the Great War;</i>
1934 Chatterton:	<i>Danger Zone: the Story of the Queenstown Command</i>
1939 Bayly and Voysey:	<i>Pull Together!: the Memoirs of Admiral Sir Lewis Bayly;</i>
1942 Morison:	<i>Admiral Sims and the Modern American Navy;</i>
1984 Hattendorf et al:	<i>Sailors and Scholars;</i>
1984 Trask:	<i>Introduction, Victory at Sea, 1984.</i>
1996 Still:	<i>The Queenstown Patrol, 1917: The Diary of Commander Joseph Knefler Taussig, U.S. Navy, and the like.</i>

Of these, *Victory at Sea*, *Naval Lessons*, *Sailors and Scholars* and several others are available freely online; the Morison biography is not yet available as an eBook or online resource.

Our panel, “Echoes of the First World War in the Twenty-First Century” at the 5th EMC Chair Conference asks us to assess the extent to which Sims and the “London Flagship” set key foundations in shaping U.S. Navy concepts of strategy, command, operations, intelligence, and combined and joint operations.

We may therefore ask at least two specific questions, using contemporary (1999-2017) scholarship as a source of truth:

** first, were the methods, structures, and key principles of coalition naval warfare that were developed ad hoc by Sims and the US Navy at the London Flagship in 1917-1918, emulated during World War II and subsequent conflicts; and,

** second, are the methods, structures, and key principles relevant today, or at least, does the 1917-1918 experience offer a useful perspective, 100 years on, to the lay reader, as well as to the specialist naval historian or educator, on how 21st century naval operations should be conducted?

To answer these questions, we have identified ten significant new [written since 2009] “centenary scholarship” resources on the naval aspects of the First World War, as resources.

We list them here, as follows, with brief commentary, divided into

A five general books on broad topics, such as Sondhaus: “The Great War at Sea”,

B two articles specifically about Sims as an iconic and significant leader, such as Hagan: “William S. Sims: Naval Insurgent and Coalition Warrior”, and

C three recent articles by David Kohnen, particularly “The US Navy Won the Battle of Jutland” and “The Navy’s Great War Centurion”.

The five general texts are, most recent first:

1 - Lisle A Rose: America’s Sailors in the Great War: Seas, Skies, and Submarines (2017). 344 pages; compelling and highly readable narrative, richly referenced, including to primary sources. New analysis of primary sources clarifies the specific process by which the British Admiralty ‘converted’ to convoying. In addition, the book provides a comprehensive examination of the debates and processes by which the Wilson administration and Washington-based naval leaders managed the dilemmas associated with supplying resources to coalition warfare. This included the need to set aside key Mahanian doctrines. Among many other highlights, are marvelous narratives of the journeys of Taussig and of Rodman, with their small fleets, to European waters under challenging weather conditions. Reference to Sims, and to the London Flagship, occurs in nearly all chapters. There is a strong focus on naval aviation.

** “Literally within hours of the president’s request to Congress [for declaration of war] and while Sims was still at sea on his way to London, an Anglo-French mission composed of top-level military and naval officials stationed in the Western Hemisphere was pulled together under instructions from Paris and London and sailed toward the United States. By April 11 the Allied representatives were in conference at Norfolk with Daniels, Benson, Mayo, and other senior naval officials. A few days later, the meeting moved on to Washington. The Americans “possessed only the vaguest notion of the military and naval situation in Europe.” Wilson had wanted it this way in order to maintain his self-defined status as grand mediator. . . . What the besieged Allies wanted most and immediately from their new associate were **destroyers**. The Americans were initially cold to the plea, for they did not wish to weaken the battle-fleet screen. . . . When the Americans continued to stand firm, Browning pleaded for just one ship “to have a great moral effect.” It was [Vice Admiral, Henry T.] Mayo who broke the logjam that Daniels and Benson had created. When Daniels turned to his Atlantic Fleet commander and asked if at least one destroyer could be spared, Mayo replied, **“We can send a division [six ships] and should not send less than that.” On April 13th, “specific terms of an agreement were drafted in Admiral Benson’s office.” Six destroyers were to be sent posthaste to Europe . . . Beyond these points, Daniels and Benson would not go. They and most of their subordinates were steeped in the Mahanian**

dictum that “the United States should not divide its battle fleet” and that the navy’s primary function was to guard the American coastline. Soon enough, however, events forced a dramatic turn.

** **“Convoys, in fact, had been in use since the earliest days of the war, albeit on a limited basis ... protection of the Grand Fleet from U-boat attacks during its periodic sweeps of the North Sea depended absolutely upon its screen of swift, fast-acting escorts ... Why could not British merchant ships, sailing collectively as its battleships were doing, be escorted in the same way? Once he grasped this point, Sims threw his considerable and ever-growing weight on the side of the convoy enthusiasts, making his argument with a force and frequency that the British dared not ignore. After all, the American admiral held in his hands the number of destroyers that could make the system work.”**

** “Even as he worked the convoy issue with colleagues in the deeply divided British Admiralty, Sims, joined enthusiastically by Ambassador Walter Hines Page, began bombarding the White House and Navy Department with cables [the first on **April 14, 1917**] insisting that the fleet release a substantial part of its destroyer force for duty in European waters ... The message was not well received. **Wilson shared with his navy subordinates a keen commitment to Mahanian principles, grounded in an obsession with maintaining fleet integrity in anticipation of major offensive actions.** Dribbling away fleet resources in attempts to prop up a wartime associate could prove feckless. Moreover, the president soon developed a skepticism about the Royal Navy that closely reflected that of David Lloyd George.

** “... [The Royal Navy] experimental convoy from Gibraltar ... Results were spectacular. On **May 20**, every ship arrived in England without incident. Just four days later [**May 24, 1917**], **the Royal Navy organized the first convoy from the New World** that sailed from Hampton Roads ... without incident. ... **Despite open reservations about British abilities and intentions, the White House and Navy Department proved game to try the system.** The Allies, in turn, had their own reservations about American abilities ...”

** “Just hours after agreement had been reached [**April 13, 1917**] with the Anglo-French delegation in Washington to send a division of destroyers to the war zone, an obscure lieutenant commander named Joseph Taussig, who commanded the half-dozen ships of Destroyer Division 8, US Atlantic Fleet, was telephoned at home.”

** “At eight in the morning of **April 23, 1917**, Taussig’s little fleet sailed out of the Brooklyn Navy Yard for Boston ... Taussig and his captains... were prepared for the refueling exercise that would guarantee them passage all the way to Ireland ... **Taussig – a veteran of Sims’s rigorous Atlantic destroyer flotilla – allegedly replied [to Bayly] “We are ready now, sir ...!”** The American lieutenant commander and his British overseer quickly established a smooth working relationship. “This principle of cooperation” remained steadfast as the American destroyer presence at Queenstown grew ... **“an American unit” commanded by Sims in London but always subordinate to British direction.”**

2 - William T Johnsen: **The Origins of the Grand Alliance: Anglo-American Military Collaboration from the Panay Incident to Pearl Harbor** (2016). 400 pages; begins with a ~20-page chapter titled “Lessons Lived, Learned, Lost: Episodic Progress in U.S. and British Experiences in Coalition Warfare, 1900-1918”. The chapter mentions Sims ~35 times. Sims is again mentioned in Chapter 6 “Two Steps Forward, One Step Back: Inching Towards Collaboration, Autumn 1940”. Organizational Charts by Kittredge are in Chapter 8: “Easier Said Than Done – Implementing the American-British Conversations-1 Report, April-July 1941, as are 17 photographs, including of Sims and Pershing. The book contains detailed footnotes with extensive primary references.

** **“The assignment of Rear Admiral William S. Sims as the U.S. Navy representative in London may have been the most fortuitous circumstance that facilitated rapid amalgamation of U.S. and British naval forces.”**

** **“As liaison methods follow naturally from command arrangements, the [Bailey - 1940] committee next noted that they had relied on the historical example of U.S. and British naval cooperation in World War I, in particular the Sims mission.”**

** **“Harkening back to Admiral William Sims’s position in World War I, Ghormely would command all naval forces in northern Europe if the United States entered the war. Ghormely arrived in England on or about 20 April [1941].”**

3 - Lawrence Sondhaus: **The Great War at Sea; a Naval History of the First World War** (2014). ~420 pages, highly readable, richly referenced, including to primary resources. The principal chapter dealing with the London Flagship is “8. Submarine warfare: The great gamble, 1917-18”.

** “Rear Admiral William S. Sims, well-respected head of the Naval War College in Newport, Rhode Island, soon became the central figure in overcoming Anglo-American naval differences. The Canadian born **Sims**, the navy’s leading anglophile, had distinguished himself at sea most recently as a destroyer flotilla commander (1913-15), but had served earlier as naval attaché in Paris and St. Petersburg, and thus **was well suited to play an inter-Allied diplomatic role.** He was already on his way to Britain when the United States entered the conflict....

** “A recent, exhaustive account of British naval staff work during the First World War **rejects the notion that convoy policy changed decisively with Lloyd George’s visit to the Admiralty on April 30**, and makes the case instead for a **gradual transformation from December 1916 onward**, after the changes that brought the **new prime minister to Downing Street and Jellicoe to the post of First Sea Lord**. Nicholas Black points out that Jellicoe approved the conveying of coal supplies to France on **January 16**, long before the Americans were a factor, and the conveying of Britain’s Scandinavian trade on **April 21**, before the supposedly decisive meeting with Lloyd George. Finally, on **April 27**, again before the prime minister’s visit to the Admiralty, Jellicoe approved a memorandum written the previous day by the head of the Anti-Submarine Division, Rear Admiral Alexander Duff, which cited the success of the French coal convoys, along with the entry into the war of the United States, as reasons to adopt a convoy system. Black’s account cites further evidence of Admiralty planning for “trial convoys” long before April 30. **He acknowledges, but also minimizes, the role of Henderson, and does not mention Sims at all.**”

** “Holtzendorff’s conclusion, late in 1916, that unrestricted submarine warfare was “the right means to bring the war to a victorious end,” and [was] also “the only means to that end,” was based on the assumption that, should the campaign fail, the result would be a continuation of the stalemate until a compromise peace, not defeat. **But by bringing the United States into the war while also failing to stop the deployment of the AEF to France, the great gamble doomed Germany to lose the war.**”

4 - Liam and John Nolan: ***Secret Victory: Ireland and the War at Sea*** (2009). 317 pages. Secret Victory focuses on the role of Ireland, particularly Queenstown (Cobh, Cork) in the anti-submarine and conveying aspects of the First World War. Secret Victory is written in a novelistic style that represents a thoughtful distillation of the legacy biographies and memoirs of the principal actors. Sims and his assertive, efficient leadership and conduct of coalition warfare is featured, beginning with a chapter “The President’s Naval Aide” which gives a full life history of Sims, explaining his strengths and sources of power and leadership. There is no eBook available, but most of the book can be “pre-viewed” on Google Books.

5 - Elleman and Paine, eds: ***Commerce Raiding: Historical Case Studies 1755-2009*** (2009). Commerce Raiding is a 356 page book from the Naval War College Press, available as a free PDF download. It contains 16 chapters covering the period 1755-2009. Two chapters, each of 15 pages, deal with submarine warfare in World War 1 (“*Handelkrieg mit U-Booten*”: *The German Submarine Offensive in World War 1*, by Paul Halpern – and – *The Anglo-American Naval Checkmate of Germany’s Guerre de Course 1917-1918*, by Kenneth J. Hagan and Michael T McMaster). An additional two chapters deal with submarine warfare in World War 2. All of the chapters are well referenced and use primary sources. The Halpern chapter focuses on German strategy and decision-making. The Hagan-McMaster chapter focuses on Anglo-American cooperation. Hagan and McMaster focus on how the key actors, Sims, Jellicoe, Bayly, and Pringle, worked effectively together to conduct **destroyer** and convoy-support operations in the east Atlantic. They then turn to **battleship** operations involving the cooperation between Rodman and Beatty as US Battleship Division 9 traversed the Atlantic in November-December 1917, to become the 6th Battle Squadron of the Grand Fleet. The symmetrical cooperative arrangements wherein **US destroyers were subordinated to Bayley**, and **US battleships were subordinated to Beatty**, are emphasized, but the array of ~45 **additional installations** and capabilities supported by the U.S. Navy, are also enumerated.

** “The cooperation of Sims and Bayly and that between Rodman and Beatty protected the **convoys of troopships** carrying the balance-tipping force of two million American soldiers “without losing a single man.” But beyond the destroyers at Queenstown and the battleships at Scapa Flow, Admiral **Sims**, Commander, United States Naval Forces Operating in European Waters, **directly or indirectly commanded naval detachments of varying sizes and compositions** at Murmansk, in Russia, and in Brest and elsewhere on the coast of France; submarine chasers stationed at Plymouth, England; an American naval base at the British naval bastion at Gibraltar; more submarine chasers on the island of Corfu; the U.S. mine force in Scotland; all U.S. naval aviation bases; and six U.S. Navy port offices. **Ultimately a total of 196 officers staffed Sims’s London headquarters.**

** “**There had not been anything remotely approaching this scale of overseas commands and operations in the entire history of the U.S. Navy, and the whole complex apparatus was improvised. There had been no prewar planning for co-belligerency with Great Britain, and as a result there had been no anticipation of this array of installations and operations. In a relatively brief period between April 1917 and November 1918, two British admirals and two American admirals had overcome their navies’ historical distrust of one another in order to forge a victorious Anglo-American naval alliance.**

** “**Highly personal and born in reaction to a lethal sea war of unprecedented magnitude, the alliance would fragment in 1919. It would lie shattered throughout the two interwar decades. But as soon as Great Britain went to war with Nazi**

Germany in September 1939 it was reconstituted and reshaped, often under the guidance of officers who had served in World War I as disciples of Beatty, Rodman, Bayly, or Sims. Notable among the understudies was Cdr. Harold R. Stark, the personnel officer at Sims's London headquarters. He became Chief of Naval Operations in 1939, and the next year he wrote the comprehensive plan – known as Plan Dog For fighting Germany and Japan. In April 1942, Stark was sent to London to establish a naval headquarters modeled on the “London Flagship” of 1917-18.”

The two scholarly book chapters specifically about Sims are:

1 - Hattendorf and Elleman: *Nineteen-Gun Salute - Case Studies of Operational, Strategic, and Diplomatic Naval Leadership during the 20th and early 21st Centuries* 266 pages. (Chapter 1: "Radical, But Right - William Sowden Sims (1958-1936)" This collection of brief biographies of nineteen U.S. Navy admirals, from W. S. Sims, to Joseph W. Preuher, with insight focusing particularly on leadership skills in the operational and strategic arenas, was sponsored by the Naval War College's College of Operational and Strategic Leadership.

** “As the [NWC] faculty ... look ahead and ask what the characteristics will be for naval leaders in the operational and strategic realm, historians can be of some assistance by asking what these characteristics have been in the past. The idea of strategic and operational leadership as a specific type of leadership has not been developed fully among naval scholars. Questions:

To what degree are the characteristics of good operational and strategic leaders unique, personal, and inborn qualities?
....

To what degree do education and training develop these leadership characteristics? ...

To what degree does the experience of previous naval assignments play a role in developing these leadership characteristics?”

** “Sims ... the unprecedented intimacy of his cooperation with the Royal Navy established a model for World War II. At the height of its power, Sims's London Flagship oversaw one of the largest assemblages of naval striking power in U.S. history: 370 ships of all classes, 5,000 officers and 70,000 enlisted men were distributed among forty-five bases in the British Isles and on the Continent. ... Winston S. Churchill: “the harmony and success of this cooperation form a new precedent, and one which is of the highest value to the future in which such vast issues hang on unity between our two countries in ideals and in action.”

** “From October 1902 until the end of Roosevelt's second administration in 1909, Sims savored his position as a protected insurgent. He leveraged friendships developed with British officers in China to confer with such senior gunnery enthusiasts as Admiral John Fisher, the First Sea Lord, and Admiral John Jellicoe, the Director of Naval Ordnance.

** When Fisher unveiled his stunning technological marvel, the Dreadnought, in 1906, Sims felt even more justified in proclaiming American warships obsolete ... Sims challenged Mahan ... in November 1907, Roosevelt appointed Sims to be his naval aide. From center stage, Sims for the next 15 months underscored Roosevelt's determination to construct a fleet centered on American derivatives of the Dreadnought.

** “Lead[ing] the Atlantic Torpedo Flotilla from 1913 to 1914 ... Sims forged a Nelsonian brotherhood with his officers... They developed a coherent plan for using destroyers, a new class of fast but small vessels. To enhance destroyer performance and interoperability with larger warships, Sims, with the invaluable help of Newport alumnus Dudley W. Knox, promulgated a doctrine for its wartime roles and missions. Destroyers became the workhorses of the fleet, and destroyer commanders influenced by Sims cultivated an esprit de corps among their crews. This gunnery enthusiast and advocate of powerful battleships had recognized the importance of smaller, lightly armed warships to naval warfare. In less than three years, he would test his new understanding of the destroyer's importance when he was unexpectedly ordered to command all U.S. naval forces in the European war.

** “He died ... just as the Navy was beginning actively to plan for innovative combat deployment of submarines and aircraft carriers. And so it was that the full flowering of Admiral Sims's influence came posthumously. It was in death, not in life, that the perennial outsider in the ultimate insider's organization finally came in from the cold. ... His credibility as an insurgent derived from repeatedly championing the causes that advanced the Navy's modernization and operational readiness. ... The astuteness of his strategic leadership was much less well recognized by contemporaries than by his successors and by historians.

** “Sims perceived the importance of an Anglo-American alliance long before most of his naval brethren. ... Sims's destroyer decision ... was inspired principally by his dispassionate strategic assessment that the war hinged on achieving victory at sea; a “go-it-alone” approach by the Americans would hinder this predominantly British effort.

** *“What made Sims an exemplary strategic leader was his demonstrated ability to rise above the common human trappings of pride and provincialism, and prevail against a conservative service culture that harbored deeper suspicions of Britain than of Germany.*

** *“He perceived security in international terms and felt no inhibitions about combined operations with other Western powers – even if that meant the U.S. Navy was the junior partner.*

** *“Sims was not merely a theater commander but an ambassador-in-uniform whose responsibilities included the cementing and maintenance of an unprecedented transatlantic coalition.*

** *“As the ranking U.S. naval officer in Europe, Sims, more than his seniors in Washington, was willing to accede to British operational control of his ships because it directly enhanced the prospects for victory.*

** *“At all levels of command – from the presidency of the Naval War College, from the bridge of the Minnesota or the Atlantic Torpedo Flotilla, to the wartime headquarters of the London Flagship – Sims esteemed above all a small, highly efficient, and dedicated staff to whom he entrusted responsibility for planning, operations, and management. To some, the ideal naval officer was an aggressive iconoclast and eminently adaptable to the variegated demands of the service. He invested heavily in his subordinates’ professional development, confident that their indoctrination and esprit de corps would produce great results. His unlimited faith in their capacity was matched by an inability to tolerate incompetence at any level of seniority.*

** *“It was his Nelsonian “take the fight to the enemy” approach that his officers idolized. ... It was no coincidence that Sims’s staunchest partisans were veteran members of his many staffs. His band of brothers remained true. Of all his characteristics, they most admired Sims’s readiness to sacrifice his career for unpopular causes that would contribute to the greater good of the navy and the nation. Such strength of character and patriotic altruism should never be allowed to become a thing of the past.”*

2 - Ballard C Campbell (ed): *The Human Tradition in the Gilded Age and Progressive Era* 2000. 231 pages; Chapter 12 [21 pages] is “William S. Sims – Naval Insurgent and Coalition Warrior”; by Kenneth J. Hagan. [Note: Professor Hagan is also the co-author, with McMaster, of the chapter on submarine warfare in *Commerce Raiding*.]

** *“Sims’s prediction [1922] about the battleship’s demise was born out on December 7, 1941 when ... one of the battleships sunk ... was the old Nevada, of which Sims had been the first commanding officer. The tragedy forced the U.S. Navy to depend almost exclusively on carrier-launched aircraft to fight the monumental and tide-turning World War II battles in the Pacific – Coral Sea, Midway, the Philippine Sea. In the entire four-year panorama of the Japanese-American war there would be but one solitary battle-fleet engagement conforming to the ideal that Mahan had ordained for the twentieth-century American navy... Like the Battle of Jutland in the previous war, its strategic impact was minimal. At the same time, unrestricted American submarine attacks on Japanese shipping proved once again that an island nation could not hope for maritime victory if it did not convoy its tankers, cargo vessels, and troopships.*

** *“In the Atlantic, the British and Americans – unstintingly reinforced by the Royal Canadian Navy – once again instituted a well-coordinated system of transoceanic convoys. Countless naval escorts protected the vital shipments of materiel flowing from North America to England and the Soviet Union, and a highly sophisticated campaign of antisubmarine warfare steadily depleted the numbers of U-boats sent to sea by Nazi Germany.*

** *“The Anglo-American naval coalition first forged by Admiral Sims in 1917 was revived and solidified into another historic victory at sea. Today, on the eve of the twenty-first century, it is the bedrock of American foreign policy and naval strategy.*

** *“To use a nautical term, the transatlantic partnership is “180 degrees out” from what Passed Midshipman Sims knew on board the Tennessee, when the Royal Navy loomed as the world’s most lethal threat to American national security. That William Sowden Sims helped in ways small and large to end a century of mutual hostility between the two major English-speaking powers, is certainly the most significant and lasting transformation brought about by a man who always sought change while wearing a uniform that symbolizes permanence, conservatism, and tradition. He was the perennial outsider in the ultimate insider’s organization. As he himself said of the navy at the height of his power and prestige: “I have never liked it. I would rather have been in a productive occupation. There has never been a time when I have not been uncomfortable in a uniform.” Paradox defined the man.”*

The three published, or in-press articles by David Kohnen are:

1 – Kohnen 2016: “*History MOC Warfighters Should Know, The “London Flagship:” Estimate of the Situation for U.S. Navy Operations in a World at War*” – online article (NWC) accessed 03-20-17 at https://www.usnwc.edu/mocwarfighter/Article_M.aspx?ArticleID=41. This 9,000 word (~28 page) essay is a superb summary, background, and geo-strategic overview for the questions our panel is considering. It is richly referenced primarily to books and other secondary sources, and contains 14 photographs or illustrations. ‘Sims’ is mentioned 140 times; King 56 times, Knox 31 times, London Flagship 27 times, Mayo 27 times, Jellicoe 17 times, Benson 14 times. Major headings address the evolution of the organizational structure of the US Navy to coordinate new global responsibilities in the early 1900’s, the creation of the CNO role, the “War College Afloat”, the “London Flagship”, the “Grand Fleets”, the “Victory at Sea”, “unresolved questions of control shaping the organizational relationship between the Royal Navy and the U.S. Navy, and the impact of World War 1 on naval professional education at the Naval War College and beyond, including the “Knox-King-Pye board and report.

