

# **Seapower in Stormy Seas:** The Future of American Naval Power in the 21st Century

Editors: Wallace C. Gregson and Matthew Reisener

#### Center for the National Interest

The Center for the National Interest is a nonpartisan public policy institution established by former President Richard Nixon in 1994. Its current programs focus on American defense and national security, energy and climate security, regional security in the Middle East, and U.S. relations with China, Japan, Europe, and Russia. The Center also publishes the bimonthly foreign affairs magazine *The National Interest*. The Center is supported by foundation, corporate and individual donors, as well as by an endowment.

Copyright 2020. Center for the National Interest. All Rights Reserved. Seapower in Stormy Seas: The Future of American Naval Power in the 21st Century Edited by Wallace C. Gregson and Matt Reisener Center for the National Interest 1025 Connecticut Ave, NW, Suite 1200 Washington, D.C. 20036 Phone: (202) 887-1000 E-mail: info@cftni.org www.cftni.org

Cover design by Gabriella Turrisi

TABLE OF CONTENTS

| INTRODUCTION: SEAPOWER FOR THE FUTURE  | 3  |
|--|----|
| THE RETURN OF GREAT POWER NAVAL RIVALRY  | 9  |
| AMERICAN MARITIME POWER AND THE FUTURE OF THE U.S. NAVY                                    | 12 |
| A NAVAL FORCE STRUCTURE FOR THE 21st CENTURY   | 15 |
| AIRCRAFT CARRIERS WON'T HELP AMERICA IN A GREAT<br>POWER WAR?                              | 19 |
| A SURFACE COMBATANT FOR THE 21st CENTURY<br>By Vice Admiral Doug Crowder, U.S. Navy (ret)  | 22 |
| THE THREAT IN THE INFORMATION DOMAIN<br>By Brigadier General Robert S. Spalding USAF (ret) | 29 |
| CONCLUSION: CHARTING A COURSE  | 36 |

### Introduction: Seapower for the Future

#### What function will the Navy perform in this era of massive technological change?

The Navy's decisions regarding force structure and ship design are the most complex and important force-development questions facing America's military. While the Navy plays a myriad of roles in support of America's national defense, its vessels remain its singular feature and the true measure of its value. Ships are large, complex, expensive, and enduring, and surface ships must be masters of warfare against enemies in the air, on land, on the sea surface, and undersea. Modern naval ships must also confront threats which exist in space, the cyber domain, the electromagnetic domain, and the information domain.

Naval ships are designed to face the challenges of their time with the hope that they will also meet the needs of the future. Naval ships often serve for decades, as the USS *Midway* (1945-1992) and USS *Blue Ridge* (1970-Present) have. No "time outs" are possible to ponder future developments in academic isolation. While many ships were conceived, designed, and commissioned under entirely different political and technological circumstances than those under which they currently operate, a ship's best ability remains availability, and ships are regularly tasked with filling roles radically different than those for which they were built.

America's ships are the backbone of its naval power, and the U.S. can ill afford to see it diminished. Separated by oceans from all potential great power rivals, America has long relied on the Navy as both its first line of defense and its primary means of establishing forward military presence across the globe. The Navy enables the American military to cross large distances quickly, granting it virtually limitless access to potential conflict hotspots and geographic areas of strategic importance. The Navy plays an essential role in the patrol and protection of the commons, and enables maritime commerce, which accounts for over 80% of global merchandise trade,1 to continue unabated. The Navy will be particularly important in solidifying America's longstanding security interests in Asia, a continent that is home to America's most likely great power rival in China and which is expected to collectively produce over 50% of global GDP by 2040.2

Still, there is a growing sense among both defense experts and naval personnel that America's aging fleet is increasingly ill-equipped to meet the challenges of 21st century naval warfare. The Trump administration's call to increase the size of the Navy's fleet to

<sup>&</sup>lt;sup>1</sup> United Nations Conference on Trade and Development, *Review of Maritime Transport 2015* (New York: United Nations, 2015), 22.

<sup>&</sup>lt;sup>2</sup> Oliver Tonby et al., Asia's Future Is Now (McKinsey Global Institute, July 2019),

https://www.mckinsey.com/~/media/McKinsey/Featured Insights/Asia Pacific/Asias future is now/Asias-future-is-now-final.ashx.

355 ships was hailed by many as a much-needed response to the breadth of new challenges facing America at sea. With China on track to expand its fleet size to 420 ships by 2035<sub>3</sub> while America's naval battle force lingers at 294 ships, this aim seemed as necessary as it was ambitious.

However, the Trump administration has done little to achieve the goal of a 355-ship fleet. The 2021 defense budget proposal requests only \$19.9 billion for naval shipbuilding, a noticeable decrease from the \$23.9 billion allocated for this purpose in 2020. While the directive to increase the fleet size remains very much in place, the 2021 defense budget will likely put that goal even farther from reach. As the Navy prepares to face several complex and important new trials, it is unclear whether it has a cohesive, achievable strategy for how its force structure will be able to meet them.

The Navy also faces many other challenges outside the realm of shipbuilding. America's national strategy is in flux as isolationist sentiments rise. Essential components of the international order that prevented another major power conflict after the Second World War have been diminished. Democracy's diminished popularity around the world, together with cyber, space, electromagnetic spectrum, and information war technologies, calls into question our fundamental assumptions about operating under, on, and over the seas. America's ability to operate effectively in contested areas of the Western Pacific, the Baltics, the Mediterranean, the Middle East, and elsewhere is openly questioned. America's allies hear these questions also and await answers.

Fortunately, both the Navy and the nation have been here before.

The battle for Okinawa (1 April–24 June 1945) saw over 1,000 U.S. Navy and allied ships engage Imperial Japan in the greatest air-land-sea battle in history. The Navy withstood Japan's last-ditch attempts to prolong the fighting, inflict decisive damage to America's fleet, and discourage invasion of the Japanese mainland. It was the pinnacle of naval power employed in support of U.S. policy goals, the last battle of a major maritime campaign across the length and breadth of the Pacific. The "strategic concept" of our naval forces—seizing control of the sea and the air above it and applying national power to the far shores—was well established, understood, and supported by the American public and its political leaders throughout years of war across two oceans.