** *“Within the U.S. Navy, many thought that the “Chief of Naval Operations”, in the form passed by Congress, represented the ashes of a once good idea.” ... As the U.S. Navy sailed into the uncharted waters of coalition warfare, **the relationship between the CNO and the seagoing fleet organizations ... remained ambiguous.***

** *Carrying wardroom traditions from the age of sail into an era characterized by technologically advanced warships of steam and steel, Sims presided over spirited historical debates to examine the nexus between strategy and tactics. **From these foundations, Sims and his staff developed totally new tactics for maneuvering destroyers in unison using a wireless communication system of fewer than thirty-one words. Following the flag of Sims, the Atlantic Fleet destroyers developed tactics which the U.S. Navy eventually adopted for application in larger warships.***

** *Sims concluded that “the only way to **throw the weight of the U.S. Navy into the war without delay was to use its available units to strengthen the weak spots in other Navies** and thus effect a more vigorous conduct of the war already so thoroughly underway in all areas. **There would have been much wasted effort and time if any attempt had been made to take over any particular area and operate it entirely with U.S. Naval Forces.**”*

** *“First World War adventures in European waters fueled strong professional alliances among U.S. Navy veterans of the London Flagship and Atlantic Fleet. Common wartime experiences inspired U.S. Navy professionals to address underlying questions of strategy and command. Similarly, the ASecNav, **Franklin D. Roosevelt, drew clear conclusions from his experiences on the European front during the First World War.** He frequently interacted with members of the London Flagship and CinCLant staffs. Significantly, **Roosevelt remained very interested in the careers of Knox, Stark, and King.** As President of the United States, Roosevelt solicited advice from **Knox** on questions of American naval policy after 1933. As the CNO after 1939, **Stark** also shaped the Roosevelt naval strategy of Anglo-American collaboration. After 1941, Roosevelt empowered **King** to execute American maritime strategy, coordinate combined operations on a worldwide scale, and establish the U.S. Navy as the underlying foundation for the American concept of a United Nations after the Second World War.*

2 - Kohnen 2016: "*The US Navy Won the Battle of Jutland*" (NWC).

For this richly-referenced, 22-page article published by the Naval War College, David Kohnen examined ~17 years of correspondence between Sims and Jellicoe following their first meetings in China during the 1901 Boxer Rebellion. The correspondence revealed a deep relationship between the two, who had strong common interests, and also special expertise in gunnery, ordinance, and ship-design experts. The article details the evolution of the Jellicoe-Sims relationship during the 1910 Royal Navy’s hosting of the battleship USS *Minnesota* and its fleet in London, subsequent annual visits by Sims to England, and, most importantly, early access by Sims to detailed descriptions of the battle of Jutland written by Jellicoe and others. Of critical importance is how Jellicoe’s ‘special information about Jutland’, provided to Sims soon after the battle, enabled Sims to analyze the battle and to argue against proposed American modifications of its ship construction program, which would have reduced the number of battlecruisers in favor of more battleships. In addition, the article details how Sims made the study of Jutland a prominent component of the NWC curriculum, as early as November 1916. Sims’s critical contributions to the American analysis of Jutland cemented his reputation and credibility with Assistant Secretary of the Navy F.D. Roosevelt, earned him an

opportunity to testify before Congress on the fleet construction program, and further to be given the Presidency of the Naval War College in 1917, and soon thereafter, the assignment to London, to liaise with the Royal Navy, with promotion to rear admiral.

** *“Seizing on Sims’s assertions [lessons of Jutland with respect to the effectiveness of battlecruisers], Assistant Navy Secretary Roosevelt fostered a political alliance with Virginia senator Claude A. Swanson. Together, **Roosevelt and Swanson circumvented Daniels in their effort to continue the construction of battle cruisers for the U.S. Navy. In the winter of 1916, Roosevelt used Sims and the findings of the Naval War College war-game report on Jutland to frame future American naval policy.**”*

** *“Following his testimony on Jutland in Congress, Sims received orders to the Naval War College. In February 1917, he assumed duty as the President of the College. Sims then received secret orders to sail for London with verbal authorization to assume rank as a rear admiral on 21 March. Concurrently, Navy Secretary Daniels and CNO Benson directed Sims to act as the Navy Department liaison to the Admiralty in London. The United States declared war on Germany while Sims was at sea in April [6th, 1917]. **Shortly after their first meetings in London, Sims and Jellicoe built on their personal friendship to facilitate the broader collaborative relationship tween the Royal Navy and U.S. Navy.**”*

3 - Kohnen 2017: *“The Navy’s Great War Centurion”* (Naval History, April 2017). This 5-page article has the sub-heading: “Against the background of a disjointed U.S. Navy hierarchy, Rear Admiral William S. Sims arrived in London in the spring of 1917 and pioneered how U.S. naval officers would approach multinational command.” Sections of the article are titled: “*The Selection of Sims*”; “*The Mysterious Mr. Davidson*”; “*Taking Stock of the Situation*”; “*Bespoke in Savile Row*”; “*American Revolution in Naval Command*”; “*SIMSADUS*”.

** *“Sims shattered the Navy Department’s organizational routines, first by **articulating the unspoken strategic reality of an Anglo-American naval alliance** and then by **pioneering operational ties between the British and U.S. navies.**”*

** *“At a critical turning point in maritime history, **Sims tested and at times acted beyond the limits of his rank in dragging the U.S. Navy onto the international stage.** He referred to U.S. naval headquarters in Grosvenor Square as the **“London Flagship,”** which **by implication asserted command over operations** at the front.*

** *“**Although the U.S. Navy largely muddled through in World War I, Sims and his London Flagship set the precedent for how U.S. naval officers evaluate questions of multinational command.** Having served on the Atlantic Fleet staff during the war, Ernest King later claimed in memoirs that he had never been “one of the group of Sims’s devoted disciples and followers.” **In fact, Sims was one of King’s true mentors and clearly shaped his approach to questions of combined and joint command.** His World War I experience enabled King to understand the challenges involved with synthesizing Anglo-American strategy as Chief of Naval Operations during World War II.*

** *“**The generations of Sims and King set the foundation for the U.S. Navy of the 21st century. For these reasons, contemporary naval thinkers may draw from the rich perspectives found I the past while framing the future history of the U.S. Navy and its maritime partners in global strategic affairs.**”*

Notes:

¹ <http://www.bbc.co.uk/history/0/ww1/25768752>

² <http://www.bbc.co.uk/guides/zxsppv4#zycgk7>

³ <https://www.irishexaminer.com/ireland/special-report-100-years-on-cork-region-remembers-arrival-of-us-fleets-during-great-war-442325.html>

⁴ <http://www.britishlegion.org.uk/remembrance/ww1-centenary/jutland-100/>

⁵ <http://www.jutland1916.com/>

⁶ https://www.usnwc.edu/mocwarfighter/Article_M.aspx?ArticleID=41 [Sims – 139 mentions]

PANEL 3: ECHOES OF THE FIRST WORLD WAR IN THE TWENTY-FIRST CENTURY

NAVAL HISTORICAL EDUCATION AS A FUTURE STRATEGY

David Kohnen

U.S. Naval War College, Maritime History Center

The Naval War College holds the unique mission of educating service professionals about concepts of sea power and the military policy of the United States. In his lectures, Rear Admiral Stephen B. Luce warned Naval War College students to study history for their own professional good. He worried that the “examples of history which inculcate these lessons are being disregarded every day by nearly all maritime powers, and by none more than our own.” Luce also argued that “all naval operations are strategic.” He might warn against the contemporary doctrinal focus on operations in the absence of a clearly achievable strategy, which could be sustainable over the longer term and would be worthy of the effort in terms of resources and personnel.

Navies traditionally required personnel with technical expertise in the sciences, rather than in the humanities, for the practical purposes of operating and maintaining ships. Drawing from the ideas of British historians like Sir John Knox Laughton and Spenser Wilkinson, Luce encouraged other historians affiliated with the Naval War College to look beyond problems of technology and engineering. Recalling the character of naval education in the late nineteenth century, a future five-star admiral recalled that the “average midshipman, reluctant to admit his ignorance, would stand at the blackboard chewing chalk rather than ask a question.”

The service placed higher value upon following rules and personal reputation, often suppressing creativity within the ranks. War required decisiveness, providing no time for reflection. Luce challenged such assertions by suggesting “naval strategy is more comprehensive than military [land] strategy.” “Military strategy is called into play only during war,” he argued in 1896 that “[n]aval strategy adopts some of its most important measures during peace.” Luce stood out among his contemporaries, challenging the norms of the service by recruiting younger officers to join in a professional revolution within the ranks of the U.S. Navy.

Army lieutenant colonel Emory Upton largely inspired Luce to recognize the strategic role of education in military affairs. Having studied the Prussian model, Upton and Luce also drew heavily from the teachings of Dennis Hart Mahan at the Military Academy at West Point. Sensing an opportunity to recruit a protégé, Luce recruited Captain Alfred Thayer Mahan to assist in developing historical case studies for the purpose of educating American naval and military professionals to understand the nexus between peace and war. Rather than the sciences, Luce and Mahan relied primarily upon historical studies to place the military policy of the United States into a global context under the new American concept of “sea power.”

The approach favored by Luce and Mahan sparked debate about the functional value of history for U.S. Naval professional education. Engineers within the ranks favored clearly framed processes and solutions, for which historians frequently failed to offer in their writings. Indeed, Mahan lamented in 1890 that many U.S. Naval officers suffered from a “vague feeling of contempt for the past, supposed to be obsolete, combines with natural indolence to blind men even to those permanent strategic lessons which lie close to the surface of naval history.”

Mahan attained an international reputation as a historian, although his readers failed to fully understand the underlying argument within the historical narrative. His emphasis upon attaining

concentration of force and decisive battle have proven to be widely misunderstood among readers of Mahan's work. As John Tetsuro Sumida warns in, *Inventing Grand Strategy and Teaching Command: The Classic Works of Alfred Thayer Mahan Reconsidered*, contemporary readers of Mahan must take care in avoiding such oversimplified interpretations of the underlying ideas found in the collected works of Mahan.

Maritime historians recognize the practical importance of understanding history within the context of the past, although frequently fail to understand the more immediate needs of naval practitioners. To this point, Andrew Lambert highlighted the strategic role of historians in naval affairs in, *Foundations of Naval History: John Knox Laughton, The Royal Navy and The Historical Profession*. As Lambert demonstrates, Luce and Mahan relied very heavily upon the teachings of Professor Laughton at the University of London, King's College. Building from Laughton's work, Luce and Mahan in framed an American maritime vision for the twentieth century.

History enabled the Americans to prove the value of sea power, not as means to conduct war but as a means to preserve peace and stability on the global commons. Thus, professional education in history provided means by which naval practitioners recognized the maritime arena as a global stage, unrestricted by the inherent constraints on military operations ashore. The ideas of Laughton, Wilkinson, Luce, and Mahan remained important in the era preceding the First World War. The deaths of Mahan in 1914 and Luce in 1917 also marked a period of transition, which continued at the Naval War College. Among the new generation of rising naval professionals, Royal Navy Captain Sir John R. Jellicoe and U.S. Navy Captain William S. Sims maintained a close correspondence – trading ideas on the future of naval strategy and, ultimately, recognizing the existence of a transatlantic alliance between the British Empire and the United States.

Combat experience in a dirty and widely ignored campaign in China first inspired the special relationship of Jellicoe and Sims. Having suffered severe wounds in battle, Jellicoe met Sims through mutual associations with American naval officers Joseph K. Taussig, Dudley W. Knox, and Bowman McCalla. As Jellicoe rose quickly within the ranks of the Royal Navy, Sims followed a very different path. He consistently bucked the system with such provocatively framed essays, which appeared in *Proceedings* under titles like, "Cheer Up!! There is No Naval War College." Sims challenged fellow naval professionals to recognize the limitations of training and experience at sea – pressing them to understand the strategic benefits derived from education at the Naval War College.

Sims remained a controversial figure within the ranks of the U.S. Navy, upon assuming the presidency of the Naval War College. On the first board for promotion by selection, he also held status as a rear admiral select in the spring of 1917. Sims remained the most senior captain in the U.S. Navy when, on 11 January, the British intercepted an encrypted wireless transmission between Arthur Zimmermann, the imperial German foreign minister, and Heinrich von Eckardt, the German representative in Mexico. British cryptographers within the Admiralty subdivision, "Room 40," partially solved the message five days later.

The deciphered text revealed an outlandish German plan to sponsor a Mexican insurgency against the United States. The Germans also discussed a prospective alliance with the Imperial Japanese to attack American interests in the Pacific. In February, the British shared the information with the United States shortly before passing the full contents of the "Zimmermann Telegram" to American newspapers, leaving President Woodrow Wilson with few options. In April, the Secretary of the Navy, Josephus Daniels preferred to send another naval officer, but settled upon sending Sims on a secret mission to organize U.S. naval efforts in Europe in the event of an American war declaration. Four days after Congress formally ratified a declaration of war on Germany, Sims held rank as the most junior two-star admiral in the U.S. Navy upon arriving in London on 10 April 1917.

Through the good offices of the First Sea Lord, Admiral Sir John R. Jellicoe, Sims became the preeminent American naval strategist of the First World War. Jellicoe first entrusted Sims with cybernetic intelligence, as obtained through the cryptographic methods employed within the Admiralty "Room 40." Drawing from methods employed by the Royal Navy, Sims then established the so-called "London Flagship" and pioneered contemporary strategic concepts of combined and joint organization. By June, Sims assumed the function of senior U.S. Naval commander with the American Expeditionary Force in Europe, coordinating joint operations at sea and ashore with his U.S. Army counterpart, General John J. Pershing.

That same month, Sims became the first U.S. Naval officer to hold combined command over foreign naval forces.

At the invitation of Jellicoe, Sims served on the Allied Naval Council and established new precedents for future American naval practitioners to examine for use in framing future strategy. In essence, Sims pioneered contemporary concepts of the Combined / Joint Maritime Component Commander as the ranking U.S. Naval representative to the Allied Naval Committee and the American Expeditionary Force during the First World War. Having earned four-star rank by 1918, Sims requested demotion to his permanent rank of two-stars in order to return to the presidency of the Naval War College in 1919.

The First World War inspired reforms within the U.S. Navy, which originated on the campus of the Naval War College. In a second tenure as president of the Naval War College, Sims carried forward the visions of Luce and Mahan in efforts to educate future American naval professionals about the importance of understanding history. Among other radical initiatives, Sims drew inspiration from the Admiralty “Historical Section” of Sir Julian Corbett, which served as an adjunct to the Naval Intelligence Division at the Admiralty during the war. In 1919, Sims empowered his chief of staff, Captain Dudley W. Knox, to establish a “Historical Section” at the Naval War College for the specific purpose of supporting the departments of Strategy, Operations, and Intelligence in educating U.S. Naval professionals about the practical value of historical research.

Knox championed efforts to use historical studies as a strategic vehicle for fusing operations with intelligence. Drawing from the ideas of Luce and Mahan after experience in the First World War, Knox also observed that “navies provided unique means, “not to make war but to preserve peace, not to be predatory but to shield the free development of commerce, not to unsettle the world but to stabilize it through the promotion of law and order.” In his classic study, *Naval Genius of George Washington*, Knox further explained that the “supreme test of the naval strategist is the depth of his comprehension of the intimate relation between sea power and land power, and of the truth that all effort afloat should be directed at an effect ashore.”

Drawing from wartime experience, Sims and Knox enhanced the curriculum and placed the U.S. Navy on course to meet the challenges inherent with the steady demise of the British Empire after the First World War. Sims first organized a panel chaired by Knox and comprised of Captain Ernest J. King and Commander William S. Pye. With the endorsement of Sims, the Knox-King-Pye Board determined that the highest-ranking U.S. Navy officers suffered from being educated only to the “lowest commissioned grade.” Given such assertions, the Knox-King-Pye Report caused significant controversy within the Navy Department. Although the original Knox-King Pye Report supposedly disappeared, the text mysteriously appeared in the Naval Institute *Proceedings* in 1920.

As published, the report forced the Navy Department to enact reforms that ultimately fueled strategic thinking within the American military and naval services in the interwar period. Acting upon the Knox-King-Pye Board recommendations, Sims recruited his former intelligence officer in London, Tracy Barrett Kittredge, to serve as librarian and chief archivist. Knox also served in retired status as the Naval War College chief of staff. Together, Sims, Knox, and Kittredge expanded the library collection from roughly 7,000 to an estimated 45,000 books between 1919 and 1924. Among other works, he acquired the maritime writings of British theorists like Sir John Knox Laughton, Spenser Wilkinson, Sir Philip Columb, Sir Charles Callwell, Sir Julian Corbett, and Sir Herbert Richmond.

From wartime experience in London, Sims knew personally many prominent British strategic thinkers. Sims introduced their works into the Naval War College curriculum, using history as the foundation for fostering debate and innovation. Through this approach, Sims inspired U.S. Naval professionals to pursue a deeper understanding of maritime strategy. Seeking to broaden the perspectives of Naval War College students and faculty, Sims hosted a number of foreign naval professionals on the Naval War College campus. He invited Jellicoe and Corbett in 1920. The following year, Royal Navy Admiral Sir Lewis Bayly delivered a lecture on antisubmarine warfare and the future of Anglo-American naval collaboration. Other visitors to campus included German Vice-Admiral Paul Behnke and Japanese Vice-Admiral Funokoshi Kajishirō. In retirement, Sims returned to campus when an Imperial Japanese Navy delegation visited the Naval War

College in the spring of 1924. Among these visitors, Vice-Admiral Ide Kenji and his aide, Captain Yamamoto Isoroku, gained a firsthand perspective on the Naval War College and its influence upon the U.S. Navy.

Given the strategic focus of the Naval War College, Sims expanded the curriculum on tactics to include focused historical case studies for use in war gaming and chart maneuver exercises. Before the First World War, students attending the Naval War College examined the 1805 Battle of Trafalgar, selected campaigns from the American Civil War, and the 1904 Battle of Tsushima. After 1919, Sims introduced the Battle of Jutland as a prominent feature in the menu of historical case studies delivered at the Naval War College. Sims used Jutland to examine questions of command and organization, issues of intelligence, the role of logistics, and the emergent influence of new technologies like wireless, submarines, and aviation.

Jutland remained obscure in the educational curriculum of the Royal Navy, as the results of the battle proved difficult and politically charged as portrayed in the British media. Unlike the British, the Americans relied very heavily upon critical studies of Jutland to examine the transcendent strategic problems of operational objective, command, communications, and intelligence. In their theses on tactics, Jutland loomed large in the postwar Naval War College educations of U.S. naval professionals like William D. Leahy, Ernest J. King, Harold R. Stark, Chester W. Nimitz, and William F. Halsey, Jr.

In classroom discussions of history and by reconstructing the decisions made in past battles on the war gaming floors of the Naval War College, the U.S. Navy arguably won the Battle of Jutland. Because of Sims, the Battle of Jutland influenced the perspectives of U.S. naval officers of the 1920s and 1930s. In compiling their “Thesis on Tactics,” students like Captain Ernest J. King observed that Jutland provided an, “ideal illustration of how future commanders may use radio to increase the flexibility of strategy.” Commander Chester W. Nimitz mused that the Battle of Jutland had “no equal in history [and that] it is doubtful if the total forces engaged in the Battle of Jutland will be exceeded at any rate during our time.” Nimitz recalled studying the battle in such detail that he “knew every commander intimately” and committed to memory every decision they made “by heart.” Twenty years later, King commanded at the strategic levels Nimitz orchestrated the operations during battles that far exceeded the Battle of Jutland, such as at Coral Sea, Midway, Guadalcanal, and Leyte Gulf.

Sims presided as the first graduates of his revised curriculum entered new phases in their careers following studies at the Naval War College. Among many others, these included U.S. Marine Lieutenant Colonel Holland M. Smith in 1922. The following year, the Naval War College produced U.S. Navy Captain Thomas Hart with commanders Harold R. Stark and Chester W. Nimitz. Ernest J. King completed the Naval War College correspondence course in 1924, having qualified in submarines and designed the distinctive submarine insignia that remains an important symbol of the American “silent service.” After he qualified as a naval aviator in 1927, King completed the senior course of the Naval War College. As a Sims protégé, King arguably stood among the best graduates of the Naval War College as the U.S. Navy sailed into uncertain waters in executing an American neutrality strategy after 1937.

First World War experience inspired an educational revolution within the U.S. Navy, which centered upon the Naval War College campus. Following the Sims curriculum of the 1920s and 1930s, U.S. Naval professionals sought a strategic advantage with detailed studies of naval history. War gaming historical battles inspired innovative solutions for application in war planning, as exemplified in such theoretical studies as those produced under the War Department caveats ORANGE, RED, and BLACK. These plans later informed the development of the RAINBOW series before 1941. Given this rich First World War history, the Naval War College arguably provided the critical foundations, which enabled the U.S. Navy to secure decisive victory in the Second World War and beyond.

History remains a foreign country for many naval thinkers, as the problems of the past appear to be remote and unconnected to the challenges of the present. In his ironically titled 1992 treatise, *The Lessons of History*, Sir Michael Howard argued that there are no applicable “lessons of history.” That same year, Peter Paret suggested in his anthology, *Understanding War*, that “the greatest threat to historical scholarship remains where it always has been: in the coercive intent and power of orthodoxy, whether old or new.” Given these assertions, contemporary practitioners and strategic policymakers should be reminded about the problem of war. Doctrinal solutions and variables of technology frequently fail to measure against the fundamental fact

that war is essentially a human invention. In reconsidering the longer historiography of strategy, Luce, Mahan, Sims and their associates clearly recognized the fact that war is *not* a “desired end state” in considering the role of “sea power” and the military policy of the United States.

As the U.S. Navy and its global partners sail into the hazy uncharted waters of the future, history remains clearly visible in the phosphorescent wake. Reconsidering the influence of the first “great” war upon the second “good” war in relation to the “cold” war of the twentieth century, contemporary strategic thinkers must recognize the underlying historical continuities that have fueled recent conflicts in the greater Middle East and in the Asiatic. Given our connections with the past, 2017 marks the centennial of formal American involvement in the First World War. The educational opportunities found in the future historical study of the First World War also resonate within the vision articulated within *A Cooperative Strategy for Twenty-First Century Sea Power*, which proposes the development of a “global network of navies that brings together the contributions of like-minded nations and organizations around the world to address mutual maritime security challenges and respond to natural disasters.”

A century ago in London, Jellicoe and Sims pioneered the Anglo-American special relationship in global naval affairs. For our present discussion almost exactly to the day 100 years later, we have the privilege of witnessing the first meeting of their grandsons, Nick Jellicoe and Dr. Nathaniel Sims. Both offer very unique perspectives on their grandfathers. Both have also produced their own historical studies of Jellicoe and Sims, which highlight their importance within the context of contemporary discussions of future naval strategy. From the Laughton Naval Unit at King’s College London, doctoral candidate James Smith offers a fresh historical perspective on the First World War as a means to examine the current state of naval professional education and coalition warfare. Commander Benjamin J. Armstrong, PhD, of the U.S. Naval Academy similarly builds upon his past books on Mahan and Sims to offer an important contemporary perspective on future strategic opportunities in the grander maritime arena.

Reflecting upon the riches of the past, contemporary naval strategic thinkers should strive to draw new perspectives from the solid foundations of history. The centenary of the First World War provides contemporary context for this discussion. Just 100 years ago, the U.S. Navy stood in the shadows of the European navies as American forces learned how to operate within the context of modern coalition warfare. After the First World War, the Naval War College helped fuel the educational vision that inspired the development of a “navy second to none” before the Second World War. Given the riches of history, the Naval War College remains a fundamental contributor in shaping a future course for global maritime strategy into the twenty-first century and beyond.

PANEL 3: ECHOES OF THE FIRST WORLD WAR IN THE TWENTY-FIRST CENTURY

NAVAL HISTORY AND NAVAL LEADERS

James W.E Smith

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The close relationship between Sims and Jellicoe identifies that these were leaders who were equipped with the knowledge of how to win the First World War. The 'special Anglo-American relationship' between them is reflective of the virtuous cycle of how Corbett and Mahan influenced these leaders through the study of naval history. Mahan was greatly influenced by Professor John Laughton who while at the Royal Naval College and Kings College London began the development of 'scientific' naval history as the means for the 'higher education' of naval officers in matters of strategy and tactics, from theory to practice.

By pulling on threads and echoes of the First World War that can be found in the 21st century, we can reflect on the roots of naval education and the role that naval historians have in the education of naval officers and civilian decision makers. Just as Laughton was vital to the education of naval officers in an age of absence of large-scale naval warfare where actual practical experience could not be had but technical change was taking place, today historians seek the next generation intellectual revolution that protects the institutional wisdom gathered in a navy's past experiences. They can do this by creating and encouraging an environment through scholarly practice where naval history and the study of maritime strategy can deliver the thinking and leaders ready for the challenges of today and tomorrow.

Drawing together examples from the Great War, to the 1982 Falkland's War and beyond, examples can be found of challenges that naval historians warned of where fluctuating doctrine, overabundance of terminology and excessive, often unjustified, planning was due to the 'parachuting' of personalities and ideas from history to create strategy, tactics and doctrine with little or no evidence of understanding of these perspectives. This potentially resulting in the risk of a fundamental maritime disconnect, lackluster organizational self-reflection and reform just as historians have seen before. In recent times, these processes being no longer influenced by naval historians, has undermined the thinking environment and introduced numerous dangers such as rigidity into planning and doctrine, which could and has before, come back to haunt naval officers at critical junctures as events and changes in the world around them unfolded. This is in stark contrast to how the first pioneers of intellectual naval history, who's actions prepared and influenced naval personnel, resulted in a cadre of forward looking officers such as John Fisher, Sims and Jellicoe who were equipped with the necessary qualities to meet the grand challenge of the First World War and ultimately how they could deliver victory.

In contemporary times, historians, whose roles had been reduced in modern navies, started to ponder if 'talking' history and understanding history where two different methodologies that threatened the ability to deliver relevant inquisitive thinkers while ploughing historians, other academic disciplines and professionals into disagreement on the direction of naval education and wider spectrum of defense debates. This alternative approach convinced naval leaders and defense professionals by the 21st century to expect direct answers from history to modern issues whereas they could have been analyzing the subject in breadth, depth and context, just as Corbett and Mahan did over a century ago, to seek better understanding of our naval past and create the new solutions for the era they need to operate in. Laughton, Luce, Corbett, Mahan and others, melded perspectives on the sea as a strategic environment which in turn could deliver individuals who could innovate and think for whatever challenges they faced, rather than being placed in a system of

easily discredited and stagnating mantras where events, tempo of operations, tactics and technology may have already been over taken by unchallenged theory and practice. The more recent approaches resulted in ignorance to often uncomfortable and inconvenient similarities of challenges our forebears had faced and the isolation of the study of history. In addition to this, historians, past thinkers and leaders are regularly dismissed as products of their times or the eras they study, rather than being acknowledged as educators of the repository of naval experience and wisdom they guard for practitioners, thinkers, fighters, leaders and scholars alike, who should be all too often, inseparable.

PANEL 4: GEO-ECONOMICS AND MARITIME SECURITY

MARITIME SECURITY: FROM PHYSICAL CONTROL TO 'GEOECONOMIC ENDOWMENTS'

Jennifer M. Harris
Council on Foreign Relations

It would be tempting to believe that a host of forces—many of them happy for the United States—lessens the U.S.' overall economic and security rationale for picking up the world's tab in securing maritime transit routes.

After decades of relying on Middle East energy imports, the United States is now a net energy exporter. In fact, now sources around over 60 percent of its oil domestically; of what oil the U.S. does import, the overwhelming majority derives from the Western Hemisphere (primarily Mexico and Canada). Many of the energy producer nations (Iran, Saudi Arabia) once primed to disrupt either energy supplies or the transit lanes needed to move them to make a geopolitical point are now more economically reliant on those exports and shipping lanes than is the United States; this, together with an Iran Deal that President Trump seems inclined to keep, suggests that odds of intentional, state-led disruptions from Iraq, Iran, and the Gulf States are lower than they have been in years.

Looking eastward, the same holds true in Asia. China, now reliant on imports for close to 70 percent of its oil demand, is hardly looking for trouble in the transit routes that might threaten these imports. Likewise, China remains heavily dependent on these same routes for its exports, which still comprise some 25 percent of Chinese GDP. Suffice it to say, no country stands to lose more from any threat impinging on maritime routes in Asia than China. U.S. allies in East Asia – especially Japan, Korea, Thailand and the Philippines—are finally stepping up their own naval spending, which should translate into greater ability to share in the burdens of policing the maritime commons in that region.

Beyond the realm of state actors, the prolonged fall in oil prices, combined with savvy offensive strategy from the United States has contained piracy off the coast of Somalia down to more a moderate annoyance than a significant transit problem; even if outright eradication is too much to hope for, the U.S.' regional partners can now come in, offering their support for a comfortable status quo (piracy off the coast of West Africa has remained more of a problem, albeit not one that poses the same caliber of threat to critical sea routes). ISIS, for all its threats, poses low risk of morphing into a maritime threat.

More generally, the U.S. is far less reliant on trade as a percentage of its GDP than many other countries – especially many NATO countries (including Germany and the UK), Japan, and China—meaning that these countries have far more to lose from a disruption affecting maritime trading routes. To the extent we do trade, it is far more in the realm of knowledge economy and technology services – much more the stuff of executives hopping planes and adding to frequent flier accounts than widgets crossing the seas in containers.

On this view, then, the risks of disruption to critical supply routes are lower than in recent years, and the U.S. is better insulated from energy-related disruption that might occur than in decades.

If only it were that easy....

The reality of today's global supply chain networks, together with China's ability to gain near-monopoly control of certain industries at various points along a given supply chain – mean that the risks to these global trading patterns remain as great, in many cases greater, as ever; they have merely migrated upstream, occurring well before cargo or oil is ever loaded onto ships.

This in turn forces the U.S. to rethink some of its most basic operating assumptions animating its maritime security posture. Today, it is the reins that a given state holds over certain factors of economic production—or what I call “geoeconomic endowments” that matter most. I identify four such endowments:

1. **Ability to control outbound investment.** First is a state’s willingness and ability to put domestic capital to geopolitical use—be it outbound portfolio investment or outbound FDI, debt or equity. Across several of today’s rising powers, governments control not just vast sums but a growing array of mechanisms for channeling this investment: state-owned investment vehicles for deploying reserve assets, sovereign wealth funds, state-owned banks, and state-owned enterprises, to name a few. These mechanisms also tend to be mutually reinforcing.
2. **Domestic market features** (overall size; degree of control over one’s domestic market, both in dictating terms of entry and in controlling import levels from a given sector or country; asymmetries in economic relationships with other states; perceptions of future growth). Size may still matter, but this is less true in geoeconomics than in traditional geopolitical and military realms. Singapore and Qatar are two of the strongest examples.¹ Singapore punches far above its weight with its two primary SWFs, Temasek and the Government of Singapore Investment Corporation (GIC), accounting for 60 percent of the \$23 billion in cross-border deals by global SWFs in early 2014. Along with the country’s central bank, the Monetary Authority of Singapore, the two SWFs generate the financial returns necessary to sustain the tiny city-state’s nearly \$10 billion defense budget.² Qatar—a country smaller in size than the state of Connecticut and with a population (of 260,000 citizens) on par with JPMorgan’s workforce—emerged as a pivotal player in nearly every violent revolution to unfold in the Middle East since 2011.³

Beyond sheer size, sums, and growth rates, four more variables help explain a country’s ability to translate its domestic market into geopolitical leverage: ability to exercise uniquely tight rein over access to domestic markets, capacity to redirect domestic import appetites to make a geopolitical point, actual or perceived consensus that a country’s domestic market is too large to ignore (this, of course, especially applies to China and is merely a regional dynamic in the case of Russia), and a growth trajectory that makes other countries see rising future costs to opposing its foreign policy interests today. These so-called ‘domestic market features’ are probably most relevant in determining how fruitful particular trade and investment policy and sanctions efforts will be in producing geopolitical benefits.

3. **Influence over commodity and energy flows.** There are three basic variables that determine how successfully a country can, through its energy policies, influence its geopolitical standing: monopoly power (market ownership, as with OPEC members), monopsony power (purchasing power, as with the United States and China), and centrality as a transit point between major buyers and sellers (e.g., the Suez Canal, as a major international oil route, enhances Egypt’s strategic relevance). All three are undergoing serious shifts. The shale revolution generally, and the ascendance of the United States as a net energy exporter in particular, places new pressures on an already strained OPEC that could ultimately dissolve the cartel.⁴ As growing energy appetites in China, India, and elsewhere come to absorb sizeable shares of a given country’s exports—and as these deals take the form of multiyear bilateral contracts between states—this purchasing power can come with new sources of geopolitical leverage for the importing country. Consider the 2014 deal between Russia and China finalizing the terms of a thirty-year gas supply contract: it was Beijing’s purchasing power and geopolitical importance to Russia that ultimately gave China the upper hand, finally steering the agreement to completion after a decade of negotiations. Finally, long-standing transit arteries—the Panama Canal, the Strait of Malacca, the Strait of Hormuz, gas thoroughfares in central Asia—may become more or less strategically important as new sources of supply begin to redraw existing trade and demand patterns.

4. **Centrality to the global financial system (e.g., reserve currency status, some forms of financial sanctions).** The reason that the dollar's global footprint carries greater geopolitical benefits for Washington than, say, the Peruvian *nuevo sol* does for Lima is the same reason that U.S. sanctions carry greater bite than would similar sanctions from Peru: a vast share of global transactions directly touch, or at least rely upon, the U.S. financial system in some way. But this is changing.⁵ Countries that have large, systemically vital financial sectors also tend to have a relatively easier time raising and mobilizing capital at low borrowing costs, and relatively greater ability to impact another country's borrowing costs.⁶ At the same time, the link is easily exaggerated, as policy choices (e.g., fiscal health) and asymmetric dependencies (e.g., banking exposure) can of course also weigh heavily on a given geopolitical landscape. And again at the opposite end of this spectrum, North Korea has proven how a *lack* of financial market integration can be advantageous, at least for countries on the receiving end of geoeconomic coercion. In early 2015, after President Obama leveled new sanctions on North Korea following the cyberattack on Sony Pictures, U.S. Treasury officials privately admitted that their newfound power to implement sanctions would amount to little; their problem was not a lack of power but a dearth of targets. North Korea has shown itself highly resilient and creative in the face of sanctions, ironically aided by its own self-imposed isolation from global markets.⁷

Notes:

¹ For commentary on how the geographies of capital, land, and labor shape Singapore (and neighboring Malaysia and Indonesia), see Matthew Sparke, James D. Sidaway, Tim Bunnell, and Carl Grundy-Warr, "Triangulating the Borderless World: Geographies of Power in the Indonesia-Malaysia-Singapore Growth Triangle," *Transactions of the Institute of British Geographers* 29, no. 4 (2004): 485–498. As illustrative commentary touting the geoeconomic prowess of Qatar, see, for instance, press reports surrounding the June 2014 prisoner exchange between the U.S. government and the Taliban, including Mark Mazzetti, Eric Schmitt, David E. Sanger, and Helene Cooper, "Behind P.O.W.'s Release, Urgency and Opportunity: Concern for Health of Bowe Bergdahl Drove Prisoner Exchange," *New York Times*, June 4, 2014: "At the same time, much of the fate of the administration's strategy was now in the hands of Qatar, the tiny wealthy emirate that in recent years has used its riches to amass great influence in the Middle East and Central Asia."

² Devadas Krishnadas, "Sovereign Wealth Funds as Tools of National Strategy: Singapore's Approach," CIWAG Case Study on Irregular Warfare and Armed Groups, U.S. Naval War College, 2013; Jeremy Grant, "Singapore Leads the Pack in Sovereign Wealth Deals," *Financial Times*, November 3, 2014; Jon Grevatt, "Singapore Announces SGD12.56 Billion Defense Budget," *HIS Jane's 360*, February 24, 2014; Dhara Ranasinghe, "Singapore, the Tiny State with Military Clout," CNBC, February 9, 2014.

³ Qatar was an early supporter of Morsi and the Muslim Brotherhood, providing \$8 billion in grants and loans to the short-lived Morsi government in Egypt. See, e.g., Khan, "The Gulf and Geoeconomics."

⁴ Selina Williams, "BP Says North America Shale Oil Boom Will Pressure OPEC," *Wall Street Journal*, January 16, 2013; Clifford Krauss, "OPEC Split as Oil Prices Fall Sharply," *New York Times*, October 13, 2014; "The Future of OPEC," *Forbes*, December 5, 2013.

⁵ As new financial hubs emerge, financial centers are becoming capable of transacting large-scale deals without requiring dollars or touching U.S. banks. Mike Bird, "Putin's Revenge: Russia and China Try to End the Dominance of the Dollar," *Business Insider*, November 10, 2014; Paola Subachi and Helena Huang, "The Connecting Dots of China's Renminbi Strategy: London and Hong Kong," Briefing Paper, Chatham House and RUSI, September 2012.

⁶ "International Finance System and Development, Report of the Secretary-General," United Nations General Assembly, July 2014, www.un.org/esa/ffd/documents/69GA_SGR_IFSD_AUV_250714.pdf.

⁷ See Scott Snyder, "Sony Hack: North Korea's Toughest Counteraction to Obama's Proportional Response," *Asia Unbound* blog, Council on Foreign Relations, December 24, 2014.

PANEL 4: GEO-ECONOMICS AND MARITIME SECURITY

STRATEGIC MARITIME CHOKEPOINTS: GLOBAL SHIPPING AND MARITIME INDUSTRY PERSPECTIVES

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Although the world ocean covers over 70 percent of the globe, commercial shipping routes are remarkably concentrated. Strategic chokepoints are narrow waterways where sea routes converge due to geography. Examples include the Malacca Straits, the Strait of Hormuz, the Strait of Gibraltar, the Suez Canal, and the Panama Canal.

Global shipping companies do not view maritime chokepoints as strategically important, but rather as a geographic reality for their businesses. In contrast, global port operators, bunkerers, ship repairers, and other maritime support services view having a physical presence at maritime chokepoints as a competitive advantage because such waterways create a geographic concentration of global shipping routes. This paper examines why strategic chokepoints are important to certain maritime industries but not others.

Over 90 percent of international trade is carried by sea, but global shipping and maritime industries have received little attention in scholarly journals and books, including those focused on maritime security. Martin Stopford has examined global shipping from a maritime economics perspective¹ and Marc Levinson has written about how containerization reshaped the global economy.² National Defense University's Institute for National Strategic Studies has published insightful articles on strategic chokepoints, such as those by John Noer³ and Donna Nincic,⁴ but only Daniel Coulter's piece on the rise of hub ports⁵ starts to provide the maritime industry perspectives offered by this paper.

Global Shipping Industry

The world's commercial shipping industry is diverse and includes businesses ranging from container lines following a fixed schedule to bulk carriers transporting commodities, including wet bulk cargoes such as crude oil and refined petroleum products and dry bulk cargoes such as iron ore, coal, and grains. Furthermore specialized shipping companies transport heavy machinery, oil rigs, livestock, automobiles, and many other cargoes that cannot easily fit in 20-foot or 40-foot containers.

For this paper, the most important difference among global shipping businesses is between container carriers, which operate a fixed liner schedule with planned stops at various container ports, and bulk carriers and specialized shipping companies, which often operate on demand. Container shipping lines depend on reliable delivery times and face monetary penalties for delays within their control. They operate in a global hub-and-spoke system of container ports, with large transshipment hub ports connecting to smaller regional container ports.

In contrast to container lines, bulk carriers and specialized shipping companies usually operate on demand, carrying goods from one port to another, sometimes with stops at multiple ports. Bulk shipping companies range from large to small and have diverse business models. Some

bulk ship owners operate their own vessels, while others charter their ships to vessel operating companies. Certain bulk shipping businesses have long-term contracts with shippers, particularly in specialized bulk cargoes such as liquefied natural gas. These bulk carriers with long-term contracts operate scheduled services similar to container lines.

In general, global shipping companies do not derive any competitive advantage from strategic maritime chokepoints. Shipping lines operating a fixed schedule may have a minor business interest in having a physical presence at chokepoints, but only if there are limited transshipment ports in the general vicinity. Rather, the global shipping industry approaches strategic chokepoints as a geographic reality to take into account when planning voyages.

Global Port Operators and Maritime Support Services

Global port operators have consolidated over the last two decades and three companies now dominate the industry: (i) Singapore-based PSA International, (ii) Hong Kong-based Hutchison Port Holdings, and (iii) Dubai-based DP World. All three of these global port operators have invested in container terminals and transshipment hubs along the world's strategic chokepoints. Given the hub-and-spoke nature of containerized shipping, the geographic consolidation of global sea routes in strategic chokepoints presents a business opportunity and securing deep water ports near such waterways is a source of competitive advantage.

Maritime service providers supporting the global shipping industry also derive competitive advantage by locating near maritime chokepoints. Bunkering is one example. Large cargo ships use bunker fuel, the least-refined variant of oil akin to asphalt. Bunker fuel is a byproduct of oil refineries. Due to easy access to numerous oil tankers, many large oil refining complexes have mushroomed near strategic waterways, such as in Singapore. The Port of Singapore and the Port of Fujairah on the Arabian Sea coast of the United Arab Emirates are the world's two largest bunkering ports, selling 42 million metric tons and 24 metric tons of bunker fuel, respectively, in 2015.⁶ Their strategic locations near the Malacca Straits and Strait of Hormuz provide a concentration of passing ships that require bunker fuel.

Modern shipyards compete on technical expertise, quality, price, and turnaround time. Geography remains a competitive advantage for ship repair and facilities providing routine ship maintenance. Singapore has world-renowned ship repair and maintenance facilities, including companies such as Keppel and Sembcorp Marine. Gibraltar also has a thriving ship repair sector, largely due to its geography near key shipping lanes.

There are numerous other maritime support industries, including freight forwarding, classification societies, insurance, financing, maritime law, and maritime arbitration. On the surface, it would seem that these other industries would be unaffected by the geography of strategic chokepoints. Administrative work, in theory, can be done anywhere in the Internet age. But these other maritime support industries often gravitate toward seaports with proximity to global shipping lanes, including ports near strategic chokepoints.

Conclusion

At the dawn of the 20th century, Mahan recognized the strategic importance of key waterways as a means of facilitating the concentration of naval power.⁷ From a maritime industry perspective, the geographic concentration of global shipping through strategic maritime chokepoints is a business reality for shipping companies and a potential business opportunity and source of competitive advantage for global port operators and other maritime support services. Perspectives from the global shipping and port sectors offer another way to analyze the strategic importance of maritime chokepoints.