But the fleet and its public support were not to endure. After the surrender ceremony aboard the USS Missouri in Tokyo Bay, precipitate redeployment and demobilization followed in an era when atomic—later nuclear—weapons were thought the only answer needed for our security. Amid resurgent isolationist sentiment, post-war fiscal cutbacks, major reorganization (or "unification") under a new Department of Defense, the drive for

<sup>&</sup>lt;sup>3</sup> David B. Larter, "As China Expands Navy, US Begins Stockpiling Ship-Killing Missiles," *Defense News*, 11 February 2020, https://www.defensenews.com/naval/2020/02/11/as-china-continues-rapid-naval-expansion-the-us-navy-begins-stockpiling-ship-killing-missiles.

a separate Air Force, and the emergence of nuclear weapons, armies and navies were considered obsolete. Army Air Corps General Carl Spaatz spoke for many in 1946 when he said, "Why should we have a Navy at all? There are no enemies for it to fight except apparently the Army Air Force."<sub>4</sub> Another general opined that "...You, the Navy, are not going to have anything but a couple of carriers, which are ineffective anyway, and they will probably be sunk in the first battle."<sub>5</sub> By the time that President Truman decided to intervene in support of the newly formed Republic of Korea in 1950, the Navy had been vastly reduced.

Yet the Korean War repudiated many post-war security assumptions and showed a world changed yet again. While America's ill-prepared occupation forces from Japan fought frantically to avoid a forcible ejection from the Asian mainland before additional troops could arrive, the Navy, exploiting its unchallenged command of the seas, became the foundation of America's successes and the salvation of all our disasters in the dynamic first year of the war. Meanwhile, a new form of conflict, limited war beneath the nuclear umbrella, was made manifest. Unconditional surrender was no longer a viable objective, forcing nations to reconsider their long-held strategic views for how to achieve victory in war.

The Navy was forced to change once again to meet these new realities of the post-war international system. Responding to the global communist threat, U.S. forces redeployed forward to Europe and Asia as the Cold War was joined in full. The Navy found a new role to ensure its enduring relevance: "forward presence." In time, the Navy also became an essential component of America's nuclear deterrence. In the coming decades, new technology would enhance ship defense and long-range precision fires, restoring the job of power projection against enemy shores to the surface fleet. America's new Maritime Strategy made naval forces central to the defense not only of Europe, but of every other contested area, largely due to these new capabilities. The Soviet Union responded to America's growing naval strength with a major building program, one that proved unaffordable and ultimately contributed to the Soviet collapse.

And then the world shifted once more, challenging the strategic concepts of the Cold War. The fall of the Berlin Wall signaled the beginning of the end of not only the Cold War and the U.S.S.R., but also of the organizing principle that had shaped the U.S. armed forces for nearly half a century. General Colin Powell, the Chairman of the Joint Chiefs of Staff when the wall came down, reportedly asked his Chairman's Staff Group, "What do we do now that we've lost our best enemy?"

The U.S.S.R. was a villain right out of Hollywood's central casting: a forceful advocate of a hostile ideology, a purveyor of a command economy, an enslaver and abuser of its

<sup>&</sup>lt;sup>4</sup> Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics* (New York: Columbia University Press, 1961), 368.

<sup>&</sup>lt;sup>5</sup> Ibid.

own and client-state populations, and the instigator of countless international crises. The Soviets were the compelling rationale for the strategic concepts governing America's foreign and defense policies, and drove the roles, missions, and composition of our armed forces and unified command strategies. Now all of that was gone. The overseas presence of America's armed forces was originally created to contain the Soviets. Without the U.S.S.R., did that presence still have a purpose, and if not, was there a peace dividend to be had by ending it? What organizing principle and strategic concept would shape America's armed forces and national defense?

American primacy soon emerged as the defining principle which guided its foreign and defense policies in the post-Cold War world. Prominent scholars and practitioners of foreign policy advocated for global U.S. leadership, deep and lasting international engagement, and a robust, active U.S. force presence to ensure deterrence, nurture political development, support economic growth, and foster prosperity worldwide. Without a clear rival to challenge it, America chose to maintain its global military presence to ensure the preservation of the new unipolar order. Perhaps no quote better encapsulates the rationale for this organizing principle than one from Joseph Nye's *Foreign Affairs* article "East Asian Security: The Case for Deep Engagement": "Security is like oxygen – you tend not to notice it until you begin to lose it, but once that occurs there is nothing else that you will think about."

This was a welcoming development for Department of the Navy. Organizational changes brought about by legislation such as the Goldwater-Nichols Defense Reform Act of 1986 and the recommendations of the Commission on the Roles and Missions of the Armed Forces ensured that unified commanders and the joint chiefs now held dominant influence over the force development process. The force requirements articulated by the unified commanders to implement America's deep global engagement provided strong underpinning for forward presence and force development, including surface combatants and the shipbuilding program. Instead of withdrawing from Europe and Asia, America set out to exploit its demonstrable sea and air control to reassure its allies and deter its potential enemies.

However, this post-war "unipolar moment" has come to an end, and today's challenge is fundamentally different. America's sea and air control are no longer unchallenged or undoubted. Technological advancements have produced new weapons which are both powerful and accurate from distance, while also empowering foreign powers to adopt advanced surveillance capabilities which grant them unprecedented access to intelligence data. While America's senior military officers and officials came of age in an era when the United States could project power ashore – or withdraw – at will, that era

<sup>&</sup>lt;sup>6</sup> Joseph S. Nye, "East Asian Security: The Case for Deep Engagement," *Foreign Affairs* 74, no.4 (July/August 1995): 91.

has reached its conclusion. In short, America's naval supremacy can no longer be taken for granted.

China's newfound ability to achieve sea control from land is particularly illustrative of the modern challenges threatening American naval primacy. China has established de facto control of the South China Sea from its newly created garrisons in the Spratly Islands, and potential foes would be hard-pressed to mount a challenge to these garrisons without facing threats from both Chinese naval ships and its mainland defenses. The Chinese navy is rapidly expanding its capabilities and strength and is backed by a massive cache of missiles dispersed across a major land mass. China's naval weapons outrange America's, and its navy operates under the cover of formidable anti-air and anti-surface missile arsenals. Admiral Nelson reportedly stated that "a ship's a fool to fight a fort," and China's surveillance capabilities coupled with its arsenal of weapons accurate at distance make China a particularly formidable "fort" which boasts unprecedented range and destructive power. Suffice to say, the days of America's unquestioned naval dominance in the South China Sea are over.

America's deterrence and reassurance capabilities rest on its ability to prevail in any given conflict remaining undoubted. But America now faces several challenges in addition to the Chinese threat which call these certainties into question, including Russia's annexation of Crimea and mounting pressure on Eastern Europe and the Baltic states, a nuclear North Korea, and declining support for democratic governance around the world. The Navy must once again be willing and able to adapt to the times to assuage any doubt about America's naval primacy and to preserve its importance. The Navy must develop and present a convincing case for "how, when, and where the [Navy] expects to protect the nation against some threat to its security,"<sup>7</sup> just as it did during the Cold War. Shipbuilding decisions that will live for decades must be based on the answers to this question.

Aware of this historical background and contemporary challenges, the Center for the National Interest convened a series of seminars to investigate and expand on the challenges facing our nation and its Navy today.

We started with a look at the return of great power competition, which was a major focus of America's most recent National Security Strategy and National Military Strategy. Our first seminar, "The Return of Great Power Naval Rivalry," featured Dr. Toshi Yoshihara and Dr. Dmitry Gorenburg, two world-class experts in the threats posed by the Chinese and Russian navies.

<sup>&</sup>lt;sup>7</sup> Samuel P. Huntington, "National Policy and the Transoceanic Navy," *United States Naval Institute Proceedings*, May 1954.

The second seminar examined the implications of great power naval conflict on America's industrial base. It featured Representative Randy Forbes (former Chairman of the Seapower and Power Projection Subcommittee of the House Armed Services Committee, and current Naval War College Fellow) and Mark F. Cancian (former senior Defense budget official and currently a senior adviser at the Center for Strategic and International Studies (CSIS).

A third seminar was ably chaired by Professor of Operations at the U.S. Naval War College Dr. Milan Vego and Captain Jerry Hendrix USN (retired), Vice President of the Telemus Group, a security consultancy. This discussion examined the proper balance among the various components of naval power: aviation, surface ships, amphibious ships, submarines, mine warfare, munitions stocks, logistic support ships, and others.

Every naval study since the 1940s has critically evaluated the roles, missions, capabilities, and vulnerabilities of the aircraft carrier and America's carrier-centric naval force. Our effort is no exception. In our last session, we gave full attention to controversial proposals by Dr. Thomas X. Hammes of the National War College. A retired Marine Colonel, Hammes is well known for his extensive writing on defense matters and his analytical capabilities regarding defense systems and strategies.

Two independent essays follow the discussions of our seminar observations. Vice Admiral Doug Crowder USN (retired), a surface warfare officer and a former Commander of the 7th Fleet, offers cogent thoughts on the changing demands of America's future surface combatants and other naval forces. His valuable contribution provides explicit guidance for consideration by ship designers and builders.

Brigadier General Robert Spalding USAF (retired), a veteran of long-range strike forces and a former National Security Council staff member, offers a sobering look at the effects that technology is likely to have on America's ability to protect its homeland long before its military forces are engaged. General Spalding reminds us that there is more to naval fleet construction than traditional air, land, and sea conventional forces, and that new thinking is urgently required to prepare for 21<sub>st</sub>-century naval combat. The emergent regimes of conflict, space, cyberspace, the electromagnetic spectrum, and the information space – the weaponization of social media – add to the complexity of conflict during times of both peace and war. If war is the extension of politics by other means, the weaponization of social media is the extension of warfare by other means, directly targeting the hearts and minds of our forces, serving officials, and citizens.

### The Return of Great Power Naval Rivalry

In December 2019, Russia, China, and Iran conducted four-day joint naval exercises in the Gulf of Oman. While Iran's presence in the drills dominated most of the surrounding media coverage, the exercises more importantly served as a reminder of Chinese and Russian ambitions to reemerge as naval powers capable of challenging American dominance of the high seas. Although America has long enjoyed its status as the unquestioned global naval power, a resurgence of great power competition at sea could threaten America's ability to use its navy to advance its geostrategic goals.

To discuss the rise of Chinese and Russian sea power, the Center for the National Interest asked two prominent naval warfare experts to interpret the challenges these resurgent navies might pose to the United States. China's growing naval capabilities were analyzed by Toshi Yoshihara (Senior Fellow at the Center for Strategic and Budgetary Assessments and the former John A. van Beuren Chair of Asia-Pacific Studies at the U.S. Naval War College), while Dmitry Gorenburg (Senior Research Scientist with the Center for Naval Analyses and an Associate of the Davis Center for Russian and Eurasian Studies at Harvard University) discussed the modernization of the Russian navy.

Yoshihara views China's ascendant naval power as an extension of its goal to become a coequal power with the United States. Naval power is essential to achieving Xi Jinping's "China Dream," an overarching ambition for China to emerge as the epicenter of regional politics in East Asia. China views naval power as a vital means to achieve its most important geopolitical goals, including an eventual unification with Taiwan and the protection of its global trade initiatives such as One Belt One Road.

To achieve Xi's "China Dream," China must supplant American power and influence in East Asia and emerge as a regional hegemon. China's navy has therefore committed to the principle of "active defense," which Yoshihara defines as "the use of offensive operations and tactics to defend China's strategically defensive goals" and which is triggered only when deterrence measures fail. Through active defense, China seeks to project a defensive perimeter as far from the homeland as possible to keep China's core interests safe from outside threats who possess "expeditionary forces armed with longrange precision-strike weaponry that can threaten targets deep inside the Chinese homeland" (read: the United States).

China's active defense strategy is heavily informed by its history. Many Chinese admirals concluded that their country's weakness at sea is what allowed China to come under the thumb of foreign nations during its "century of humiliation." Accordingly, China seeks to extend its defensive perimeter as far from the homeland as possible to right what it feels is an "historic wrong" and keep their enemies at bay. Since the base of China's power has shifted to the coast, the Chinese can no longer rely on the long-held Maoist theory of luring the enemy deep into Chinese territory before striking, forcing China to concentrate on forward defense.

China's active defense strategy takes a missile-centric approach to protecting its defensive perimeter. China now possesses the capacity to out-range the United States in the East Asian theater and could damage the U.S. Navy by launching strikes from the mainland. Yoshihara noted that "Chinese strategists have discerned the character of future naval combat," and that it will be, "extremely intense, extremely lethal, and very fast." Accordingly, China would seek a decisive victory through a barrage of long-range precision munitions designed to incapacitate its opponent as quickly as possible.

The Russian navy also poses a renewed challenge to the United States. Gorenburg argues that, while Russia is primarily a land power, its navy plays a supporting role by working with ground and air forces to bolster Russia's coastal defense and using seadenial and anti-access/aerial denial strategies to create maritime zones which cannot be penetrated by enemy militaries. Gorenburg stated that Russia's military is prepared to deploy "a combination of long-ranged sea, air, and ground-launched missiles to deny access for enemy forces," which, when paired with coastal air defense systems, create a "series of layered defenses" that enable Russia to protect its territory.

Russia's navy remains primarily focused on strategic deterrence, the crux of which is built around their fleet of ballistic missile submarines. Russia has relied heavily on its SSBNs since the days of the Soviet Union and has slowly begun to modernize its submarines to increase their capacity to threaten surface combatants. Russia has also worked to establish a credible conventional deterrent using long-range cruise missiles, which are difficult to counter when mounted on small, easily replaceable ships. Accordingly, Gorenburg assessed that Russia is emerging as a regional naval threat that is increasingly capable of targeting U.S. allies and NATO assets.