Notes:

¹ Martin Stopford, *Maritime Economics* (Routledge, 2009).

² Marc Levinson, *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger* (Princeton University Press, 2006).

³ John H. Noer with David Gregory, *Chokepoints: Maritime Economic Concerns in Southeast Asia* (Institute for National Strategic Studies, National Defense University, 1996).

⁴ Donna J. Nincic, “Sea Lane Security and U.S. Maritime Trade: Chokepoints as Scarce Resources,” Chapter 8 in Sam J. Tangedi, *Globalization and Maritime Power* (Institute for National Strategic Studies, National Defense University, 2002).

⁵ Daniel Y. Coulter, “Globalization of Maritime Commerce: The Rise of Hub Ports,” Chapter 7 in Sam J. Tangedi, *Globalization and Maritime Power* (Institute for National Strategic Studies, National Defense University, 2002).

⁶ “6 Countries are Responsible for Almost 60% of All Bunker Sales.” *Ship and Bunker*.

<http://shipandbunker.com/news/world/608701-6-countries-are-responsible-for-almost-60-of-all-bunker-sales>

⁷ A.T. Mahan, *The Problem of Asia and its Effect upon International Policies* (London: 1900), 72.

PANEL 4: GEO-ECONOMICS AND MARITIME SECURITY

U.S. SHALE IS BACK AND THE CRUDE MIGRATION TO THE EAST RESUMES

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What a Difference a Year Makes

At the end of 2014, Saudi Arabia, with its OPEC partners, opted to lift crude oil production and pursue greater market share in the face of rising U.S. shale production and the expected removal of sanctions on Iran. By the end of 2015, crude oil prices had tumbled under \$40, Saudi and Iraqi production had risen by 1.5 million b/d, a nuclear deal was indeed struck, and Iran was gearing up to raise exports. U.S. shale producers had worked furiously to cut costs and stay in business, but their production had finally crested and was declining. Ironically, in this market of low oil prices and falling U.S. production, the U.S. government lifted the ban on crude oil exports.

Then a Quick Course Correction

The low prices of 2015 persisted in 2016 and led Saudi Arabia and OPEC to reverse course, concluding an historic production deal that included Russia, cutting crude oil production by close to 1.5 million b/d. Crude oil prices rose a bit and stabilized around \$50 as 2017 began.

Resource Plenty

Developments in the oil markets from the end of 2014 to the end of 2016 were dramatic, especially in terms of price, but with OPEC back in the role of swing producer there is a sense that these two years were little more than a discreet episode in the long history of the oil markets. That is not, however, an accurate interpretation. The U.S. shale boom, the OPEC response, the unshackling of Iran, the investment in Iraq, and the ensuing period of low oil prices have revealed more clearly than ever the resource plenty that defines the oil markets. At the same time, the ongoing effort to mitigate air pollution locally and climate change globally are continuing to pull renewable fuels into power generation and making transportation more energy efficient, albeit perhaps not for the moment in the U.S. This means the expansion of global oil demand is slowing. Peak demand is an overstatement, but slowing demand growth is a certainty.

There are two implications of ample supply and weak demand growth. The first is that oil will stay relatively inexpensive absent a significant geopolitical event or events. Consuming countries will hang on to oil even if the pace of demand growth is slowing. Oil's place in the energy mix is a more secure than it was at \$100 per barrel. The second is that oil investment will cluster in the sweetest spots with investment dollars pooling in the regions where costs are lowest. In short, oil will be an affordable source of energy that still requires waterborne transport between key production and consuming regions.

This is true not only for crude oil, but also for refined petroleum products. With modest demand growth and tremendous refining capacity across the globe, refining profit margins will remain under pressure. This means petroleum products will be made in the most efficient refineries in the regions with marginal crude price advantages, such as the United States and the Arab Gulf. The U.S. has become and will remain a

significant petroleum product exporters. Arab Gulf product exports are likely to grow. Even Asian countries may see their petroleum product exports grow.

Impact on Waterborne Flows

At a high level, crude oil flows will continue to shift from West to East as North America produces more crude oil and Asia does not. The story of crude oil imports being pushed out of the U.S. (and even Europe) is well known. With the lifting of the U.S. crude export ban and the slow expansion of pipeline capacity from Alberta, North America's exports can only grow, not only backing out crude from the Atlantic Basin, but encouraging flows to other regions. If not for a bit of vertical integration in US refining, one could literally see the end of Middle Eastern exports to the U.S.

How much crude "from" the U.S.

The potential for higher U.S. crude exports complicates any estimate of crude oil flows backed out of the U.S. In 2016, the U.S. imported 7.875 million b/d of crude, according to the Energy Information Administration.¹ Crude oil exports averaged 520,000 b/d, but have been as high as 1.0 million b/d in early 2017. If we hold exports constant at 1.0 million b/d, then, given expected increases in U.S. crude oil production, crude oil imports can easily fall by 2.0 million b/d by 2025.² The combination of exports and avoided imports means as much as 3.0 million b/d of crude oil will flow away from the U.S.

Higher Canadian crude exports will gradually be added to that as adequate pipeline capacity is built. By 2025, expansion of the TransMountain pipeline and the construction of either Keystone XL or Energy East will bring more crude to coastal ports. The more likely pipeline route is Keystone XL because it would carry Canadian crude to the US Gulf Coast refineries, contributing further to the backing out of crude imports described above. Exporting additional barrels beyond the U.S. Gulf Coast is likely, but will remain a relatively small volume given the questionable economics of producing and transporting Oil Sands output longer distances.

Where Do Latin American Crudes Go

As U.S. imports fall, the sources of remaining imports will change. Exports from Mexico will rise as Mexico's energy reforms attract foreign investment and lift production. Given the proximity of U.S. refineries, U.S. imports from Mexico should rise by at least 200,000 b/d by 2025. The rest of Latin America may not fare so well. Latin American production will rise enough to increase the flow to Asia perhaps by as much as 600,000 b/d, but is unlikely to target the amply supplied U.S. market. Latin American flows to Asia are an additional volume leaving the Western Hemisphere. In sum the combined volume of backed out imports or additional exports from the Western hemisphere should be on the order of 3.6 to 4.0 million b/d by 2025. That represents a minimum of 2 additional tanker departures per day. Note, there are some very aggressive U.S. production estimates that hint at even bigger outgoing flows.

Asia with a Target on its Back

As barrels are diverted away from the Western Hemisphere, more African, Latin American and even North American crude will head East, looking for a market in Asia. The obvious question is how much can be absorbed there and what happens to the traditional suppliers in the Arab Gulf? Asia's net crude imports can easily rise by 3.0 million b/d by 2025. With crude oil sources other than the Arab Gulf sending at least 2.0 million b/d, this leaves only 1.0 million b/d of Asian market share for the Arab Gulf producers. Over 10 years, this is quite a small volume of annual growth, underscoring greater competition for the Asian market, which will encourage even softer crude oil prices.

In sum, after a market hiatus in U.S. shale growth, recovering oil prices have led to new estimates for U.S. growth, indicating the resumption or acceleration of crude oil's migration to Asia. Latin America, Africa, CIS, and the Middle East are all looking to Asia to absorb their plentiful supplies of crude oil. Asia certainly will grow its crude appetite, but within a global market of ample supply chasing modest demand. In the meantime, greater volumes of waterborne petroleum products and liquefied natural gas will add to the transport of energy by sea.

Notes:

¹ Petroleum Supply Monthly, multiple issues or EIA database
<https://www.eia.gov/petroleum/data.cfm>

² Note, a VLCC tanker can hold about 2 million barrels, so this would impact one tanker per day. If a long-haul tanker voyage is 6 to 8 weeks, then the change in direction for tanker traffic would amount to anywhere from 42 to 57 tankers per day rerouted away from the U.S. by 2025. US exports of 1.0 million b/d would reroute another 21 to 28 tankers by 2025.

PANEL 5: TECHNOLOGY, INNOVATION, AND FORCE STRUCTURE

CONTEXT OF DESIGNING THE FUTURE FLEET

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Looking forward, it is clear that the challenges the Navy faces are shifting in character, are increasingly difficult to address in isolation, and are changing more quickly. This will require us to re-examine our approaches in every aspect of our operations.

- *A Design for Maintaining Maritime Superiority*

The world and its maritime domain are changing in profound ways. Automation, digitization, the global commoditization of tech, a rising Asia, resource nationalism, expanding maritime infrastructure -- each is playing a role in redefining contemporary identities, values and associations of individuals and their nations. Each in its own right would be of historic consequence. Combined, they may well lead to revolutionary change and a new era in geopolitical maritime affairs.

What will this mean for the U.S. Navy and the Fleets it puts to sea? It is impossible to predict with any precision, but that should not dissuade us asking, and where possible preparing, for the uncertainty ahead. For naval history teaches us one enduring certainty: the United States is, by geography and character, a maritime nation with global interests. And as long as there remains competition for those interests with other maritime nations, its naval officers must continuously look ahead for indicators of change in the character of that maritime competition and ask what that change could mean for how, who and where their reliefs will need to operate and fight in the future.

The Navy, as a Fleet and as a bureaucratic organization, has been here before. Those that have read Secretary Danzig's 2011 report *Driving in the Dark* know that trying to predict the future for precise bets to make in national security will be a recipe for failure. So what does *The Design* do differently? It starts with the organization and a change from within. A change that empowers new thought that is outside the current budget process. Last fall, a new organization has been created to do just that: think outside the "linear" budget driven process. The Navy staff has changed, and it has moved toward a strategy led vice budget led Program Objective Memorandum (POM) process. The change has led to an interdependent role for all of the staffs in OPNAV to support each other in a way that is driven from inside vice niche (one time) organizations that work outside of the day to day process. The process if done correctly, creates a "fast" learning cycle that is agile enough to get it wrong, but not fail.

The Future Fleet Design and Architecture (FFDA) 2045 Team has been asked to look ahead 28 years into the future, past the lifecycle of most present US Fleet assets. It is an attempt to purposefully look far beyond the horizon and project the contours of a future operating environment that is presumed to be on the far side of the norm-shaping revolutions outlined above. It asks, what do these changes suggest for how, who and where the future US Fleet will need to operate to sustain US maritime superiority in our next era? How will they reshape the means by which the next generation of US Sailors is tasked to deter threats to US interests at sea, project US power abroad, establish sea control when and where needed, advance maritime security in the global commons? And finally, how do we design the future Fleet and adapt our Fleet architecture to assure they have the operational advantage from start to finish of any operation against any foreseeable adversary they may face.

Trends of the Future Operating Environment – Factors and Actors

Those factors re-shaping the security environment include:

- Global proliferation of high-end commercial and military technology, to include nuclear capabilities.
- Demographic and environmental changes shifting global competition for resources.
- Expansion of mobile and fixed international infrastructure.
- Growing information interdependence among disparate global hubs of population and production.
- New socioeconomic, demographic and environmental stresses on geographic borders and global maritime commons.

Trends among actors in the geo-political sphere include:

- Regional competitors pursuing and proliferating military capabilities to contest U.S. military and commercial freedom of access and maneuver; posturing to advance resource nationalism and geographic leverage; and innovating to augment state-sponsored coercive campaigns through cyber, information warfare, and grey/hybrid warfare.
- Sustained geo-economic interconnectivity enabling developing state actors to rapidly mass commercial and military industrial economic capacity.
- The resurgence of great-power geo-politics and imperial age posturing for relative geographic leverage.

These trends delineate the array of factors and actors postured to usher in a new era of maritime competition and contest. The competition will be shaped by factors of change in technology and resources, infrastructure and information, and borders and commons that impact the maritime domain. The contest will be shaped by actors with sufficient military capabilities, economic capacity, and geographic leverage to shape the maritime domain.

PANEL 5: TECHNOLOGY, INNOVATION, AND FORCE STRUCTURE

FUTURE FLEET ARCHITECTURES: BUDGETARY, TECHNOLOGICAL AND DEFENSE INDUSTRIAL RESTRAINTS ON FUTURE NAVAL STRATEGY

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On the campaign trail Donald Trump proudly proclaimed that he would build a 350-ship navy. Naval enthusiasts cheered loudly while skeptics wondered where the nation would find the resources to build the largest Fleet since the Reagan buildup in the late 1980s. Existing plans proposed only to increase the size of the fleet from the current figure, 272, to 308 ships over the next thirty years.¹

Even before candidate Trump shined the spotlight on the Navy, the service was, of course, planning. The Navy had released its latest vision statement, *A Design for Maritime Superiority*, in January 2016.² It resoundingly defended the idea that the United States is a maritime nation and a premier naval power, specifically naming China and Russia as potential aggressors on the high seas. It did not specify a target number of ships or other aspects of a future fleet. But conceptually it did justify the sort of growth proposed by Trump. Moreover, senior naval leaders, including Vice Chief of Naval Operations Admiral Bill Moran were straightforward about the Navy's needs, "One thing is clear, we will not be able to keep up this pace [of operations and deployments] forever unless something changes. Arguably, this involves a larger and more capable fleet, resourced to be ready and manned to win whenever the nation calls us into action."³

During the last year of the Obama administration some members of Congress worried that sequestration and the Budget Control Act of 2011, had weakened naval readiness and discouraged many, including defense hawks, from contemplating the possibility that the Nation's Navy was insufficient to meet maritime challenges posed by a resurgent Russian Navy and the China's increasingly large and sophisticated PLA(N). Encouraged by naval enthusiasts (navalists) like Representative Randy Forbes (R-FLA), then chair of Seapower and Power Projection Subcommittee of the House Armed Services Committee, added language to the 2016 National Defense Authorization Act that mandated studies involving three alternative future fleet architectures.⁴ The Navy proposed its own alternative, while the Center for Strategic and Budgetary Assessment and the MITRE Corp contributed independent studies.⁵ Interestingly, none of the three alternatives, propose anything like a 350-ship fleet by 2030.⁶ Rather they focus on new warfighting concepts (e.g., distributed maritime operations), types of platforms including unmanned systems and a revived arsenal ship (now the "magazine" ship), new technologies (line of sight communications using the Tern UAV), and various ways to maximize both the Navy's forward presence (more forward basing) and its ability to defeat all potential foes. Capacity and fleet size are obviously not the same thing, despite the pundits' focus on numbers of ships.

This essay will consider whether costs, technological and defense industrial factors will constrain the ability of the Trump build a 350-ship navy or some variant based on the Future Fleet Architecture alternatives produced by the U.S. Navy, CSBA and the MITRE Corp.

Budgetary, Technological and Defense Industrial Constraints

Before navalists assume that President Trump or the Navy will be able to deliver on campaign promises or the USN's fondest hopes for a transformed naval force, it is important to look carefully some of the most significant obstacles to implementing alternative visions for a larger, more capable Fleet.

S&T and RDT&E.

Each of the alternative architectures features several or more innovative platforms and systems that are either entirely notional or whose components will require substantial investments to bring them to fruition in the 2030-time frame. While these investments are smaller than acquisition and O&M costs addressed below, they are likely to be significant in view of the desired pace of change, the range of technologies and engineering challenges to be met, and the relative size of government and military S&T budgets. A full assessment of each architecture's relative cost should examine these costs carefully. After all, if Congress does not provide sufficient S&T or RDT&E budgets, the risks to the USN's future fleet will be high. Many necessary innovations are not even fully discussed by the three alternatives mandated by the 2016 NDAA. For example, to make distributed operations possible and ensure that all the platforms and systems implied by the alternative architectures work as promised, will require vastly improved battle management systems. Yet, experts agree that while relatively modest battle management innovations are already in development a much broader and resource intensive effort will be required. In effect, the USN will ask for an architecture, which cannot be achieved without sustained investments in science, technology and engineering research.

Acquisition.

As a recent Congressional Budget Office (CBO) report analyzes in detail alternatives that rely on large increases in the number of platforms deployed over time will require significant and sustained increases in the top-end USN procurement budget.⁷ Moreover, nuclear modernization as currently envisioned (in terms of numbers and types of platforms and weapons (such as the SSBNX) will require an increasingly large share of USN procurement accounts unless Congress provides relief by creating a national, non-service budget for new nuclear systems.⁸ To implement any of the FFAs may require significantly more procurement funds than are currently available.

This observation may understate the nature of the funding problems the USN is likely to encounter regardless of which of the existing FFA or some hybrid variant is chosen. The reason is the new presidential administration, some members of Congress and some camps within the USN recommend that the future fleet reach 350 or 355 platforms. The CBO suggests that a fleet of this size will require procurement budgets 60 percent higher than historical funding pinnacles. Aside from whether this level of funding is affordable for the American taxpayer, short of an enormous increase in overall defense spending, such a large procurement budget would almost assuredly result in reallocations amongst USN accounts or even more likely, the procurement accounts of the other Services.

O&M and Sustainability.

As the CNO and other military leaders have noted, sequestration and the Budget Control Act of 2011 (BCA) have reduced fleet readiness and led to deferred maintenance that may eventually reduce the service life of various naval platforms. Virtually all naval analysts recommend that the Fleet needs its full pre-BCA, budgetary authority restored-- just to restore fleet readiness over the coming years. But this raises another important issue. If the FFA required larger numbers of platforms and greater numbers of sailors, there must be consequent increases in the USN readiness budget. Otherwise, the USN risks a hollowed out future force (with insufficient munitions in its magazine and shorter platform lives due to the cumulative effects of deferred maintenance) regardless of which independent architecture or hybrid variant is chosen. Moreover, larger numbers of platforms will increase political and budgetary pressure on the Navy, especially if the global security environment requires a high operating tempo in the maritime domain. In brief, will future congressional leaders be willing to maintain the O&M required to operate a substantially larger Fleet? The dangerous analogue here is to the fate of the so-called 600-ship Navy of the late-1980s.

Personnel.

Larger numbers of platforms, even if unmanned, generally require greater number of sailors to operate and maintain. In general, this remains true even given long-standing efforts to reduce manning (LCS

and various unmanned systems) and outsourcing various maintenance functions to civilian personnel including contractors. Although too complex for this short essay, relevant personnel issues include the ability to attract new recruits, the ability to retain highly skilled sailors and officers, the need to educate and train navy personnel in ways that differ from historical norms, and, finally, subsidiary issues like health care costs, retirement policies, and the full range of challenges in caring for navy families, especially given expected deployment lengths and more forward basing of ships, naval air, and shore support systems.

Technological Feasibility

Each of the three independent Future Fleet Architectures, any blended version or yet created alternative will rely on new technologies. In the face of uncertainties about how quickly these new capabilities will mature (even given reasonable large S&T and RDT&E budgets) and how successfully they can be should base its next Fleet Design on a careful analysis of the risk and rewards associated with the three Future Fleet Architectures.

Risk.

There are well-understood techniques for managing technical risk both within the DoD community and the commercial sector.⁹ Again, this issue is far too complex for a short essay so I will not examine risk directly with one exception—a simple observation. The wild card in naval procurement is that program advocates, vendors and members of Congress often have incentives (financial and political) to downplay risk. Thus, several suspect acquisition practices have been developed over the past two decades (i.e., spiral development).¹⁰ Further, procurement techniques have been used to acquire platforms before mission packages have been developed much less tested (i.e., LCS). It is incumbent on the USN to make realistic, not optimistic assumptions—otherwise, especially, if fiscal constraints or technical difficulties arise with a specific platform or system, the future warfighter will be left to fight with a less capable force.

Reward

It does not appear that any of the existing FFA rely on, or propose, specific “war-winning” technologies or weapon systems. In these architectures, there are no equivalents to Jackie Fischer’s dreadnought class of battleship or Mitchell or Douhet’s extravagant claims for strategic bombers. FFA authors are quite modest about what they hope to achieve with their visions. In terms of technologies, for the most part each works within the baselines laws of physics, economics and law. This is significant because the American way of war is largely predicated on a system-of-systems approach that is predicated less on individual weapons or platforms than on the integration of many individual capabilities within the battlespace, the region, and, indeed, the entire world.¹¹ It would be surprising if the three author organizations came up with a weapons system or even idea that was so powerful or unusual in its capabilities as to change the world as we know it.

On the other hand, each FFA proposes a variety of often incremental technologies that offer, when aggregated, major rewards to the service and nation that manages to deploy them in sufficient numbers. Hence the rewards for assuming technological risk, as above, are great. Traditional economists are quite leery of “picking winners;”¹² rather they believe that market competition will sort out the successful from the unsuccessful. Unfortunately, for the USN, there is not market but rather the unforgiving “audit of war.”

Defense Industrial Issues

It appears to date that the naval industrial base is both ready and willing to support whichever future fleet architecture is chosen by the Navy. Indeed, if op-eds and paid analysts are to be believed, they are ready and willing to support the maximalist fleet architectures proposed by analysts outside the government or uttered by the President (e.g., 350 ships). As far as the analysis goes, this is largely true. It is obviously the case that shipbuilders, aircraft manufacturers, and the providers of the vast range of equipment, hardware and software

required to outfit a future fleet architecture will, for the right price, do what is required.¹³

As a practical matter, there are several seldom acknowledged constraints on the ability of the naval Defense Industrial Base (DiB) to perform as advertised. First is the question of timing. Given the long period of yard consolidation, the one or perhaps two active American aircraft manufacturers, the existing number of shipyards, slips, and so forth place an upper limit on production, at least in the short term. In the long term, with enough money, the private firms and even the government can acquire the factories, machine tools and so forth necessary to increase the numbers of platforms coming of the lines. It should be mentioned, however, that the number of yards and the availability of production facilities may not even be the long pole in the tent. As many experts have warned over the past two decades, we have a limited pool of experienced and highly trained workers (e.g. welders) available, especially to build the most technologically sophisticated platforms desired by several of the FFAs. Industrial technology (like for example, robotic welding machines) offers a partial way out of the difficulty, especially once production rates rise high enough to achieve economies of scale, but again this will still increase the cost per unit and per program of the equipment and platforms purchased.