Yoshihara and Gorenburg also outlined a series of concerns associated with the resurgence of Chinese and Russian naval capabilities. One such concern derives from a misunderstanding about what actions might trigger China's active defense. The United States would not have to launch a military strike against China to stir its active defense; China might instead initiate such countermeasures if it feels it has been attacked strategically or politically. Yoshihara hypothesized that a political action that threatened China's core interests, such as a referendum on Taiwan's independence, might elicit a military response from China. Yoshihara noted that the United States must seriously ask, "how China will respond to our risk-taking in this era of great power competition," as fear that any action might trigger China's active defense could incentivize excessive passivity on America's part.

Furthermore, Yoshihara expressed the concern that China might buy too heavily into its own narrative regarding its precision capabilities, and that China might fire on an opponent expecting its quick-strike capabilities to produce a decisive victory only to find itself caught in a protracted conflict. Accordingly, the United States must convince China that it cannot achieve a swift victory as an essential part of America's deterrence posture. Finally, Gorenburg warned against taking actions that might push Russia and China closer together, noting that, given America's fraught relationship with Russia, it would behoove Washington to avoid further alienating Beijing and incentivizing it to move even closer to Moscow.

The ascendant Chinese and Russian navies do not necessarily portend America's loss of broader preeminence at sea, however. Gorenburg noted that Russia remains a coastal defense and deterrence navy with no realistic hopes of power projection beyond its immediate region, particularly as its modernization efforts stall and its aging Sovietera blue water ships continue to degrade. Meanwhile, Yoshihara observed that China has several significant demographic and hidden debt bills which will come due in the coming decades, and that "we have to stay competitive in the intervening years" in order for the trajectory of relative naval power to bend in America's favor. Yoshihara recommends "distributed lethality" (enhancing the offensive capability of a diverse set of surface vessels, effectively spreading a fleet's combat power over a wider range) as a potential strategy to combat China's rising naval power during this period.

Still, the growth of Chinese and Russian naval power sends a clear signal that the threat of great power naval competition has once again returned. The United States must be deft in how it handles these rising powers and give serious consideration to how to best construct a navy fit to meet these new challenges.

### American Maritime Power and the Future of the U.S. Navy

The U.S. Navy has enjoyed unrivaled leadership for decades, but several budgetary hurdles and threats from rising naval adversaries now threaten this dominance. The Navy faces mounting pressure to compose a coherent strategy that addresses these challenges while also preserving its diverse and important roles both in and out of combat. How can the Navy prepare to fight a potential great power conflict while also keeping up the daily peacekeeping responsibilities associated with its global presence and great power status, all on a limited budget? To discuss this challenge, the Center for the National Interest hosted an event with two naval experts, former Congressman Randy Forbes (R-VA) and Colonel Mark Cancian, moderated by Lieutenant General Wallace C. Gregson.

According to Forbes, maritime power is essential to protecting America's vital national interests. To quote Forbes: "So goes the Navy in the next decade, maybe two decades, so goes the national defense." Forbes noted that "over 95% of international financial transactions do not transmit through satellite or cyberspace, but rather through underwater cable" that is protected from hacking solely by the Navy. Additionally, a strong navy not only signals America's military prowess and readiness to its allies, but also helps to uphold international trade and the global rule of law through operations such as freedom of navigation exercises. American allies are not only concerned about protection and freedom of passage on the seas, but also look to U.S. force structure and shipbuilding for guidance on their own naval strategies, as well as for assurances of America's commitment to their safety.

However, rising challenges from Russia and China may force the U.S. Navy to once again concentrate primarily on combat readiness. The 2018 National Defense Strategy placed a greater emphasis on these resurgent naval threats, shifting the focus away from the Navy's day-to-day operations and more towards preparation for a great power conflict.

This shift in naval strategy has already impacted America's shipbuilding operations in a profound way. Cancian observed an increased focus on the production of long-range precision munitions, new submarines, and unpiloted vehicles which can supplement more traditional piloted capabilities, all of which could help America to better meet the Chinese and Russian threats. Additionally, a strategy focused on great power competition de-emphasizes the use of carriers, which are increasingly considered too costly and vulnerable to thrive in great power naval conflicts, even if they still perform important functions in other realms.

However, the Navy is unable to fully commit its force structure and shipbuilding capacities towards addressing the Russian and Chinese threats. While the 2018 National Defense Strategy dictates a shift towards preparing for great power conflict,

local commanders, the president, and the secretary of defense continue to push the Navy towards forward response, humanitarian engagement, and involvement in localized conflicts. These competing mandates not only create serious strategic tension, but also demand a Navy large enough to account for America's national strategy and the Navy's overarching mission of preserving global order, which could create real problems if the budget is ever squeezed.

America's proposed Fiscal Year 2021 Presidential Budget reveals exactly how fiscal constraints affect naval strategy. President Trump's new budget submission proposes a 20% decrease to the shipbuilding budget, imperiling the Navy's stated goal of a 355-ship fleet and inevitably forcing a reconsideration of its force structure strategy.<sup>1</sup> Current budget projections now estimate that the Navy's size will grow to only 306 ships from the current 294 by the end of 2021.<sup>2</sup> While the difference between a 355 and 306-ship fleet may seem minor in the abstract, a gap of that size severely limits the Navy's ability to protect against the full array of global threats, preventing America from adequately defending critical areas and limiting its deterrence capabilities. A naval fleet of 355 ships is not a superfluous request, Forbes argued, but rather the bare minimum required to meet America's defense needs, particularly if the Navy intends to prepare for a great power conflict without sacrificing its day-to-day operations.

As the Navy seeks to allocate limited funds to its virtually unlimited demands, questions of shipbuilding, budget, and force structure become paramount. The Navy's shipbuilding efforts must balance the needs of today against the requirements of tomorrow, making bets on the operational effectiveness of infant technology as well as the potential scenarios in which it might be deployed. The Navy must also factor in significant costs associated with keeping ships manned, trained, and maintained. Forbes and Cancian argued that one way to reduce costs could be to collaborate more closely with America's allies in the shipbuilding process, particularly since many of these allies have significant experience building the types of smaller, faster ships which the Navy may require in a future great-power conflict. Ultimately, not only does the Navy require a strategy that accounts for realistic budgetary considerations but must also work to convince the public that a larger budget is needed to pursue the optimal strategy for America's defense.

How can the Navy accomplish this goal? Forbes stressed the need for the Navy to more adequately communicate a comprehensive strategy that explains to lawmakers, the Office and Management and Budget, and the general public the risks associated with

<sup>&</sup>lt;sup>1</sup> David B. Larter, "Esper Backs a Bigger Navy Fleet, but Moves to Cut Shipbuilding by 20 Percent," *Defense News*, 10 February 2020, https://www.defensenews.com/naval/2020/02/10/355-as-secdef-backs-a-bigger-fleet-dod-moves-to-cut-shipbuilding-by-20-percent.

<sup>&</sup>lt;sup>2</sup> "Department of the Navy FY 2021 President's Budget," *Navy Live: The Official Blog of the U.S. Navy*, U.S. Navy Office of Information, 10 February 2020, https://navylive.dodlive.mil/2020/02/10/department-of-the-navy-fy-2021-presidents-budget.

making budget cuts that reduce the size of the fleet. Each of these audiences view the defense budget through the lens of its own interests, meaning the Navy must convince them that its guiding strategy is essential for America's national defense and requires a budget that allows that strategy to be fully implemented. The Navy must also engage in greater introspection about its own strategies regarding force structure and shipbuilding if it hopes to make them palatable to the public. Forbes contends we now face a new "paradigm of strategy" in a world in which threats can emerge from previously unthreatening spheres, such as the cyber domain. The Navy's strategy must account for such considerations and convince the public to take them seriously as well.

During his time on the Armed Services Committee and Subcommittee on Readiness, Forbes observed widespread agreement among top defense experts that a lack of strategic thinking was the single-greatest threat to America. If American naval preeminence is to endure in the face of new multi-faceted threats, the U.S. must employ new methods of strategic thinking, as shipbuilding capabilities alone are insufficient to meet them.

For example, Cancian noted that Russia and China are increasingly equipped to create anti-access, aerial denial "bubbles" around their borders heavily bolstered by undersea capabilities. Cancian suggested that the Navy must rely more on smaller, faster ships to counter this through a strategy of "distributed lethality," which relies on maximizing the number of survivable naval platforms, often at the expense of traditional forms of naval power projection such as aircraft carriers. Smaller ships would also be useful in littoral skirmishes and operations such as counter-piracy, while further helping to navigate serious resource constraints since they are substantially less expensive to build than larger vessels. The Navy has long benefited from a robust "culture of strategy" which has guided America's tactics on the high seas, and this culture must endure as the U.S. seeks to adapt to new rising threats.

Although the Navy faces daunting challenges, Forbes and Cancian remain optimistic regarding its current capacity to counter rising naval powers. Russia and China may have improved their naval prowess, but still lag significantly behind American forces and they still lack the trained personnel to fully optimize their equipment. Yet if America hopes to keep this advantage over its potential adversaries, the Navy must strike the correct balance between the capabilities required to fulfill its essential mandates and the budgetary constraints that restrict its pursuit of these aims. This requires effective strategists who can quickly adapt to changing situations in order to retain the Navy's great power status in the future, deter its adversaries around the world, and sustain its command of the seas. If America's naval pre-eminence is to endure, its ship-building and strategic planning must be the driving forces propelling the Navy through the 21 st century.

### A Naval Force Structure for the 21st Century

In December 2016, the U.S. Navy released its latest Force Structure Assessment (FSA), which called for expanding the fleet to 355 ships. A new FSA, announced for spring 2020, may well set a more ambitious target. The Navy hopes to reverse the trend of the post-Cold War period, when flat budgets and a preference for large, expensive ships allowed the fleet to shrink from 565 ships in 1988 to just 271 in 2015. This downward trend—based on the flawed assumption that the U.S. could continue its command of the seas indefinitely—is no longer tenable in the face of rising great power competition. Today, China seeks sovereignty over the South China and East China seas, while Russia continues to expand its activity in the Baltic and Black seas. The Center for the National Interest hosted two leading naval experts to discuss steps the U.S. Navy can take to expand and rebalance the composition of its fleet to meet these future challenges.

Milan Vego, Professor of Operations at the U.S. Naval War College, attributes the Navy's present dilemma to its "obsession with tactics and weapons" and its lack of broader strategic thinking. "For decades, the focus of the Navy was always on carrier strike groups and expeditionary strike groups, which are tactics," he contends. Instead, the focus should have been on the employment of the numbered and area fleets (e.g. Seventh Fleet; Pacific Fleet). Today, there is a, "neglect of operational art," and naval/maritime strategy cannot be successfully executed without sound doctrine for operational level of war at sea. Such a doctrine must be based not only on the new technologies but also operational art. Having failed to build its fleet around strategic imperatives, the Navy instead focused on tactical minutiae and now finds itself poorly equipped to handle rising competition from China in the Pacific. Vego draws parallels between the U.S. Navy's current situation and that of the Imperial Japanese Navy during World War II: "tactically very proficient, great ships," he explained, "but a lack of operational art and strategic thinking."

Such myopia has allowed the Navy to entrench itself in an offensive position while neglecting its own defense, a situation with far-reaching implications for naval force structure. If Chinese and Russian forces, "combined in the Western Pacific," Vego argued, the Navy would almost certainly find itself on the strategic defensive. Another problem is that the U.S. Navy's current and projected battle force structure—composed primarily of large surface combatants—is ill-suited to operate across the full spectrum of warfare, from sea control (offense) to sea denial (defense). Vego maintains that "thinking about what sorts of ships you have, what number of ships you have...it's all based on whether you are going to conduct sea control or sea denial." Fulfilling this range of operations requires that the Navy have a more balanced battle force—composed of not only large and highly-capable but high-cost surface combatants and nuclear-powered submarines, but also includes a large number of less-capable but less-

costly destroyers, frigates, multi-purpose corvettes, smaller amphibious ships, and advanced conventionally-powered attack submarines (SSKs).

Jerry Hendrix, a retired U.S. Navy captain and vice president at the Telemus Group, echoed Vego's call to rebalance the fleet. The present force structure, he argued, is "top-heavy in its emphasis on carriers, cruisers and destroyers, and lacks the range in either its air or surface forces to perform sea control, sea denial or power projection." This problem first emerged in the 1990s when the Navy, triumphant from its Cold War victory, allowed its once-balanced fleet to dwindle in number. Since then, frigates have disappeared entirely. Underlying the Navy's decision, Hendrix argued, was the mistaken belief that, in a crisis, the U.S. could simply "turn the spigot back on."

Today's Navy requires significantly more ships. According to Vego, it can no longer focus only on its blue-water fleet. Many wartime missions, such as maintaining sea control, naval/commercial blockades, and the defense & protection of maritime trade, require employment of a larger number of diverse surface combatants and SSKs. Hendrix places special emphasis on frigates, arguing that the Navy should invest in as many as 75 new hulls. This new mix of high and low-end ships is needed to reestablish conventional deterrence. The maintenance of sea control in littoral zones, for example, will require a host of new platforms—from light frigates and multi-mission corvettes to SSKs (conventional attack submarines). "A war in the littorals," Vego added, "is a war we will fight in any war with any major power competitors."