The second DiB question is, of course cost. To varied degrees, each of the FFA makes efforts to reduce costs—the means vary from advocating for shifting the composition of the fleet (e.g. from smaller numbers of higher technology systems to larger number of lower technology and, it is hoped lower costs systems) to introducing larger number of unmanned systems on the (often) discredited theories that fewer sailors in the cockpit will save on personnel costs and, even, introduce the possibility that such platforms are expendable. Many of these assertions have yet to be proven, have been disproven by evidence dating back decades, or lead to unintended consequences (e.g., taking the man out of the cockpit sometimes leads to higher accident rates, at least initially and/or the tooth-to-tail ration shifts—i.e. there is no one in the cockpit but the logistical chain required to maintain and operate an unmanned system may be greater and perhaps even more expensive).

Finally, DiB experts are familiar with and often joke about Augustine's laws (Number 16 is that "In the year 2054, the entire defense budget will purchase just one tactical aircraft. This aircraft will have to be shared by the Air Force and Navy 3½ days each per week except for leap year, when it will be made available to the Marines for the extra day"). Joking aside the cost growth for individual naval systems is very real and any FFA should include cost as a criterion and consider how each alternative deals with DiB realities. Congress, the Obama administration and presumably the Trump administration have worked long and hard on acquisition reform; if past is prelude, they will continue to work on it without notable success.

Conclusion

An obvious but nagging question remains: what is the new fleet, whether 350-ships or some smaller number, complete with the full range of high technology capabilities for? What great global threats or causes will justify spending a large portion of the \$54 billion dollar increase in defense spending on new ships, naval aircraft, unmanned systems and all the sundry systems needed to operate a vastly expanded Navy? The question nags especially because buying more ships and naval systems clearly will entail trade-offs. The President's budget proposes to offset new defense spending with similar cuts in non-defense, discretionary spending including foreign aid and the Environmental Protection Agency budget.¹⁴

The answers to the query remain unknown and are likely to remain mysterious for some time to come. The Trump administration has not yet filled many of the key leadership positions in the Navy and the Department of Defense that would help transform the President's campaign promises into action.

In the end, then what is missing from the President's vision of a 350-ship navy is an underlying strategy – one that links what is proverbially called the "ways, means and ends." Working outward, the national security community, the nation, and indeed America's allies and adversaries need to understand the logic underlying any historic naval buildup. A clear statement regarding of the primary the threats facing the US, the types of adversaries it will face, and the nature of future conflict would help explain why the American taxpayer is investing so much national treasure in the military service.

Notes:

¹ FY 2017 U.S. Navy 30-Year Shipbuilding Plan (May 9, 2016). <https://news.usni.org/2016/05/09/document-fy-2017-u-s-navy-30-year-shipbuilding-plan>

² http://www.navy.mil/cno/docs/cno_stg.pdf

³ Megan Eckstein, “Admirals: Navy Needs a Bigger Fleet, And Now May Be the Best Time to Plan for It,” *USNI News* (October 27, 2016). <https://news.usni.org/2016/10/27/admirals-navy-needs-a-bigger-fleet-and-now-may-be-the-best-time-to-plan-for-it#more-22264>.

⁴ <https://news.usni.org/2017/02/14/trio-of-studies-look-to-the-u-s-navy-fleet-of-2030>

⁵ Bryan Clark, Peter Haynes, Jesse Sloman, Timothy Walton, *Restoring American Seapower: A New Fleet Architecture for the United States Navy* Center for Strategic and Budgetary Assessments (February 9, 2017).

<http://csbaonline.org/research/publications/restoring-american-seapower-a-new-fleet-architecture-for-the-united-states->

⁶ Early reports misinterpreted Future Fleet Architecture proposed by the MITRE Corp. by suggesting it advocated more than 400 surface and subsurface vessels.

⁷ Congressional Budget Office, *An Analysis of the Navy’s Fiscal Year 2017 Shipbuilding Plan* (February 21, 2011). <https://www.cbo.gov/publication/52324>.

⁸ Congressional Budget Office, *Projected Costs of U.S. Nuclear Forces, 2017 to 2026* (February 14, 2017). <https://www.cbo.gov/publication/52401>

⁹ Jacques S. Gansler, *Democracy’s Arsenal: Creating a Twenty-First-Century Defense Industry* (MIT University Press 2011), see especially chapter 6.

¹⁰ Jacques S. Gansler and William Lucyshyn, *Cost as a Military Requirement* Center for Public Policy and Private Enterprise, School of Public Affairs, University of Maryland (Revised January 2013)

¹¹ William A. Owens, *Lifting the Fog of War* (Johns Hopkins University Press (October 19, 2001), pp. 78-79 and 98-103. For an earlier argument, see William A. Owens, “The Emerging U.S. System-of-Systems,” *Strategic Forum* no. 63, (February 1996)

¹² Joseph E. Stiglitz Senior Vice President and Chief Economist the World Bank, “Public Policy for a Knowledge Economy,” Department for Trade and Industry and Center for Economic Policy Research London, U.K. January 27, 1999.

¹³ Peter Dombrowski and Eugene Gholz, *Buying Military Transformation: Technological Innovation and the Defense Industry* (Columbia University Press 2006).

¹⁴ https://www.nytimes.com/aponline/2017/02/28/us/politics/ap-us-trump-diplomatic-cutbacks.html?_r=0

PANEL 5: TECHNOLOGY, INNOVATION, AND FORCE STRUCTURE

TECHNOLOGY, INNOVATION, AND R&D ALIGNMENTS FOR ENHANCED RESEARCH TRANSITION

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Given the accelerating pace of breakthrough technologies and paradigm-shifting innovation (T&I), the research and development (R&D) process must similarly be accelerated to leverage this T&I, and further developed to enable enhanced research transition into effective solutions for the military enterprise. This paper examines three forms of alignment necessary to achieve this enhancement, namely technical alignment, organizational alignment, and financial alignment. A fourth alignment, Legal/Contractual, is also necessary, but is the subject of a future paper. This paper also highlights the immense amount of R&D being conducted by Other Government Agencies (OGAs) external to an organization, but supporting its goals and needs, that is not being effectively leveraged due to the inability of the R&D community to make the case for the value of R&D.

Whether called technology transfer, research transition, dual-use, commercialization, spin-off formation, or a number of other terms, the federal government is interested in demonstrating the value of research investments for the public good. With efforts in this area dating back to the late 1950s, DARPA probably has the longest history of technology transfer, in response to the 1957 Sputnik launch and other associated events, with a mission of making investments in “breakthrough technologies for national security.”¹ Since 1964, NASA too has a long and successful history of technology transfer and spinoff formation, in response to a congressional mandate to facilitate the process.² NASA’s technology transfer program is “focused on creating benefits for society through transferring the Agency’s inventions and innovative knowledge to outside organizations.”³ This focus was motivated by the “Presidential Memorandum -- Accelerating Technology Transfer and Commercialization of Federal Research in Support of High-Growth Businesses.”⁴ The NASA focus is in contrast to DoD’s, which is focused on developing technologies to support the warfighter or field dual-use technologies.

To facilitate a quantitatively uniform discussion of R&D and technology transition, reference is made to the DHS Technology Readiness Level (TRLs).⁵ Originally developed in 1974 by NASA researcher Stan Sadin⁶, the TRL definitions have evolved over the years, reflecting increased understanding, greater sophistication and advanced applications of the TRLs by R&D transition practitioners from the various agencies, such as DARPA, NASA, and others. Given the diversity of these efforts across government agencies, it is no surprise that the pathway from research to transition also varies widely. A summary of transition programs and planning tools is provided in Manager’s Guide to Technology Transition in an Evolutionary Acquisition Environment.⁷ Importantly,

DOD has long noted the existence of a chasm between its science and technology community and its acquisition community that impedes technology transition from consistently occurring. This chasm, often referred to by department insiders as “the valley of death,” exists because the acquisition community often requires a higher level of technology maturity than the science and technology community is willing to fund and develop. In 2007, DOD reported that this gap can only be bridged through cooperative efforts and investments from both communities, such as early and frequent collaboration among the developer, acquirer, and user.⁸

This paper supplements previous studies of research transition by examining the additional factors of R&D alignment necessary to achieve enhanced research transition success. Specifically in this effort, enhanced research transition success means increased use of R&D outputs, whether software, hardware, technology and/or knowledge products, by the intended warfighter, regardless of whether an R&D project's output is otherwise commercially viable, licensed by an industrial partner for dual use, or spun-off completely for other non-military uses.

This study has identified three forms of alignments and coordination to guide the “early and frequent collaboration among the developer, acquirer, and user” that are necessary for maximizing R&D transition success, and developed challenges and options for R&D project selection process implementation consideration as described below. The three forms of alignments and coordination studied in this effort are:

- **Technical Alignment** of all applicable R&D projects, including both a) projects internal to the organization, and b) externally funded R&D programs, both sources being presented with the same clear organizational strategies, requirements, needs and gap (RNGs) targets, developed using quantifiable metrics.
- **Organizational Alignment**, both a) within and across the extended organization's divisions and components, as well as b) with the external organizations' management structures conducting the relevant external R&D.
- **Financial Alignment** to a) merge and synchronize with government funding cycles and processes, and b) cost data gathering and allocation across the organizational missions, assets and activities to enable return-on-investment (ROI) and benefit-cost ratio (BCR) calculations and assignments to specific programs, projects and results.

It is also worth repeating that the fourth alignment of the **legal/contractual** issues associated with R&D projects should also be addressed in their early stages.

To overcome technical alignment challenges, an organization would benefit from

- Improved development processes for and better-defined RNGs, as these serve as the targets for the R&D projects to address;
- Increased analytical, modeling and simulation (M&S) support for project impact and ROI/BCR evaluations and ranking processes;
- Increased use of metrics, Key Performance Indicators (KPIs), both performance-based and BCR-type, with appropriate decision-making visualization dashboards;
- Integrated/increased use of data science methods in evaluations, M&S analyses, rankings and decision-making.

To overcome organization alignment challenges, an organization would benefit from

- Quantitatively developing the case for the value of R&D to improved operations and decision-making;
- Demonstrating the value in organizational communication of needs and “buy-in” for the supporting effort and resource investment needed to conduct and improve review and evaluation of ideas;
- Demonstrating the value obtained from leveraging external R&D;
- Demonstrated examples of how R&D has been / is being applied and used;
- Quantifying the value to the organization of transition success.

To achieve financial alignment, an organization would benefit from

- understanding the time scales for the phases of project solicitation, review and ranking, selection and budgeting across the candidate participating OGAs with relevant external R&D programs;
- organizing its own cost data collection efforts to support their subsequent use in ROI/BCR calculations of effectiveness;

- increased and more refined use of ***Metrics, M&S and Data Analytics*** to make the “Case for the (Financial) Value of R&D”.

It is important to note that financial alignment data is essential to supporting the above-listed technical and organizational alignments.

The Federal Government’s investment in R&D is large and distributed among numerous agencies. The total R&D funding greatly exceeds that focused strictly on the warfighter’s needs. Thus, there is generally a very large upside potential for leveraging external R&D. However, the effort to leverage R&D is very labor-intensive, requiring intensive literature review and searching, researcher and leadership contacts and outreach, cultivation of relationships, matching to organizational RNGs and their corresponding organizational alignment personnel, etc. The relative magnitude of R&D investments internally versus externally should motivate allocation of internal resources specifically directed to this external outreach and leveraging effort, which could then yield extraordinarily high returns.

Notes:

¹ <http://www.darpa.mil/about-us/about-darpa> , accessed February 2017.

² <http://spinoff.nasa.gov/about.html> , accessed February 2017.

³ http://www.nasa.gov/pdf/709314main_NASA_PLAN_FINAL.pdf , accessed February 2017.

⁴ The White House, “Accelerating Technology Transfer and Commercialization of Federal Research in Support of High Growth Businesses,” Presidential Memorandum, October 28, 2011.

⁵ <https://www.dhs.gov/sites/default/files/publications/Product%20Realization%20Guide.pdf> (2013), accessed February 2017.

⁶ https://www.nasa.gov/topics/aeronautics/features/trl_demystified.html , accessed February 2017.

⁷ DoD, “Manager’s Guide to Technology Transition in an Evolutionary Acquisition Environment,” Defense Acquisition University Press, Fort Belvoir, VA, 2005.

PANEL 5: TECHNOLOGY, INNOVATION, AND FORCE STRUCTURE

DALEK DYAD: THE TWONESS OF TECHNOLOGY

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Our Profession's ability to incorporate technology should be viewed through the lens of today's larger societal technological trends. Numerous studies have examined technology's economic effects; historically, these studies showed increased productivity and job creation, but more recent analyses are finding wage stagnation alongside productivity gains. This apparent dichotomy is, in part, the product of the so-called "Second Economy" where transactions occur without human intervention.

Other studies have examined interpersonal dynamics and found that as technology becomes more anthropomorphically humanlike, an **Uncanny Valley**¹ exists in which people find the interactions simply "too creepy." One of the most interesting hypotheses to emerge from this line of research is the **Threat to Human Distinctiveness**, which opines that lifelike robots "...trigger concerns about the negative impact of this technology on humans, as a group, and their identity more generally because similarity blurs category boundaries, undermining human uniqueness."²

This paper extends the Threat to Human Distinctiveness Hypothesis to examine the element of trust as an existential consideration for our Profession. In this view, our ability to embrace future technology will ultimately depend less upon how we define war and more about how we define ourselves.

In Philip Dick's book *The Defenders*, the Leadies - robots built to wage war on behalf of mankind - conduct an analysis of war to determine its purpose. Their sole finding: war is a human need.

As a computer replaces much of his crew to operate and fight the USS ENTERPRISE, the fictional CAPT Jim Kirk ponders the meaning of command in this brief soliloquy: "There are things men must do to remain men."

This ubiquitous theme, from Frankenstein to Dr. Who, is emerging in our profession as we seek a Third Offset Strategy. While still lacking coherence, this strategy's pursuit of revolutionary technologies is well understood. Technology is welcomed as a means to deliver consistent outcomes at ever-decreasing costs while simultaneously imposing costs on our adversaries. When compared to lifecycle personnel costs – recruiting, retention, sustainability through health care and pensions – there is a lot to like.

At the tactical level, where users interact with technology daily, there is a very different range of reactions. Automated systems, where the output is always the same based on if/then logic, potentially threaten the livelihood of those with particular skillsets. Autonomous systems, on the other hand, make determinations about multiple outcomes based on probability calculations and thus more closely resemble human decisions. Despite the overwhelming evidence that human decision-making is laced with biases and heuristics that often produce suboptimal outcomes, we deem this process as the sole purview of humanity. Autonomous systems therefore become existential threats to our Profession because they attack what makes us distinct.

This variance between the strategic and tactical levels in the efficacy of technological solutions reveals an inverse relationship to that of interpersonal trust (Figure 1). Surveys completed by the Army War College for more than 30 years consistently find that trust is proximate: the more distant the relationship (e.g. a private's relationship to a general officer), the less trust exists between the two.

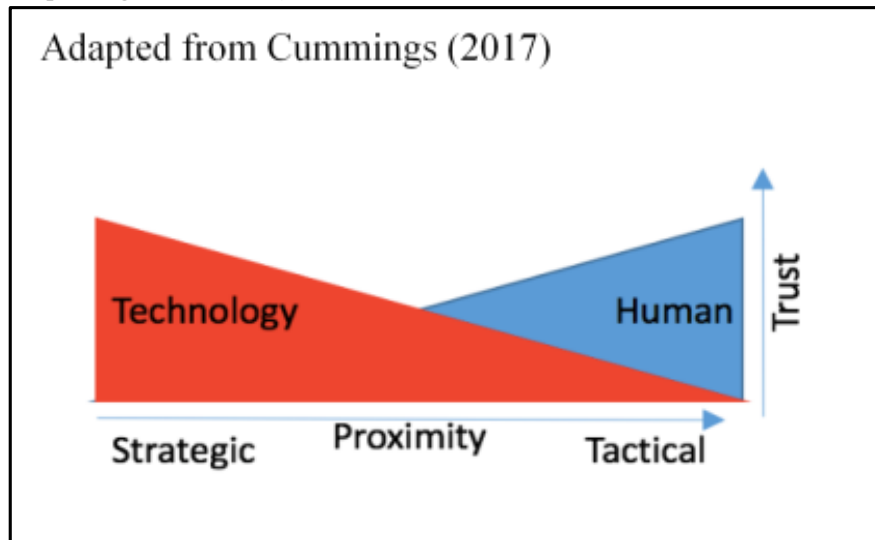


Figure 1: Trust Variance

The findings of greater trust in closer proximity is also consistent with the threat to human distinctiveness hypotheses. At the tactical level, there is a homogeneity of purpose, be it mission or survival, which each person subscribes to. Homogeneous behaviors follow: to protect each other *for each other's sake*, not for the general or the admiral. The unwillingness to distinguish outcomes from valorous behavior drew the ire of many during the drone warfare medal rollout.

A friend and colleague penned a piece wherein he noted the wisdom and need of the medal, but questioned its precedence above the Bronze Star. He wrote,

Capt Dick Winters, of Band of Brothers fame, earned a silver star for his actions to silence the guns at Brécourt Manor in June of 1944. The remainder of his team earned bronze stars. They thrust bayonets into the beating chests of an enemy intent on skulling them with a rifle, shovel, or rock and watched their sweat-soaked friends bleed out and turn cold in nameless, muddy fields....

In the end, we should be wary of what the [Drone Warfare] medal signals. Culture is changed with rewards and punishments. There are those that accuse our largely sedentary and overweight society of pursuing sanitized push-button warfare for fear of taking casualties. They accuse our Profession of lacking the will to locate, close with, and engage the enemy. Do we really want to say to the men and women who wear the uniform, the citizens we protect, the allies with whom we partner, and the foes looking for chinks in our armor that a medal is more important than mettle itself?

In short, an acknowledgement of technology's effectiveness was surpassed by the need to acknowledge our humanness. It is this very definition of who we are that slows the acceptance of technology, especially technology that approximates human attributes – either real or perceived. Understanding this fact yields a few general guidelines for avoiding the uncanny valley of military technology:

- 1) Place revolutionary technologies on alternative platforms to avoid the bias towards legacy systems;
- 2) Introduce revolutionary technologies that accomplish different missions or approach an existing mission in an entirely different way; and,
- 3) Screen those who would work alongside the technology to determine their level of acceptance/resistance to technology.

The Daleks from *Dr. Who* lost their distinctiveness as a species in pursuit of greater combat efficiency. As we continue to gain insights from technology's impact on society, more guidelines will likely emerge that create the distinction between the man and the machine. Our profession demands that we remember war is a human endeavor and that technology is a means, not an end.

Notes:

¹ Mori, M. (2012). The uncanny valley (K. F. MacDorman & Norri Kageki, Trans.). *IEEE Robotics and Automation*, 19(2), 98–100.

² Ferrari, F., Paladino, M.P. & Jetten, J. *Int J of Soc Robotics* (2016) 8: 287.

PANEL 6: SEA CONTROL

PREPARING TO GO AND REMAIN IN HARM'S WAY AGAIN

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In 1944, fast carrier task force and task group concepts and operations enabled the U.S. Third and Fifth Fleets to assert sea control at will and for extended periods not only around themselves, but also in sustaining a defensive zone within which other tasks, such as massed air attack against the land, amphibious assault and surface action, could be undertaken. U.S. carriers had previously been obliged to raid Japanese positions and then depart rapidly before being exposed to retributive attack by enemy land-based air and other sea-based assets. Conversely, in the Falklands conflict of 1982, British carriers were unable to assert continuous sea control around the islands and had to settle for episodic sea and air control, limited in time and place, that supported specific tasks, such as amphibious assault and the support of land operations.

The prospect today is that sea control and access will be threatened by states (notably, but not exclusively, China, Iran and Russia) and sub-state groups that will attempt to contest the freedom of the seas, both for geo-political and economic advantage. The navies of the United States and its allies will be confronted by state-based, hybrid and irregular opponents, acting in both conventional and asymmetric ways. On the one hand, state-based opponents will deploy progressively more sophisticated platforms and systems designed to deter entry into designated sea space **by** all but the most capable navies and to provide coercive options. Meanwhile, irregular actors, hybrid opponents and status quo rejectionists are likely to benefit from technology leakage and capable systems acquired from both failing and flailing states. The situation will be complicated by the increasing prevalence of unmanned and disruptive applications, allowing both regular and irregular opponents opportunities to conduct attacks in all environments, with the advantages afforded by anonymity and deniability. Together with the introduction of networked and distributed concepts of operation, these will blur familiar spatial boundaries and concepts.

In this environment, most operations, especially involving presence and power projection, are likely to involve 'encounter' actions in the margins of disputes or claims to jurisdiction and sovereignty. They are likely to take place primarily between individual units, both in the air and at sea. This means that individual units will need to have the capability and confidence, in terms of systems and training, to stand toe-to-toe with their counterparts in the navies of potential opponents. In cases of escalation, they will also need to **have the** ability, proportionate to the threat, to choose 'fight' or 'flight' once the 'fright' reflex has been activated and to call on and coordinate reinforcement if **they are** to stand **their** ground in maintaining presence. In future, this back-up will probably take the form of direct, but more distant group support or be derived from new concepts associated with 'distributed lethality'. In the meantime, the doctrinal thrust for detached units will need to reflect the motto, 'if it floats, it fights', with the presumption that readiness levels of all combatants must be maintained at a high level. The contrasting fortunes of USS MASON and the HSV-2 SWIFT when faced by separate missile attacks by hybrid opponents off the coast of Yemen in October 2016 graphically demonstrated the validity of this approach in relation to individual units.

Three further considerations are relevant. Each 'encounter', especially in state-on-state confrontations, will be viewed, both **by** the countries concerned and the international media, as an indicator of national prestige and commitment to the objectives at stake. Secondly, sea control and presence **is** likely to

impose disadvantageous cost ratios on the US and its allies in deterring and defeating the range of anti-access and area denial systems that they are likely to have to face. When scarce dollars (and pounds) and opportunity costs are involved, this aspect needs addressing with some urgency if the political will to commit naval and other forces in encounter actions is to be sustained. The opportunities presented by novel technologies, such as directed energy, offer possibilities in this regard.

To be credible, sea control capabilities will demand a range of active and passive defensive systems, capable of dealing with the diverse capabilities of likely opponents and confrontational situations that seem certain to proliferate. Gun and missile systems need to be capable of intercepting threats at sufficient range to prevent damage or catastrophic loss, but it is doubtful whether most naval systems are proof against the air, surface and sub-surface launched missiles that are already deployed by potential opponents and peer competitors, especially when fired in salvos. Similarly, current decoys, design features (characterized as ‘stealth’) and active counter-measures, such as electro-magnetic disruption, have only limited effect. New applications, principally involving off-board, unmanned and stealth technologies need to be explored and implemented, including the use of semi-submersible hull forms, electronic disruptors and swarming decoys. These considerations make modularization, allowing tailored mission packages of personnel and equipment, as well as **regular** technology insertion to cope with innovation and invention, increasingly attractive. Nevertheless, for a fighting service, an understanding is required among political authorities and public opinion that individual platforms must be considered ‘lose-able’, if they to be ‘use-able’ in situations involving marginal risk and brinkmanship.

Finally, there will be a pressing need to gain definitive technical intelligence about the systems and platforms of likely opponents while denying them access to the parameters and capabilities of our own technologies, with which we have been notably profligate since the end of the Cold War. We also need to understand the concepts and tactics that accompany opponents’ systems, while concentrating on what potential opponents could do rather than we judge they intend to do – a key lesson from the Pacific in World War II. As the Naval War College report into the disaster at Savo Island in August 1942 assessed: ‘A commander, in making his plans, should follow the method of enemy capability rather than the method of enemy intentions [...] which has been discarded by the United States Armed Forces’.¹ We must also seek counters to the latent, but potent potential of electro-magnetic interference and disruption of our networks and systems alongside the familiar cyber threat, while improving our own offensive capabilities in these areas.

All in all, it is time to mine the corporate memory about how operations at sea used to be conducted during the Cold War, with its overriding commitment to containment, forward presence and defence in depth. Depending on individual situations, our future aspirations for sea control are likely to lie somewhere between that demonstrated in the Pacific in World War II and in the Falklands. Success will depend on the political will, the level of resource allocation and the degree of technological superiority that can be maintained in relation to opponents. Most importantly, the burden of maintaining access in a rules-based international system, in the face of states seeking to subvert both the UN Convention of the Law of the Sea (UNCLOS) and the Grotian concept of the freedom of the seas, cannot be left simply to the United States, in terms of either political commitment or capability investment. All those countries that have an interest in the sea as the primary strategic medium for access and exchange will need to step up to the plate, assist in conducting freedom of navigation transits and deploy capabilities that will enable them to provide persistent presence where there is risk. Our politicians also need the will to send them there.

Notes:

¹ Commodore Richard W. Bates, USN (Ret) and Commander Walter D. Innis, USN, *The Battle of Savo Island August 9th, 1942, Strategic and Tactical Analysis, Part 1* (Newport RI: Naval War College, Department of Analysis, 1950), p. 348. Spruance in a letter to E. B. Potter stressed that ‘We found that there had been a tendency to decide what an enemy was *going* to do and lose sight of what he *could* do. I have seen just this happen in fleet problems at sea, and it is very dangerous’.

PANEL 6: SEA CONTROL

THE U.S. NAVY AND THE FUTURE OF SEA CONTROL: AN INSTITUTIONAL PERSPECTIVE

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How the Navy adapted to the immense strategic, operational, technological, and political challenges of the Cold War and the post-Cold War shaped a distinctive way of thinking about U.S. naval strategy and sea control, which will structure how the Navy is defining and solving the problems associated with sea control, which, in turn, will shape what new technologies, operational concepts, and doctrine are researched, developed, and operationalized and which ones, however promising, are moved to the margins of institutional consideration.

For the first time since the Cold War, the U.S. Navy has to contend for control of the seas. Operationally, the challenge is how to address the anti-access/area denial systems employed by China, Russia, and Iran. Strategically, it is about how to confront the rise of a revisionist China as a maritime power, one capable of deploying a powerful and far-ranging fleet built to deny U.S. regional access, ensure China's access to its resources, and protect its global commercial empire—and, in time, project power around the globe. For the United States, sea control—the ability to use the seas while denying the adversary the same—is indispensable. It is a prerequisite if the United States wants to employ its unique ability to project power globally to protect its security and economic interests and maintain leadership of its rules- and alliance-based international system.

However, the long lee of the post-Cold War era left the Navy unprepared materially and conceptually to address the problem of ensuring sea control in an era of great power competition. In the post-Cold War era, precision strike warfare lay at the heart of the Navy's strategic approach and was fiscally supported as such. In contrast, sea control was marginalized. Skills that had been honed over the Cold War atrophied, while many of the capabilities needed for sea control withered. While the United States was engaged in wars in Iraq and Afghanistan, China, Russia, and Iran, among others, caught up technologically and began fielding access-denial capabilities to offset the United States' ability to project power.

As the gap between what the fleet has and what it needs to ensure sea control widens, Navy leaders have elevated sea control's standing and some have organized plans to close that gap. However, in a period marked by fiscal constraints (compounded by the need to fund the expensive recapitalization of the SSBN and carrier fleets) and the rise of a illiberal, revisionist great power capable of contesting the seas—all of which is bringing about a reappraisal of U.S. naval strategy—finding institutional consensus on how to close that gap may prove difficult.

As it did in the 1970s, when the Navy was dealing with a remarkably similar set of issues, the attempt by Navy leaders to rebalance the fleet for a greater emphasis on sea control may ignite a debate within the Navy, particularly between the advocates of sea control and power projection. At issue during such a debate would be how much of the fleet's portfolio of capabilities should be rebalanced for sea control and what concepts the fleet would employ to ensure sea control. Much of that determination rests on how the Navy will operationally relate and therefore programmatically prioritize the capabilities and weapons systems of the essential elements of sea control—undersea warfare, strike warfare, surface warfare, electronic warfare, mine warfare, and ISR.

The determination also rests on how the Navy manages the competition for resources between its warfare communities—surface warfare, submarines, aviation, and NSW. Historically, decisions on platforms and weapons systems have not been based on a holistic long-term plan coordinated across the communities. Those decisions are presented to Navy leaders when the need arises and are made on the merits of the case at hand. In the absence of a plan, day-to-day programmatic decisions tend to be shaped more by shared institutional beliefs and assumptions that underlie decisions on how fleet should be balanced, employed, and rationalized, which is how Navy leaders understand “naval strategy.”

At issue would also be how much of the funds needed to close the gap would come at the expense of the Navy’s other primary missions—strategic deterrence (i.e., SSBN), forward presence, and power projection. During the Cold War, funding for strategic deterrence and forward presence were largely unassailable—and remains so. As the nation’s only survivable second-strike platform, the SSBN was the United States’ primary means of deterring the Soviets, and was fiscally supported by the administrations as such, and continues to be. For its part, forward deployment was and remains an institutional imperative. Its members understand “operations” as the Navy’s *raison d’être*. Tying up the fleet in port threatens not only the institution’s relevance, but also the fleet itself; forward presence requires three ships to keep one deployed overseas.

Consequently, in times of fiscal constraint and strategic reappraisal, Navy leaders had to make hard decisions between sea control and power projection capabilities, which were shaped by assumptions and beliefs on how the fleet should be employed and balanced. The Navy had emerged from the Second World War with a distinct style of warfare that shaped and was reshaped by its Cold War experiences. The style was not the sea control-oriented one used to win the Battle of the Atlantic in the Second World War, which did not require a broadly capable, and a balanced, carrier-centric fleet (balanced in the sense that it included air, surface, and subsurface forces) nor did it require Marines to seize territory.

Instead, the style that emerged from the Second World War was the offensive-minded power-projecting one that enabled victory in the institution’s seminal event, the Pacific War against Japan. As the Navy learned during the Pacific War and throughout the Cold War, a balanced, carrier-based fleet demonstrated unprecedented versatility across a much broader range of missions than one based on battleships, for instance, or one designed for nuclear retaliation or sea control. It packed far more striking power and longer-ranging firepower and offered more range, mobility, and flexibility than any fleet before. While battleships, submarines, and carriers can clear the seas, only the latter can fully exploit control of the seas.

In the late 1960s, the Soviets deployed a large and powerful fleet designed for sea denial and nuclear retaliation. The Soviet naval threat and the need to recapitalize the U.S. fleet in a period of fiscal austerity brought about a reappraisal of naval strategy, which meant trading power projection capabilities for sea control capabilities, which, in turn, set off a fierce decade-long debate inside the Navy. On one side were those that advocated for a sea control-centric fleet, and saw the Navy’s purpose in terms of general war. On the other were the proponents of carrier-based power projection, fresh off of their Vietnam experience, who argued to maintain a fleet comprised of flexible and adaptable—yet expensive—multi-mission platforms, a fleet optimized to be effective across the spectrum of conflict, not just general war.

Perhaps because it is so pervasive, the influence of the Navy’s experiences in the Cold War and post-Cold War era on its institutional thinking on strategy, emerging technologies, and operational concepts tends to escape notice. In general, the Navy is far from having mastered its Cold War and post-Cold War experiences. If the Navy is so inclined to study history, it could apply its lessons to more effectively address how to deal with institutional as well as operational challenges to ensure control of the seas. One can, however, be certain that how the Navy has approached sea control in the past will not escape the notice of its rivals.

PANEL 6: SEA CONTROL

COMMONS CONTROL AND COMMONS DENIAL: FROM JAM-GC TO AN INTEGRATED PLAN

Sam J. Tangredi
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The ability to access and freely utilize the global commons is the primary enabler of the globally-deployable military power of the United States. It is also, not coincidentally, the key facilitator of international trade and the source of global prosperity. An opponent with the capability to significantly degrade or deny American use of the global commons could impede the ability to deploy U.S. military forces, challenge the future prosperity of the United States, and reduce U.S. political and economic influence throughout the world.

Defining the Commons

The global commons are the spaces and dimensions on, above, or throughout the earth which are the territory of no one nation, but can be used by all in accordance with international law and political custom. Global commons are usually defined in a legal sense. However, they can be functionally defined as mediums humans use for communications, transportation and commercial and information exchange, but cannot normally inhabit.¹

The most physically accessible global commons are the oceans, which include the air above it, as well as most (but not all) of the seabed below it. Airspace is a commons only above the oceans, which is why it is considered a part of the maritime commons rather than a separate dimension. Beyond the oceans, outer space (once termed “ocean space”) is also a global commons, but is obviously less physically accessible. Cyberspace can conceptually be considered a global commons, but is obviously not physically accessible even if it utilized by more individuals than the others, albeit for information exchange rather than trade, discovery, or the transport of military forces.²

Access and Control Today

Fortunately, no single nation today has the capability to significantly challenge U.S. access to the global commons—in which access to the maritime commons is the most critical—except in regions close to their national periphery, utilizing anti-access/area denial (A2/AD) strategies.

Anti-satellite weapons could interfere with U.S. dominance in space, but it is still difficult to deny general access. Cyberattacks could interfere with U.S. use of the internet, but again, although damaging in the near term, U.S. vulnerabilities in this dimension are the result of choice and convenience. Not only is U.S. access to the commons difficult to deny, U.S. ability to exert “control” over these commons and deny their use to others—through its global naval, space launch, and coding and information technology management capabilities—remains largely unequalled.

This is a long-standing reality that has become a modern assumption and military tradition. In the Second World War, Imperial Japan could initially deny U.S. access to the maritime commons of East Asia, but it could not prevent the U.S. from deploying its forces into the Western Pacific and building up its power to eventually break through the Japanese wall of islands.³ During the Cold War, Soviet forces attempted to deny U.S. access to its maritime periphery and postured some forces (such as in Cuba) that

could interfere with direct U.S. access, but it could not sustain the Soviet Navy on a globally-deployed basis. (Access to space also remained unchallenged until the development of anti-satellite weapons late in the Cold War.)

Current U.S. military dominance of the commons is demonstrated by the fact that (for example) it can contest the People's Republic of China's efforts at sea control/sea denial within the so-called first island chain—extending roughly 500-800 nautical miles from mainland China, but the People's Liberation Army-Navy. Missile and Air Force cannot contest the movement of U.S. forces from Hawaii to Guam—roughly 4000 nautical miles—or from San Diego to Guam—roughly 6000 nautical miles. U.S. naval forces also possess the power to prevent the PLAN and Chinese maritime commerce from transiting *beyond* the first island chain, effectively cutting it off from the majority of the maritime commons. This “command of the commons” is the source of, in the words of MIT professor Barry Posen, “the military foundations of U.S. hegemony.”²⁴

In the same way as the term “command of the sea” can be distilled to “sea control,” the concept of “command of the commons” can be termed “commons control.” Such a term does *not* necessarily imply that such control is absolute (although it could be). As Winston Churchill maintained concerning command of the seas: “When we speak of command of the seas, it does not mean command of every part of the sea at the same moment, or at every moment. It only means that we can make our will prevail ultimately in any part of the sea which may be selected for operations, and thus indirectly make our will prevail in every part of the sea.”²⁵

From that perspective, the United States possesses command of the commons or *commons control* today.

Future Challenge: From A2/AD to Commons Denial

Yet, despite conditions today, it is conceivable that a near-peer opponent could attempt to deny U.S. access and full utilization of the global commons, perhaps by 2050. Such an opponent would not necessarily be able to replicate America's commons control. Rather, it would seek a robust capacity for commons denial (in the conceptual manner of sea denial) within the 4000-6000 nautical mile extent that is currently unchallenged, as well as in space and cyberspace.

Although they has been some recognition that rising powers could contest U.S. dominance of the global commons, a future trans-global commons denial threat with substantial military effects has not yet been examined in detail. In an influential article, then-Undersecretary of Defense for Policy Michele Flournoy and co-author Shawn Brimley maintained that the relative balance of global power was shifting in ways that allow the commons to be “contested,” but discussed the potential challenges in relatively modest terms, largely within the reach of current A2/AD systems closing the peripheries.⁶ The authors did suggest, however, that “these developments challenge us to think creatively about how DOD can best develop the strategy, concepts of operations, and capability mix needed to meet this challenges.”⁷ With that in mind, now is the time to contemplate how U.S. forces in the 2050 time-frame could achieve “assured access” in the face of a severe commons denial threat.

It is not impossible, impractical or inappropriate to examine a potential 2050 threat—because strategies, tactics and systems will largely be *extensions of* and *advances in* A2/AD strategies, tactics and systems that *exist today*. Anti-access warfare is a strategy existent throughout history intended to cut off the opponent's use of the global commons, conducted at the level of technology available in the particular historical era. The principles of the strategy remains the same, and will remain the same in 2050, even as technology evolves. Moreover, much of the U.S. joint force—and certainly much of the U.S. Navy—available in 2050 will consist of platforms existing today or built in the years 2018-2030 (which means they will be based on designs and technologies emerging today). This is also true of emerging peers.

One can therefore discern an outline of the nature of this potential threat: undersea forces that can linger but a dozen miles from the ports of San Diego or Long Beach; conventionally-armed anti-ship ballistic

missiles that can reach 2000-3000 nautical miles; anti-satellite satellites that can be positioned within the launch trajectories of Kennedy Space Station or Vandenberg Air Force Base; an alternative global internet network to which American access could be cut; and global norms that close off regional seas to non-regional military vessels, as a few examples.

In a commons denial strategy, the targets of the enemy may be extensively re-prioritized: combat logistics force and sealift first, aircraft carriers second. Potential opponents, if they intend to win, will not wait like Saddam Hussein in 1991 for the U.S. to build an “iron mountain” of power in their region. Today they construct A2/AD systems to deny U.S. access to *their* region. Tomorrow they will attempt to attack U.S. power before it moves outside *our* region.

Efforts Thus Far

As noted, these are threats that have hardly been intellectually examined, even by those tasked with assessing the future security environment. Postulating the extension of A2/AD systems into a commons denial construct is simply not part of the planning focus on “the fight tonight.” At the same time, those examining the future appear fixated on the search for that fabulous beast, the “game changer”—the technology that makes “everything all different.” Game changers are rare, possibly non-existent; the tools of commons denial can just as easily creep up as dramatically emerge.

The Naval Services do have a glimmer of the commons denial threat as reflected from the anti-access strategies it currently recognizes. The March 2015 revision of *A Cooperative Strategy for 21st Century Seapower* adds the “essential function” of “all domain access” to four previously enunciated functions (the previously fifth function of humanitarian assistance being subsumed into the category of missions). *All domain access* is defined simply as “the ability to project military force in contested areas with sufficient freedom of action to operate effectively.”⁸ The primary context is of operations within the range of existing A2/AD systems, and the document imports the concept of “cross-domain synergy”—the centerpiece of the 2012 Joint Staff *Joint Operational Access Concept (JOAC)*—as the required capability.

This context should be expanded beyond the focus of the *JOAC* to examine the practical requirements of all domain access in a future commons denial environment. Unfortunately, the follow-on joint document, *Joint Access and Maneuver in the Global Commons (JAM-GC)*, released 19 October 2016, is but an anemic shadow. Organizationally, *JAM-GC* evolved out of the Air/Sea Battle Office, an unfortunate victim of political-academic alarmism and the cult aspect of jointness ideology. Instead of focusing, however, on assessing the operational capabilities needed, the *JAM-GC* concludes that U.S. forces must be “distributable,” “resilient,” “tailorable,” on a “sufficient scale,” and of “ample duration” to ensure operational access to the global commons. Of course they should—but hopefully for *any and all types of operations*, whether dealing with the global commons or not. A recent description of the *JAM-GC* notes that “JAM-GC puts forth an evolutionary approach to joint force operations that centers on enhanced all-domain integration across Services and component lines...”⁹ That may be a great description of the goal of all jointness; but it does not come to grips with the full challenge that denial of the commons would present to the joint force.

What is Needed

Now is indeed the time for military and civilian strategists to begin a more detailed examination of the potential of global commons anti-access and options for countering it. Some of the issues that should be examined include: (1) vulnerability of CONUS deployment ports and nodes, (2) effects of creeping “lawfare” efforts to de-legitimize freedom of the seas, (3) over-reliance on space and cyberspace for C2, (4) potential development of access denial/sea denial systems (such as modern strategic naval mining) than can confine our enemies, (5) ensuring stockpiles of strategic materials, (6) surge capacities in defense industries, and others. The eventual goal should be an integrated plan to ensure commons access. Since these issues have yet to be examined in the detail they deserve (due to our focus on “the fight tonight,” the hope of a game changer, etc.), we are not yet ready to build such a plan. It is time to step beyond the platitudes of joint

concepts. We cannot wait for 2050 to find that access to the global commons is too difficult to be the foundation of our global military power. In fact, without access to the global commons, we have no military power.

Notes:

¹ For a more detailed explanation of the logic behind this definition, and how it relates to navies, see Sam J. Tangredi, “Beyond the Sea and Jointness,” in Thomas J. Cutler, ed., *The U.S. Naval Institute on Naval Strategy* (Annapolis, MD: Naval Institute Press, 2015), pp. 141-150.

² It is logical to argue that the internet is a source of trade, or rather a trading platform, since so much of global financial exchange is conducted via the internet. However, financial investment and exchange exists for the purpose of facilitating trade in goods and services which cannot in themselves travel by internet. The cost of manufacturing by 3D printing is prohibitive except for plastics.

³ For a discussion of Imperial Japan’s strategy as anti-access warfare, see Sam J. Tangredi, *Anti-Access Warfare: Countering A2/AD Strategies* (Annapolis, MD: Naval Institute Press, 2013), pp. 141-149.

⁴ Barry R. Posen, “Command of the Commons: The Military Foundation of U.S. Hegemony,” *International Security* 28:1 (Summer 2003), pp. 5-26.

⁵ From a speech in the House of Commons 11 October 1940.

⁶ Michele Flounoy and Shawn Brimley, “The Contested Commons,” U.S. Naval Institute *Proceedings* 135/7/1277 (July 2009), pp. 16-21.

⁷ *Ibid*, 20.

⁸ U.S. Department of the Navy, *Forward, Engaged, Ready: A Cooperative Strategy for 21st Century Seapower*, March 2015, p. 19.

⁹ Michael E. Hutchens, William D. Dries, Jason C. Perdew, Vincent D. Bryant, and Kerry E. Moores, “Joint Concept for Access and Maneuver in the Global Commons: A New Joint Operational Concept,” *Joint Forces Quarterly* 84, 1st Quarter 2017, pp. 134-139.

A Design for Maintaining Maritime Superiority



Version 1.0
January 2016



Mission

The United States Navy will be ready to conduct prompt and sustained combat incident to operations at sea. Our Navy will protect America from attack and preserve America's strategic influence in key regions of the world. U.S. naval forces and operations – from the sea floor to space, from deep water to the littorals, and in the information domain – will deter aggression and enable peaceful resolution of crises on terms acceptable to the United States and our allies and partners. If deterrence fails, the Navy will conduct decisive combat operations to defeat any enemy.

Introduction

For 240 years, the U.S. Navy has been a cornerstone of American security and prosperity. To continue to meet this obligation, we must adapt to the emerging security environment. The initiatives laid out in this Design represent initial steps along a future course to achieve the aims articulated in the Revised Cooperative Strategy for the 21st Century (CS-21R) in this new environment. It's a tremendously complex challenge. As we get underway, we must first understand our history - how we got to where we are. Moving forward, we'll respect that we won't get it all right, and so we'll monitor and assess ourselves and our surroundings as we go. We'll learn and adapt, always getting better, striving to the limits of performance. This cannot be a "top-down" effort; everybody must contribute.