The Navy's biggest obstacle in this buildup may well be time. Navy planners "will not have a time like in World War II," Vego explained, "where we had time to mobilize our industrial base and build the ships." The development and construction of new ship designs is both a cost-prohibitive and time-consuming process. Vego suggests the Navy can support its buildup by purchasing existing platforms from NATO allies and other friendly countries. These would include frigates and conventional submarines from countries like Germany, Italy, France and Sweden.

The growing influence of China and Russia in their respective spheres presents its own unique challenge for the Navy. Both countries have acquired new anti-access/area denial weapons, Hendrix noted, which have allowed them to, "establish sea control from land" and push U.S. forces ever farther from their shores. The simultaneous stagnation, and even shrinkage, of U.S. weapon ranges has only exacerbated this problem. The U.S. continues to employ many of the same missiles it developed in the 1980s—including the Tomahawk and the HARM—and the range of these weapons has not improved. The carrier air wing has also retired many of its longer-range aircraft like the A-3 Skywarrior, the A-6 Intruder, the F-14 Tomcat, and the S-3 Viking. The unrefueled range of the air wing has shrunk, consequently, "from 900 miles to just under 500 nautical miles." The net result of these developments, Hendrix argued, is a severe limitation on the Navy's ability to strike at the Chinese and Russian mainland. This

situation could lead to a long, drawn-out war and incur devastating economic costs on both sides.

According to Hendrix, the Navy must reestablish effective conventional deterrence to preserve the peace in this new era of great power competition. This means not only balancing the fleet, but also investing in new weapons like hypersonic missiles, which promise to extend the Navy's weapon ranges and project power once more into the Chinese and Russian mainlands. Additional investments in future unmanned vessels offer to "cheaply supplement" existing platforms.

Despite the urgency of these proposals, stubborn resistance from elements in the Navy and in Washington remain likely. The Navy's culture remains guided by tribal loyalties which make it naturally resistant to change. The solution, Hendrix argued, will require decisive action on the part of the Navy's civilian leadership who are "best placed to drive innovation and change through the entrenched bureaucracy." But resistance to change is not limited to the military. As the recent debate (discussed later in this publication) over plans to retire the USS Harry S. Truman demonstrates, any proposal that balances the fleet with smaller ships will face opposition in Washington. Despite its growing obsolescence, the aircraft carrier simply remains the most potent symbol of American military might.

A potentially insurmountable hurdle remains budgetary constraints. Then-Acting Navy Secretary Thomas Modly insisted<sup>1</sup> the proposed cuts to the Navy's shipbuilding budget (from \$24 billion to \$19.9 billion) merely represent a transition to smaller, cheaper vessels and unmanned systems. However, some experts maintain that with a flat budget and a litany of upcoming modernization bills, the Navy will be hard-pressed to finance this new construction effort. More ships require more money. Hendrix noted that today's military budget only accounts for four percent of U.S. GDP. Historically, the U.S. has spent as much as eight percent of GDP on its military, which would amount to \$1.5 trillion today. Such a budget is still highly unlikely, and Vego argued that Navy planners should first focus on strategy and operational art rather than fiscal realities (as it is the case today). The next step is to determine the size and type of forces the U.S. Navy would need to execute its maritime strategy. These force requirements must be based on the probable missions by the numbered/area fleets in time of war; and these, in turn, are derived from operational art (e.g. sea control and/or sea denial and main methods of obtaining/maintaining or disputing control of the sea).

The new Integrated Naval Force Structure Assessment (INFSA) announced for spring 2020 is expected to expand the fleet and take new steps toward reestablishing balance

<sup>&</sup>lt;sup>1</sup> Paul McLeary, "Navy Proposes Big Budget Cuts; Rep. Courtney Says It's DOA," *Breaking Defense*, 11 February 2020, https://breakingdefense.com/2020/02/navy-proposes-big-budget-cuts-rep-congressman-says-its-dead-on-arrival.

beginning in FY 2022. Then-Acting Secretary Modly publicly stated<sup>2</sup> his intention to reach the 355-ship goal in ten years, by 2030. The INFSA will also establish closer cooperation between the Navy and the Marine Corps and make new investments in unmanned surface and subsurface vessels currently under development. Marine General David H. Berger argues<sup>3</sup> that smaller, more affordable ships like these will allow the Navy to balance and enlarge its fleet to effectively match peer adversaries. Such changes may prove critical in protecting maritime trade, preserving peace and defending the liberal international order in this new era of great power competition.

The shipbuilding cuts announced in the Pentagon's FY 2021 budget now cast doubt upon these bold plans. The future success of the INFSA will ultimately depend on whether the Navy continues its fiscal belt-tightening in the years to come.

<sup>&</sup>lt;sup>2</sup> Matthew Cox, "Acting Navy Secretary Hints at Naval Force Larger Than 355 Ships," *Military.com*, 9 December 2019, https://www.military.com/daily-news/2019/12/09/acting-navy-secretary-hints-naval-force-larger-355-ships.html.

<sup>&</sup>lt;sup>3</sup> Megan Eckstein, "Navy, Marines Rethinking How to Build Future Fleet with Unmanned, Expeditionary Ships," USNI News, 26 September 2019, https://news.usni.org/2019/09/26/navy-marines-rethinking-how-to-build-future-fleet-with-unmanned-expeditionary-ships.

# Aircraft Carriers Won't Help America in a Great-Power War?1

Former President Bill Clinton remarked in 1993 that "when word of a crisis breaks out in Washington, it's no accident that the first question that comes to everyone's lips is: 'where's the nearest carrier?'" President Clinton's sentiment still rings true today. Not only did the United States recently dispatch the USS Abraham Lincoln Carrier Battle Group near the Persian Gulf in an attempt to deter perceived Iranian aggression, but this spring President Donald Trump overruled the U.S. Department of Defense's costsaving proposal to forgo refueling the nuclear reactor of the USS Harry S. Truman. Washington has long viewed aircraft carriers as the crown jewel of American naval power and has shown little willingness to deviate from this position in recent years.

There are, however, some naval experts who would push back against the Washington establishment's pro-carrier sentiments. One such expert is Dr. T.X. Hammes, a retired Marine Corps colonel and a Distinguished Research Fellow at the National Defense University's Institute for National Strategic Studies. Hammes is a strong advocate for an innovative, if not controversial, proposal to shift the focus of the U.S. Navy from its aircraft carriers to a large armada of missile-armed ships, including merchant vessels, which are better equipped to handle the challenges of modern naval warfare.