Strategic Environment

On the eve of the 20th century, the United States emerged from the Civil War and laid the foundation to become a global power, but its course to continued prosperity was unclear. Navy Capt. Alfred Thayer Mahan helped to chart that course, arguing that American growth required access to overseas markets, which in turn required a preeminent navy to protect that access. America became a nation with global interests, and the seas were the path to new frontiers.

The essence of Mahan's vision still pertains: America's interests lie beyond our own shores. What was true in the late 19th century holds true today – America's success depends on our creativity, our entrepreneurship, and our access and relationships abroad. In an increasingly globalized world, America's success is even more reliant on the U.S. Navy.

In fulfilling our mission, it's important to start with an assessment of the security environment. It is tempting to define the challenge solely in terms of our allies, partners, and competitors – the state and non-state actors on the world stage. While these are critical, it is even more important to understand the dramatic changes that have taken place on the stage itself – the character of the environment in which competition and cooperation occur. Fundamentally, the world has become dramatically more globalized, and this trend is accelerating. Our way ahead must account for this new reality. In particular, this Design will address three major and interrelated global forces that are increasingly used, increasingly stressed, increasingly important, and increasingly contested. These three forces energize the quickly changing environment in which the Navy must operate, and if required, fight and win.

The first global force is the traffic on the oceans, seas, and waterways, including the sea floor – the classic maritime system. For millennia, the seas have served to connect people and societies to help them prosper. As the global economy continues to expand and become more connected, the maritime system is becoming increasingly used by the United States and the world as a whole. Shipping traffic over traditional sea lanes is increasing, new trade routes are opening in the Arctic, and new technologies are making undersea resources more accessible. This maritime traffic also includes mass and uncontrolled migration and illicit shipment of material and people. The maritime system is becoming more heavily used, more stressed, and more contested than ever before.

A second increasingly influential force is the rise of the global information system – the information that rides on the servers, undersea cables, satellites, and wireless networks that increasingly envelop and connect the globe. Newer than the maritime system, the information system is more pervasive, enabling an even greater multitude of connections between people and at a much lower cost of entry – literally an individual with a computer is a powerful actor in this system! Information, now passed in near-real time across links that continue to multiply, is in turn driving an accelerating rate of change – from music to medicine, from microfinance to missiles.

The third interrelated force is the increasing rate of technological creation and adoption. This is not just in information technologies, where Gordon Moore's projections of exponential advances in processing, storage, and switches continue to be realized. Scientists are also unlocking new properties of commonplace materials and creating new materials altogether at astonishing speeds. Novel uses for increasingly sophisticated robotics, energy storage, 3-D printing, and networks of low-cost sensors, to name just a few examples, are changing almost every facet of how we work and live. Genetic science is just beginning to demonstrate its power. Artificial intelligence is just getting started and could fundamentally reshape the environment. And as technology is introduced at an accelerating rate, it is being adopted by society just as fast – people are using these new tools as quickly as they are introduced, and in new and novel ways.

These three forces – the forces at play in the maritime system, the force of the information system, and the force of technology entering the environment – and the interplay between them have profound implications for the United States Navy. We must do everything we can to seize the potential afforded by this environment. Our competitors are moving quickly, and our adversaries are bent on leaving us swirling in their wake.

And the competitors themselves have changed. For the first time in 25 years, the United States is facing a return to great power competition. Russia and China both have advanced their military capabilities to act as global powers. Their goals are backed by a growing arsenal of high-end warfighting capabilities, many of which are focused specifically on our vulnerabilities and are increasingly designed from the ground up to leverage the maritime, technological and information systems. They continue to develop and field information-enabled weapons, both kinetic and non-kinetic, with increasing range, precision and destructive capacity. Both China and Russia are also engaging in coercion and competition below the traditional thresholds of high-end conflict, but nonetheless exploit the weakness of accepted norms in space, cyber and the electromagnetic spectrum. The Russian Navy is operating with a frequency and in areas not seen for almost two decades, and the Chinese PLA(N) is extending its reach around the world.

Russia and China are not the only actors seeking to gain advantages in the emerging security environment in ways that threaten U.S. and global interests. Others are now pursuing advanced technology, including military technologies that were once the exclusive province of great powers – this trend will only continue. Coupled with a continued dedication to furthering its nuclear weapons and missile programs, North Korea's provocative actions continue to threaten security in North Asia and beyond. And while the recent international agreement with Iran is intended to curb its nuclear ambitions, Tehran's advanced missiles, proxy forces and other conventional capabilities continue to pose threats to which the Navy must remain prepared to respond. Finally, international terrorist groups have proven their resilience and adaptability and now pose a long-term threat to stability and security around the world. All of these actors seek to exploit all three forces described above – the speed, precision and reach that

the maritime and information systems now enable, bolstered by new technologies – to counter U.S. military advantages and to threaten the rules and norms that have been the basis of prosperity and world order for the last 70 years.

There is also a fourth ‘force’ that shapes our security environment. Barring an unforeseen change, even as we face new challenges and an increasing pace, the Defense and Navy budgets likely will continue to be under pressure. We will not be able to “buy” our way out of the challenges that we face. The budget environment will force tough choices but must also inspire new thinking.

Looking forward, it is clear that the challenges the Navy faces are shifting in character, are increasingly difficult to address in isolation, and are changing more quickly. This will require us to reexamine our approaches in every aspect of our operations. But as we change in many areas, it is important to remember that there will also be constants. The nature of war has always been, and will remain, a violent human contest between thinking and adapting adversaries for political gain. Given this fundamental truth, the lessons of the masters – Thucydides, Clausewitz, Sun Tzu, Mao, Corbett, and, yes, Mahan – still apply. America’s importance to the world holds fast. Our nation’s reliance on its Navy – our Navy – continues to grow.

Why a “Design?”

The scope and complexity of the challenges we face demand a different approach than that offered by a classic campaign plan. This guidance frames the problem and a way forward while acknowledging that there is inherent and fundamental uncertainty in both the problem definition and the proposed solution.

Accordingly, we will make our best initial assessment of the environment, formulate a way ahead, and move out. But as we move, we will continually assess the environment, to ensure that it responds in a way that is consistent with achieving our goals. Where necessary, we will make adjustments, challenging ourselves to approach the limits of performance.

This Design for Maintaining Maritime Superiority will guide our behaviors and investments, both this year and in the years to come. More specific details about programs and funding adjustments will be reflected in our annual budget documents.

Core Attributes

One clear implication of the current environment is the need for the Navy to prepare for decentralized operations, guided by commander's intent. The ability to achieve this end is reliant on the trust and confidence that is based on a clear understanding, among peers and between commanders and subordinates, of the risk that can be tolerated. This trust and confidence is enhanced by our actions, which must reflect our core values of Honor, Courage, and Commitment. Four core attributes of our professional identity will help to serve as guiding criteria for our decisions and actions. If we abide by these attributes, our values should be clearly evident in our actions.

- **INTEGRITY:** Our behaviors as individuals and as an organization align with our values as a profession. We actively strengthen each other's resolve to act consistently with our values. As individuals, as teams, and as a Navy, our conduct must always be upright and honorable both in public and when nobody's looking.
- **ACCOUNTABILITY:** We are a mission-focused force. We achieve and maintain high standards. Our actions support our strategy. We clearly define the problem we're trying to solve and the proposed outcomes. In execution, we honestly assess our progress and adjust as required – we are our own toughest critic.
- **INITIATIVE:** On their own, everybody strives to be the best they can be – we give 100% when on the job. Our leaders take ownership and act to the limit of their authorities. We foster a questioning attitude and look at new ideas with an open mind. Our most junior teammate may have the best idea; we must be open to capturing that idea.
- **TOUGHNESS:** We can take a hit and keep going, tapping all sources of strength and resilience: rigorous training for operations and combat, the fighting spirit of our people, and the steadfast support of our families. We don't give up the ship.



Four Lines of Effort

The execution of this Design is built along four Lines of Effort that focus on warfighting, learning faster, strengthening our Navy team, and building partnerships. These lines of effort are inextricably linked and must be considered together to get a sense of the total effort. The corresponding objectives and first year tasks listed under each line of effort define how we will begin to move forward.

STRENGTHEN NAVAL POWER AT AND FROM SEA: Maintain a fleet that is trained and ready to operate and fight decisively – from the deep ocean to the littorals, from the sea floor to space, and in the information domain. Align our organization to best support generating operational excellence.

1. Maintain and modernize the undersea leg of the strategic deterrent triad. This is foundational to our survival as a nation.
2. In partnership with the Marine Corps, develop concepts and capabilities to provide more options to national leaders, from non-conflict competition to high-end combat at sea. Operations short of conflict should be designed to contain and control escalation on terms favorable to the U.S. Combat at sea must address “blue-water” scenarios far from land and power projection ashore in a highly “informationalized” and contested environment. All scenarios must address the threat of long-range precision strike. Test and refine concepts through focused wargaming, modeling, and simulations. Validate these concepts through fleet exercises, unit training and certification.
3. Further advance and ingrain information warfare. Expand the Electromagnetic Maneuver Warfare concept to encompass all of information warfare, to include space and cyberspace.
4. To better meet today’s force demands, explore alternative fleet designs, including kinetic and non-kinetic payloads and both manned and unmanned systems. This effort will include exploring new naval platforms and formations – again in a highly “informationalized” environment – to meet combatant commander needs.
5. Examine the organization of United States Fleet Forces Command, Commander Pacific Fleet and their subordinate commands to better support clearly defining operational and warfighting demands and then to generate ready forces to meet those demands.
6. Examine OPNAV organization to rationalize our headquarters in support of warfighting requirements.



ACHIEVE HIGH VELOCITY LEARNING AT EVERY LEVEL: Apply the best concepts, techniques and technologies to accelerate learning as individuals, teams and organizations. Clearly know the objective and the theoretical limits of performance – set aspirational goals. Begin problem definition by studying history – do not relearn old lessons. Start by seeing what you can accomplish without additional resources. During execution, conduct routine and rigorous self-assessment. Adapt processes to be inherently receptive to innovation and creativity.

1. Implement individual, team and organizational best practices to inculcate high velocity learning as a matter of routine.
2. Expand the use of learning-centered technologies, simulators, online gaming, analytics and other tools as a means to bring in creativity, operational agility and insight.
3. Optimize the Navy intellectual enterprise to maximize combat effectiveness and efficiency. Reinvigorate an assessment culture and processes.
4. Understand the lessons of history so as not to relearn them.

STRENGTHEN OUR NAVY TEAM FOR THE FUTURE: We are one Navy Team – comprised of a diverse mix of active duty and reserve Sailors, Navy Civilians, and our families – with a history of service, sacrifice and success. We will build on this history to create a climate of operational excellence that will keep us ready to prevail in all future challenges.

1. Aggressively pursue implementation of the core tenets of the “Sailor 2025” program – fully integrated and transparent data and analytics, increased career choice and flexibility, expanded family support, and tailored learning.
2. Accelerate “Sailor 2025” efforts to leverage information technology to enhance personnel system and training modernization efforts.
3. Strengthen and broaden leadership development programs to renew and reinforce the Navy Team’s dedication to the naval profession. Leader development will be fleet-centered and will begin early in our careers, focusing on character and commitment to Navy core values. Character and leadership will be rewarded through challenging assignments and advancement.
4. Strengthen organizational integrity by balancing administrative requirements with the benefits gained from the time spent. The goal will be to return more time to leaders and empower them to develop their teams.
5. Strengthen the role of Navy leaders in leading and managing civilian professionals as key contributors to the mission effectiveness of our Navy Team.

EXPAND AND STRENGTHEN OUR NETWORK OF PARTNERS: Deepen operational relationships with other services, agencies, industry, allies and partners – who operate with the Navy to support our shared interests.

1. Enhance integration with our Joint Service and interagency partners at all levels of interaction to include current and future planning, concept and capability development and assessment.
2. Prioritize key international partnerships through information sharing, interoperability initiatives, and combined operations; explore new opportunities for combined forward operations.
3. Deepen the dialogue with private research and development labs, and academia. Ensure that our Navy labs and research centers are competitive and fully engaged with their private-sector partners.
4. Increase the volume and range of interaction with commercial industry. Seek opportunities through non-traditional partners.

Desired Outcome

A Naval Force that produces leaders and teams who learn and adapt to achieve maximum possible performance, and who achieve and maintain high standards to be ready for decisive operations and combat.

Conclusion

We will remain the world's finest Navy **only** if we all fight each and every minute to get better. Our competitors are focused on taking the lead – we must pick up the pace and deny them. The margins of victory are razor thin – but decisive! I am counting on your integrity, accountability, initiative, and toughness to execute the lines of effort described in this Design, execute our mission, and achieve our end state. I am honored and proud to lead you.



JOHN M. RICHARDSON



Surface Force Strategy

Return to Sea Control



Surface Force Strategy

Return to Sea Control





We are entering a new age of Seapower.

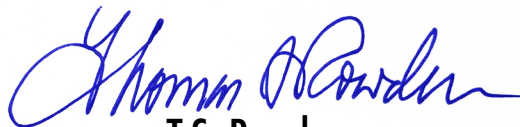
A quarter-century of global maritime dominance by the U.S. Navy is being tested by the return of great power dynamics. The security interests of the United States and those of our allies are increasingly challenged by near-peer competitors, confrontational foreign governments, and well-armed, non-state militant groups. Our Navy must adjust to the changing security environment. We are driven by the challenges of these state and non-state actors, who may not be as devoted to the rules-based system of international norms that have shaped our world for the last 70 years. History teaches us the dangers to a maritime nation's security and prosperity when its navy fails to adapt to the challenges of a changing security environment. From Europe to Asia, history is replete with nations that rose to global power only to cede it back through lack of seapower, either over time or in decisive battle.

1	Preface
5	Responding to a Dynamic World
11	Improving the Combat Capability of Surface Forces
17	Reinvigorating Sea Control & Power Projection
21	Conclusion

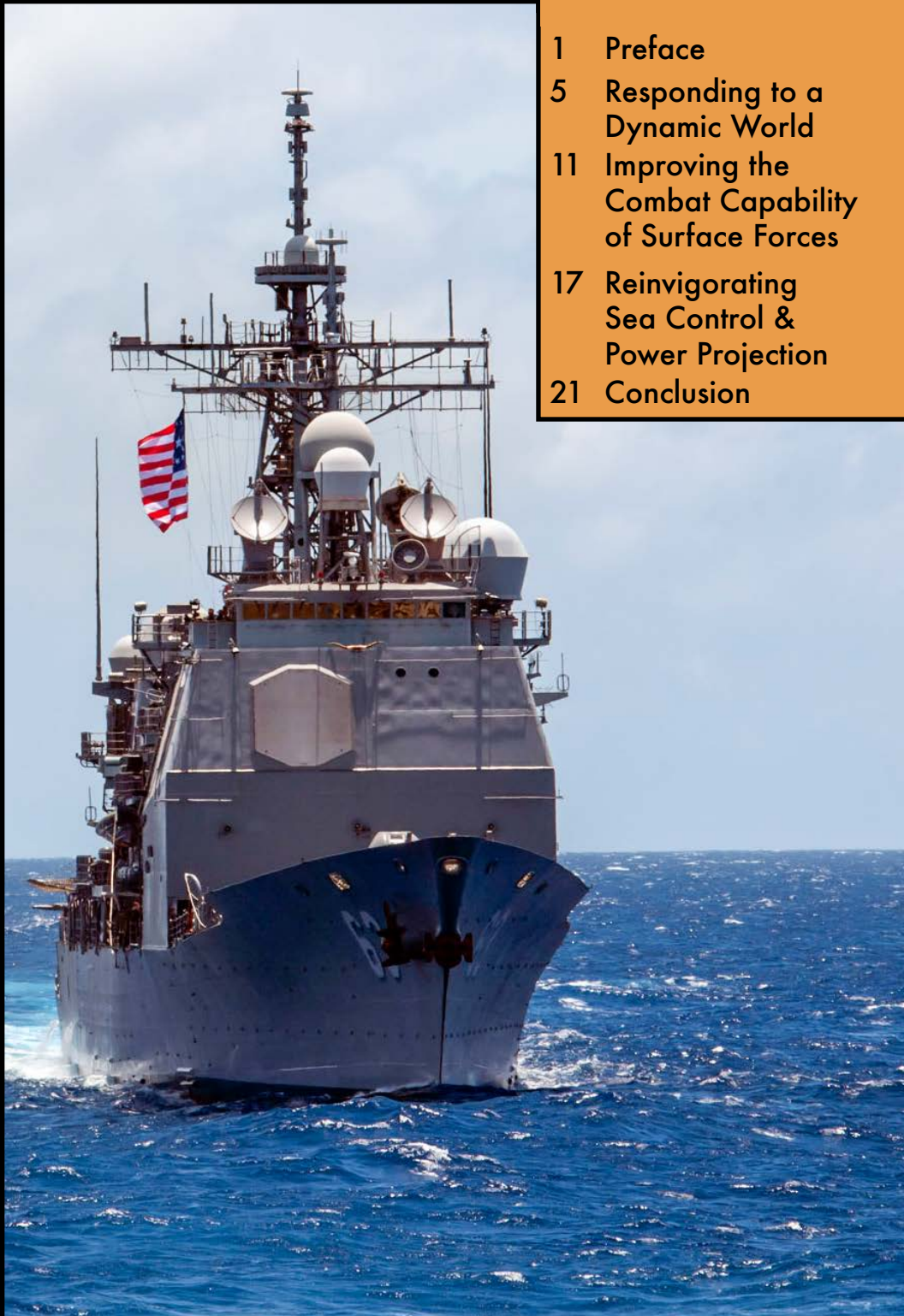
As today's leading naval power, we cannot afford to lose our Nation's seapower edge. The U.S. Navy is responding to global challenges under the leadership of the Chief of Naval Operations and is guided by the precepts of our "Design for Maintaining Maritime Superiority." Responding to the call to "strengthen naval power at and from the sea," the U.S. Naval Surface Force submits this "Surface Force Strategy." The strategy describes the return to sea control and implementation of Distributed Lethality as an operational and organizational principle for achieving and sustaining sea control at will. Sea control is the precondition for everything else we must do as a navy. Distributed Lethality reinforces fleet initiatives that drive collaboration and integration across warfighting domains. Distributed Lethality requires increasing the offensive and defensive capability of surface forces, and guides deliberate resource investment for modernization and for the future force. Providing more capabilities across surface forces yields more options for Geographic Combatant Commanders in peace and war.

In order to achieve the desired outcome of this strategy, we must rededicate the force to attain and sustain sea control, retain the best and the brightest, develop and provide advanced tactical training, and equip our ships with improved offensive weapons, sensors, and hard kill/soft kill capabilities. Pursuing these ends will enhance our capability and capacity to go on the offensive and to defeat multiple attacks.

By providing a more powerful deterrent, we will dissuade the first act of aggression, and failing that, we will respond to an attack in kind by inflicting damage of such magnitude that it compels an adversary to cease hostilities, and render it incapable of further aggression.



T.S. Rowden
Commander, Naval Surface Force



Forward

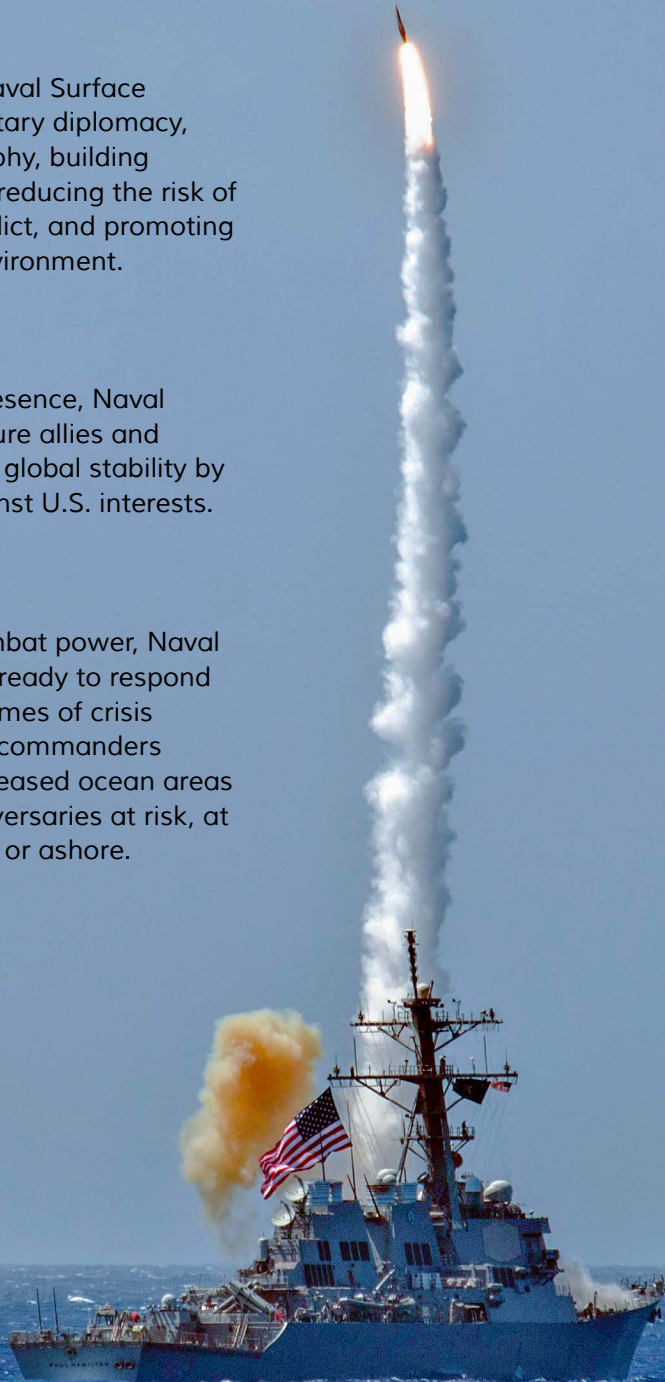
Operating forward, Naval Surface Warships execute military diplomacy, across a wide geography, building greater transparency, reducing the risk of miscalculation or conflict, and promoting a shared maritime environment.