According to Hammes, the Navy must confront several major structural challenges in the coming years. In addition to a general shortage of ships, the current fleet also suffers from a dearth of the vessels needed to adapt to the rapidly changing character of naval combat. America's ships increasingly suffer from the same range obsolescence that afflicted armored knights during the Middle Ages. While knights were well-equipped to dispatch any crossbowman they closely encountered on the field of battle, the knights' limited range forced them to get close to their opponent before inflicting any damage. This gave less powerful, but longer-ranged combatants—e.g., those armed with crossbows—an eventually insurmountable advantage.

Just as the battleship became obsolete once it was outranged by the aircraft carrier, so too does the carrier face range obsolescence in the age of the missile. Ballistic missiles, particularly China's DF-26, can easily outrange America's carrier fleet. An American carrier airwing has a current strike range of only 450 nautical miles with hopes to expand that range to 800 miles once the MQ-25 Stingray tanker is fully

<sup>&</sup>lt;sup>1</sup> A version of this chapter was originally published accordingly in *The National Interest*: Matthew Reisener, "Aircraft Carriers Won't Help America in a Great-Power War?" *The National Interest*, 23 July 2019, https://nationalinterest.org/feature/aircraft-carriers-wont-help-america-great-power-war-63537.

fielded,<sup>2</sup> and Hammes' presentation indicated that the F-35 carrier variant's range capabilities compared quite unfavorably to an array of drones, cruise missiles, and ballistic missiles.

Not only are America's aircraft carriers increasingly within range of missile attacks, but the continued development of hypervelocity missile technology carries what Hammes called, "one-shot, one-kill," implications for America's ships – that is, the lethality of these modern missiles greatly increases the likelihood that direct hits on targeted carriers will lead to their destruction. The U.S. Navy's large, vulnerable, and extremely expensive supercarriers are likely to become immediate casualties should this technology be deployed against them in future conflicts.

Hammes' solution, therefore, is to phase out America's carriers and replace them with a large fleet of small, inexpensive missile-armed merchant ships. Outfitting former merchant ships with missile launchers would be a substantial cost savings for the Navy: \$5 billion would be enough to create forty missile merchant ships supplied with between 1600-2000 missiles, requiring only 1600 sailors to crew them. According to Hammes, these merchant vessels, whether they be tankers or container ships, are more expendable, tougher, and have a lower profile than aircraft carriers or other surface ships. Abandoning the carriers for a smaller, more mobile fleet would not only increase the Navy's capacity to flexibly respond to myriad crises as sea, but would also free up significant capital that could be dedicated to the remainder of the Navy's diverse needs, allowing the Navy to better prepare itself for all domains of modern warfare as well as peacetime presence and deterrence duties.

Hammes also argued that his proposal would increase the Navy's capacity to rapidly mobilize in the event of a crisis. If container ships are used en masse, commercial sailors could be added as members of the Navy Reserve, while ships could be quickly outfitted with missile technology and deployed to the field when needed. Should the United States engage another great power in a full-on naval conflict, Hammes observed that the winning side would likely be the one that could replace its missiles and ships more quickly. A U.S. Navy increasingly structured around cheap, missile merchants that are supported by a robust naval reserve and armed with easily manufactured missiles would have a significant advantage should such a conflict come to pass.

Hammes' proposal has its critics, however. They contend that aircraft carriers have many strengths that would be difficult for a merchant marine fleet to replace. Carriers provide repetitive strike capability against onshore targets, meaningfully support American airpower, are relatively easy to upgrade with new advanced weapons

<sup>&</sup>lt;sup>2</sup> Sam LaGrone, "MQ-25 Stingray Unmanned Aerial Tanker Could Almost Double Strike Range of U.S. Carrier Air Wing," *USNI News*, 1 September 2017, https://news.usni.org/2017/08/31/mq-25-stingray-unmanned-aerial-tanker-almost-double-strike-range-u-s-carrier-air-wing.

systems, and, despite some vulnerabilities, due to their mobility carriers are arguably more survivable than permanent land bases. Additionally, as noted during the discussion, aircraft carriers are culturally significant within the Navy and politically popular outside it. A proposal to ultimately abandon them would likely receive serious pushback.

Hammes, however, is not in favor of scrapping America's carriers right away, and instead advocates continuing to use the current carriers until they are retired (the Navy will still have seven carriers in use until 2050 and four scheduled for retirement as late as 2070). Still, Hammes stands by his analysis of the carriers' vulnerability, noting their inability to effectively counter swarm tactics, their diminishing value as a military deterrent, and the difficulty of safely repairing a nuclear-powered aircraft carrier anywhere near major ports should one ever take any serious damage. Hammes acknowledged the cultural pushback this proposal would likely receive (particularly from naval aviators), but also characterized this transition as a natural response to the realities of America's defense budget and the demands of modern naval warfare.

Hammes also answered questions about whether constructing what one participant labeled a "war navy" built around the concept of rapid mass-mobilization of merchant vessels might be viewed as a threat by geopolitical rivals such as China, forcing them to follow suit. To Hammes, however, China is already assembling a navy designed specifically for combat against the United States. If America is to successfully deter naval conflict with China, it must convince Beijing that military engagement will force the Chinese navy to take significant damage. While it is impossible to fully predict what form future naval conflicts may take, Hammes believes his vision of a remade U.S. Navy is far better equipped to deter China than the fleet as currently configured.

The U.S. Navy has not fought a major naval conflict in over seventy years yet must now grapple with difficult choices as it considers how to adapt to meet the growing budgetary constraints and the new challenges of modern naval warfare. While understandably controversial, Hammes' proposal merits real consideration by the Navy's uniformed and civilian leadership and is, if nothing else, representative of the type of innovative thinking necessary to help preserve American naval dominance in the decades to come.

# A Surface Combatant for the 21st Century

Vice Admiral Doug Crowder, U.S. Navy (ret)

"The willingness of rivals to abandon aggression will depend on their perception of U.S. strength." 2018 U.S. National Defense Strategy

As the Navy looks to expand and update its fleet in the coming decades, it must consider several difficult questions which will influence the design of the next generation of surface combatants. In this essay, I offer my outline of the ideal next-generation surface combatant, which is informed by my long career as a naval officer. 2

While the Navy's new surface combatants must be outfitted to fulfill several diverse functions, it is essential that they meet the needs of its Pacific Fleet, whose work is vitally important to America's security interests. The Pacific Fleet's Area of Responsibility (AOR) is home to the world's five largest militaries (China, Russia, North Korea, the Republic of Korea, and India), and the United States is party to five major mutual defense agreements/treaties with countries inside it (Japan, Korea, Australia, Thailand, and the Philippines). Furthermore, the sheer size of the Pacific Fleet's AOR makes the task of securing it nigh impossible under the best of circumstances. Given the Pacific Ocean's size and importance to the United States, the Navy must take care to ensure that its surface combatants are optimally constructed and outfitted to meet the unique needs of the fleet that protects it.