Visible

A persistent visible presence, Naval Surface Warships assure allies and partners and promote global stability by deterring actions against U.S. interests.

Ready

Providing credible combat power, Naval Surface Warships are ready to respond when called upon in times of crisis providing operational commanders options to control increased ocean areas and hold potential adversaries at risk, at range, whether at sea or ashore.



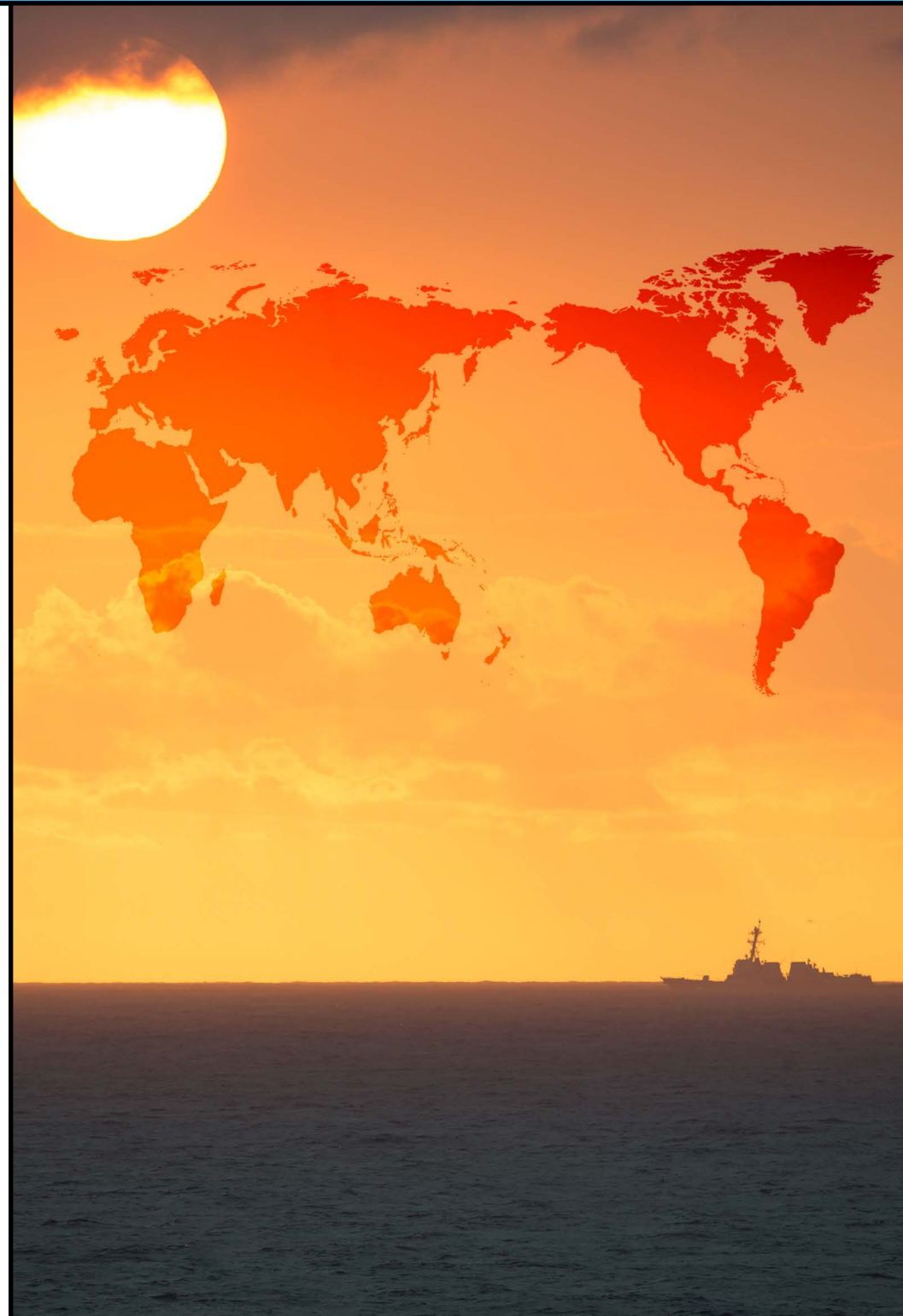
The objective of the Surface Force Strategy is to achieve and sustain sea control at the time and place of our choosing to protect the homeland from afar, build and maintain global security, project the national power of the United States, and win decisively. It is essential to our Nation's security and prosperity that we maintain the ability to maneuver globally on the seas and to prevent others from using the sea against the interests of the United States and our allies. Additionally, sea control is the pre-requisite to achieving the Navy's objectives of All Domain Access, Deterrence, Power Projection and Maritime Security.

Pressures on the Global Order

America is a maritime nation, and our prosperity is directly linked to the freedom of the seas provided by the U.S. Navy. Threats ranging from low-end piracy to well-armed non-state militant groups, to the navies of high-end nation-states pose challenges that surface forces are prepared to counter, and when called upon, defeat.

Global competitors will attempt to disrupt freedom of maneuver on the seas through the deployment and proliferation of sea denial technologies including state-of-the-art anti-ship ballistic and cruise missiles, integrated and layered sensor systems and targeting networks, long-range bombers, advanced fighter aircraft, submarines, mines, advanced integrated air defenses, enhanced electronic warfare, cyber and space-based technologies, and asymmetric tactics. These capabilities are designed to raise the risk to U.S. forces in order to undercut confidence among friends and allies of our ability and will to operate forward. The surface force must adapt in meaningful ways that allow for confident operations in contested environments within an acceptable level of risk. The most important challenge for the surface force to address is the improving technologies, systems, and networks our competitors put in place to deter and deny the United States access to vital sea areas. These technologies extend from the sea floor to space and present surface forces with multi-axis and multi-dimensional challenges.

Countering these advanced sea denial technologies requires improved tactics; incremental adaptations to surface force weapons, platforms and sensors; and the right talent, properly trained to operate, maintain and employ these systems. To achieve these requirements, we must think differently about how we organize, prepare, and sustain surface forces.





Distributed Lethality

The concept of Distributed Lethality enables the goal of sea control at the time and place of our choosing. It is achieved by increasing the offensive and defensive capability of individual warships, employing them in dispersed formations across a wide expanse of geography, and generating distributed fires.

Distributed Lethality has distinguishing characteristics at the tactical and operational levels. At the tactical level, it increases unit lethality and reduces the susceptibility of warships to detection and targeting. At the operational level, it employs warships as elements of offensive Adaptive Force Packages that are task oriented and capable of widely dispersed operations. Adaptive Force Packages allow operational commanders the ability to scale force capabilities depending on the level of threat. This manner of employment is designed to open battlespace and enable concealment and deception in order to inject uncertainty and complexity into an adversary's targeting.

D is composed of three tenets

Increase the offensive lethality of all warships.

Our ships must be equipped with the tools necessary to fight and defeat highly capable adversaries. When combined with the right mix of capabilities and tactics, this concept enables a surface force that can deter an adversary with credible combat power, challenge the operating space, and gain the advantage for follow-on Joint Force operations.

Distribute offensive capability geographically.

Many strategists point to America's long operational lines as a vulnerability, but Distributed Lethality makes geography a virtue. It spreads the combat power of the Fleet, holds targets at risk from multiple attack axes, and forces adversaries to defend a greater number of targets. This challenges an adversary's decision making cycle and material investment scheme by forcing that adversary to account for lethal threats from multiple domains.

Give ships the right mix of resources to persist in a fight.

We must upgrade the defensive resilience of our warships to improve the ability to fight through attacks from space, cyber, air, surface and the undersea domains. We must capitalize on the improved mutual defense among ships through evolving networks and tactics. Lastly, we must be able to fight through battle damage and sustain operations in a degraded command and control environment.



We will organize, train, and equip surface forces to the greatest effect by using a framework composed of four pillars: tactics, talent, tools, and training (T4). The framework is designed to enhance the capability and capacity of the surface force to achieve and maintain access across all warfighting domains. It is aligned with the Design for Maintaining Maritime Superiority and reinforces all of the Design's lines of effort.

This comprehensive organizational approach combines the ways and means to deliver combat-ready warships in the near (2017-2021), mid (2022-2030), and far terms (2031-2040) in order to control the sea and project power.

T4 Organizing Surface Forces For Enhanced Combat Power

TACTICS We must strive for tactical excellence and rededicate ourselves to provide sea control for our Nation. Under the leadership of the Naval Surface and Mine Warfare Development Center (SMWDC) we will develop and teach effective tactics that also unite thought and action to develop fast and cohesive warfighting. We will also deepen our warfighter's expertise through continual critical analysis of our tactics and ingrain warfighting and tactical prowess into daily shipboard life.

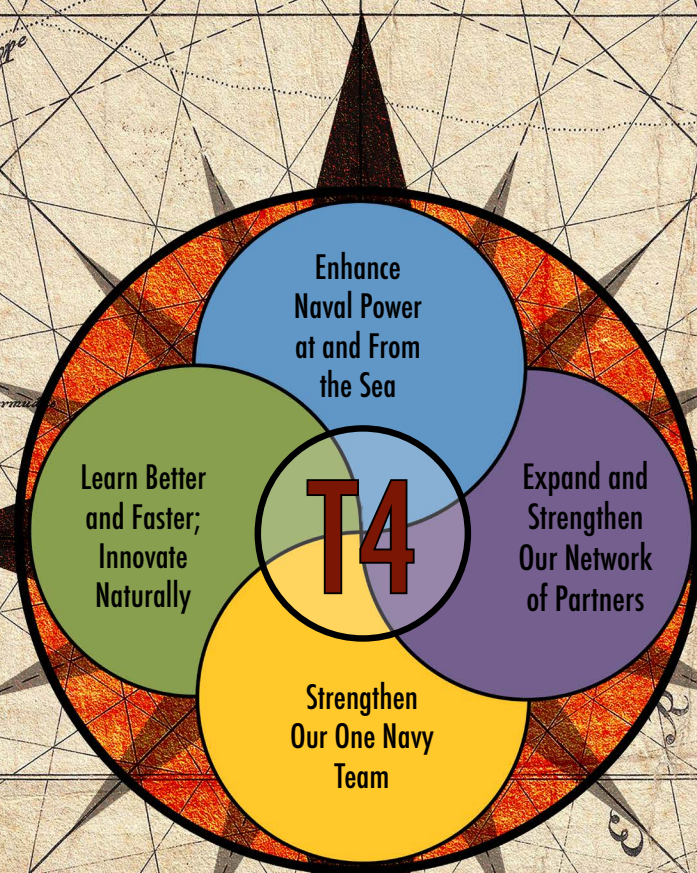
TALENT We will harness the powerful impact of engaged leaders and remain committed to the importance of warfare tactics experts. We will manage the extraordinary talent that exists within our surface force with a view towards building depth, breadth, and experience for the future. Tomorrow's challenges demand we engage the most creative and influential minds and attract and retain the best and most qualified people.

TOOLS In addition to current ship construction plans, we will design, procure and build the future Fleet to raise the combat capability of surface ships. We will apply a prioritized road map to synchronize investments that adds long-range offensive weapons to our warships and increases resilience in combat.

TRAINING We will invest in realistic and integrated training and create environments that replicate the challenges of operating and sustaining warships in complex scenarios. This will enable Sailors to gain the warfighting proficiency and confidence required to accomplish the mission during a combat encounter.

Aligning the Surface Community

A DESIGN FOR MAINTAINING MARITIME SUPERIORITY





Surface Force Investment Objectives

Implementing Distributed Lethality to achieve sea control will require skillful management of the planning, programming, budgeting, and execution process. A prioritized and aligned investment plan will inform programming decisions across multiple resource sponsors. A surface force investment plan becomes even more imperative with the emerging “domain-centric” programming process. This process allocates capability and functionality across and within domains. We must work together to achieve kinetic and non-kinetic effects in the surface, undersea, air, land, cyber, and electromagnetic domains. The surface force has four investment objectives spanning the pillars of tactics, talent, tools, and training.

The first investment objective is to increase the offensive fire power of surface warships. We will continue to modify existing weapons and expand the procurement of improved surface launched anti-ship, anti-air and land-attack missiles.

These improvements are applicable to the cruiser/destroyer (CRUDES) force, littoral combat ships (LCS), and our amphibious and expeditionary forces. We will also work to expand the capability of long range anti-submarine weapons. The surface force must also continue to develop and field advanced kill chain capabilities, such as the Navy Integrated Fire Control-Counter Air (NIFC-CA), to enable sea control and defeat existing and emerging threats in all domains.

The second investment objective is to support the Navy’s long range shipbuilding plan and modernization strategy. This involves increasing advanced, integrated air and missile defense capacity through sustained modernization and new construction to achieve established force posture goals. This objective also calls for improvements to existing Air Defense Commander capabilities by extending the service life of CG 47 class ships through the cruiser modernization program. Increased LCS, frigate and amphibious ship lethality and capacity is also a cornerstone of our future success.

By 2030, littoral combat ships and frigates will represent half of deployed surface combatants. These ships must be lethal, capable, and manned appropriately. Priorities will also focus on surface and expeditionary warfare maintenance and modernization to ensure Fleet reliability, sustainability and relevancy against modern and evolving threats.

The third investment objective is to improve battlespace awareness. This objective includes continued development of combat systems capabilities with improvements to mission planning software, battle management software for Warfare Commanders, and tools to manage unit and force level emissions. The efforts in this overarching objective are also intended to capitalize on advanced Electromagnetic Maneuver Warfare (EMW) technologies, such as the Surface Electronic Warfare Improvement Program, designed to support a robust EMW strategy.

The fourth overarching investment objective is to implement high velocity learning across the surface force. This involves resourcing Surface and Expeditionary Warfare Training Plan continuums. This objective also includes future investments in virtual world warfighting lab venues with operator-in-the-loop and combat system test bed capabilities to provide feedback on weapon system design and develop and validate tactics, techniques and procedures (TTPs).

These four investment objectives span multiple resource sponsors and several major budget accounts. Through deep partnerships, the Surface Force Strategy investment priorities build wholeness into the four pillars of tactics, talent, tools and training and make the mission capabilities within the Distributed Lethality concept a reality and, in turn, harness the full measure of combat power from the surface force.



Distributed Lethality provides an effective response to the tactical, operational, and strategic challenges posed in denied or contested environments. The operational construct to control the sea is centered on the tactical training and capabilities that allow commanders to deceive, target, and destroy an adversary. These operational functions provide Geographic Combatant Commanders options for employment of surface forces across the spectrum of conflict and serve as a foundational paradigm for our community's approach to sea control.

Forward and ready conventional surface forces must be able to deter aggression, deny aggressors the prospect of achieving their objectives, establish and maintain sea control, and project power.

Deter Aggression with Forward and Ready Conventional Forces

The ability to sustain operations far from our shores provides a distinct advantage to the United States. A persistent forward presence backed by credible combat capability can prevent aggression and limit regional crises from escalating to full-scale war.

On a daily basis, surface forces are distributed across the globe. Surface warships protect freedom of maneuver, secure the sea lanes for global trade and economic growth, defend key interests of the United States, and prevent adversaries from leveraging the world's oceans against us. Distributed Lethality gives options to Commanders to deliver credible combat power where it matters most.

A more lethal, distributed force across a greater expanse erodes an adversary's advantage by complicating their surveillance and targeting. Similarly, surface forces will have both the capability and capacity to fight through an attack while being positioned to inflict damage of such magnitude that an adversary is rendered incapable of further aggression, ceases hostilities and no longer considers force as a viable means to achieve its end-state objectives.



Deny an Aggressor Prospect of Achieving Objectives

States that leverage sea denial technologies seek to diminish the deterrent value of forward-deployed forces. This negatively impacts the assurances the United States provides to partners and allies. Distributed Lethality is an effective response to deny the prospect of any benefits sought by an adversary who chooses to leverage sea denial technologies. It also serves to influence an adversary's decision-making calculus and denies them the benefits they seek from choosing to use force on the seas as an extension of their national interests. Distributed Lethality spreads the playing field for our surface forces at sea, provides a more complex targeting problem, and creates more favorable conditions to project power where required.

Establish and Maintain Sea Control

The purpose of Distributed Lethality is to establish sea control and prevent an adversary from doing the same. The concept and organizing principles of Distributed Lethality deliver surface forces that are capable of controlling sea space at the time and place of our choosing. Surface forces outfitted with robust defensive systems and armed with credible surface launched stand-off weapons, survivable in both contested and communications degraded environments, will help to secure sea territory and enable forces to flow for follow-on power projection operations.

Sea control does not mean command of all the seas, all the time. Rather, it is the capability and capacity to impose localized control of the sea when and where it is required to enable other objectives and to hold it as long as necessary to accomplish those objectives. Surface forces can fulfill this crucial role, which is the necessary precondition to ensure sea lanes remain open for the free movement of goods and to safeguard the interests of the United States and partner nations.

Project National Power

Distributed Lethality provides the ability to apply all elements of seapower for deterrence, to respond to crises, aggression, or conflict, to build readiness to project power to deny or defeat aggression in multiple theaters, and to provide a robust ability to strike targets with surprise from the sea.

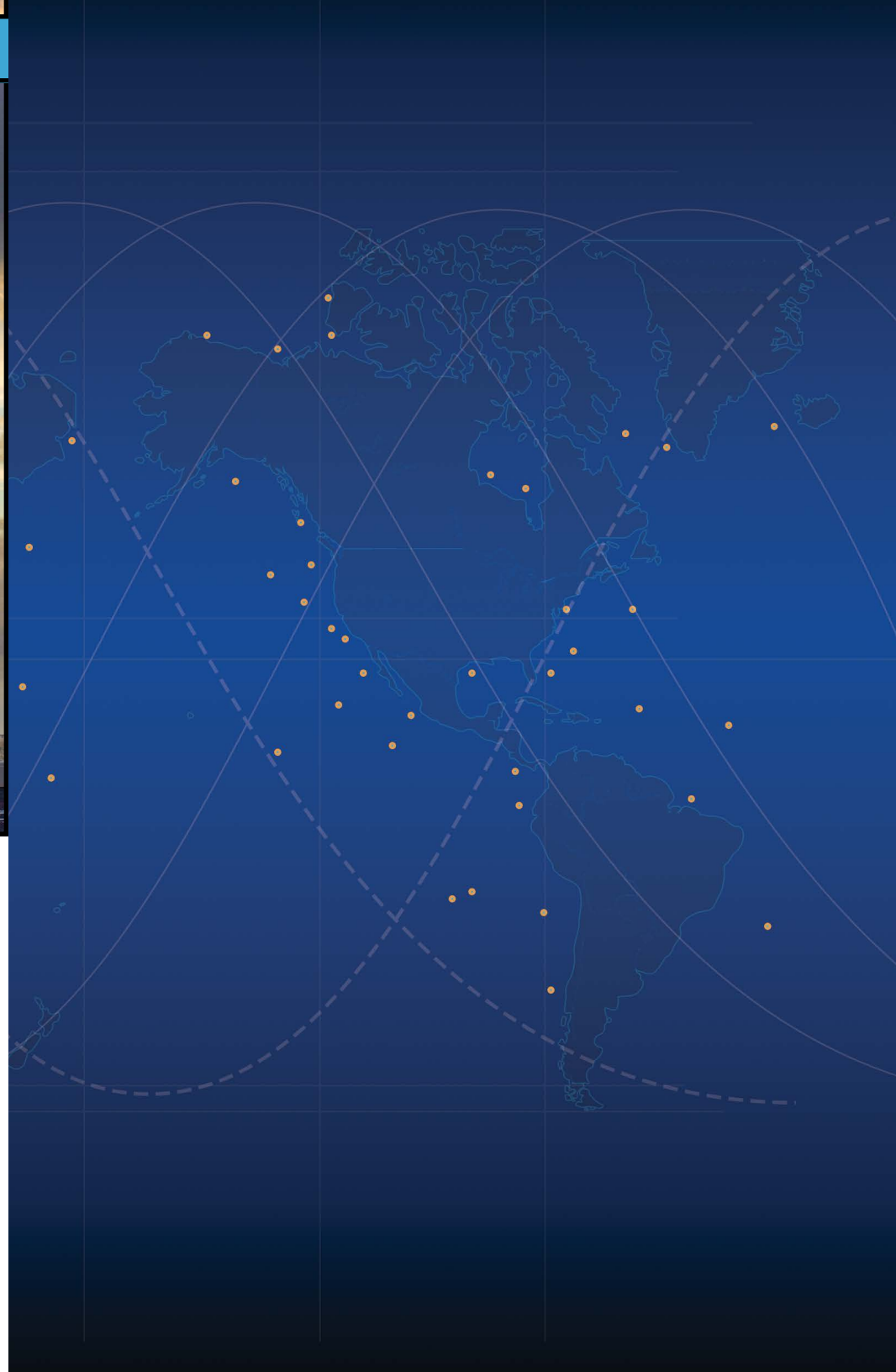


Surface forces provide our Nation with credible combat naval power at and from the sea in order to control the sea at the time and place of our choosing for the Joint Force to project power. We will do this by providing our warships with the tactics, talent, tools, and training to deceive, target and destroy enemy forces, and by instilling this warfighting ethos in the crews that fight our warships.



Distributed Lethality is changing our Fleet.

This strategy serves as our call to action to build, organize, train, and equip surface forces that can fight and win today, tomorrow, and beyond.





**IF IT FLOATS
IT FIGHTS**





U.S. NAVAL WAR COLLEGE
— *Est. 1884* —
NEWPORT, RHODE ISLAND