Let me start by putting the sheer size of the Pacific AOR in perspective:

- The Asia-Pacific area is enormous. A San Diego-based ship must sail nearly 9,000
  miles to get to Singapore—and the U.S. 7th Fleet AOR extends some 3,000 miles
  beyond Singapore into the Indian Ocean. In contrast, a Norfolk, Virginia-based ship is a
  mere 4,000 miles from the Strait of Gibraltar.
- On the north-south axis, the AOR runs from the North Pole to Antarctica, some 8,500+ miles.

<sup>&</sup>lt;sup>1</sup> U.S. Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge* (2018), 5.

<sup>&</sup>lt;sup>2</sup> For context, I spent a considerable part of my adult life stationed in the Asia Pacific, which included four sea tours and command of the U.S. 7th Fleet. Additionally, I served as Executive Assistant to the Pacific Fleet commander just as the United States military began to seriously contemplate potential operations versus the People's Republic of China (PRC) in a cross-Taiwan Strait scenario. In the Pentagon, I spent years on strategy and planning assignments, frequently focused on this area's security challenges. At sea, I was a Surface Warfare Officer, assigned primarily in the cruiser and destroyer navy.

- In total, the Pacific Fleet commander's AOR is around 100 MILLION square miles—one half of the world's surface.
- The 7th Fleet AOR alone includes 36 maritime nations and 50% of the world's population.

The Pacific Fleet's surface ships therefore need to be able to travel long distances, but also cross harsh waters. The Pacific may have been named *Mar Pacifico* ("peaceful sea") after explorer Ferdinand Magellan experienced favorable winds upon first reaching it, but traversing the ocean is rarely a peaceful experience. It is not a good bet to think one could sail from San Diego to Yokosuka, Japan without encountering storms, strong winds and heavy seas. The Pacific Ocean typhoon season runs each year from June to November, though some sources say March to December. From 1965 to 2018, the Pacific Ocean annually averaged nine intense thunderstorms, 26 tropical storms (39-54 mph winds) and 16 typhoons (74+ mph winds). As one might expect, sea states rise quickly and for great distances during these weather events.

The size and volatility of the Pacific Ocean dictates that ship designers emphasize endurance over speed. Surface ships must travel great distances in the Asia-Pacific region and stay "on station" for long periods without frequent refueling. Endurance becomes a crucial factor in times of heightened tensions or war. First, U.S. replenishment ships are a finite capacity and already stretched thin in peacetime. As tensions rise, unescorted replenishment ships traveling great distances make potentially easy prey. Re-tasking already insufficient and over-burdened surface combatants for escort duty is counterproductive to sea control efforts within a carrier strike group or other critical maritime missions. Additionally, traditional "friendly" ports with refueling facilities may (pardon the pun) dry up in times of conflict, and access will by no means be guaranteed. These factors argue for a much larger ship than the current Freedomclass Littoral Combat Ship (LCS), which measures at 3,900 tons and 378 feet long with an endurance of just 3,500 nautical miles—or around 21 days. Weather and sea state factors also argue for larger displacement ships with much better inherent sea-keeping capability.

Ship designers must also choose between focusing on ships with blue water (open ocean) and high-end warfighting capability versus green water operations in the littoral—including peace time operations with other navies and such events as humanitarian assistance/disaster relief (HA/DR) operations. Ship designers should concentrate on high-end warfighting missions, as there are simply not enough U.S. Navy surface combatants to operate at both ends of this design spectrum. It is far more prudent to tailor the design for the high-end fight, and perhaps to sub-optimize it in lower-end missions, than to do the opposite, where ships such as the current LCS bring little to the fight. Meanwhile, carrier strike groups, with assigned cruisers and destroyers, always find the way to successfully accomplish missions such as HA/DR—

the 2004-05 Asian Boxing Day Tsunami operation in Indonesia is a good example even though their designs are not optimized in that realm.

Additionally, key allies must strive to bring real warfighting capability to their navies. The evolution of AEGIS ships in both the ROK Navy and Japan's Maritime Self-Defense Force is a clear example, and could certainly bring much needed synergy to U.S. naval forces in a North Korea-initiated conflict; it might even do so in scenarios of increased tension with Chinese forces in the South China or East China Seas. The AEGIS ships of all three countries serve, moreover, as a conduit for maritime cooperation despite ongoing political tensions between Korea and Japan.

If one agrees that our future surface combatant design needs to focus on the high-end threat, what does that mean? Given the vastness of the Pacific Ocean area, future commanders will need to push surface combatants away from traditional carrier strike group defensive roles to independently conduct offensive operations against adversary ships. The problem today is that the Navy's surface combatants are critically outmatched in weapon ranges versus many People's Liberation Army (Navy) (PLA(N)) ships. This condition of being greatly out-ranged forces U.S. surface combatants into defensive postures where they pose a significantly smaller threat to enemy forces. For example, the Navy's current, broadly fielded anti-ship cruise missile (ASCM) is the Harpoon, which has a range of about 80 nautical miles (NM). The PLA(N)'s YJ-83J may range beyond 125 NMs. The future surface combatant needs a long range ASCM—perhaps as much as a 1,000 NM+ version.

The Navy certainly has the technology to outfit its ships with long range ASCM capability, but has shied away from doing so due to the lack of over-the-horizon surety that the target engaged would not be a passing merchant ship. Future surface combatants will need to be equipped with the capability to accurately launch its 1000+ NM ASCM, knowing it will hit the intended target. Launching on shared radar information—meaning not just on the ship's organic sensors—is key.

This technology is not new. As Commanding Officer of USS KIDD (DDG-993) in the early 1990s, I was part of the test and evaluation of the Cooperative Engagement Capability (CEC), which proved a ship's organic radar source was not needed to accurately engage "enemy" surface targets. A CEC-like capability (engage-on-remote) is key to extended-range offensive operations, and when radar (and other) sources from long range/long dwell UAVs, organic unmanned drones, helicopters, and space-based radar are added to the mix, suddenly USN surface combatants can pose a lethal threat to most potential adversary ships. Even the CVN-based MQ-25 Stingray brings an 8-10-hour dwell radar into play. This combined capability alone would mark the future surface combatant as a realistic offensive threat to adversary formations and would signal a clear break from the current mindset that a surface combatant's role is primarily defensive in nature in a war-at-sea scenario. This newly evolved, offensive-minded

capability could be deployed across the AOR, and not just as part of the carrier strike group.

This brings us to the next issue for ship designers: the ammunition capacity of the future surface combatant must be expanded from current designs. This again argues for a larger ship. First, we must dismiss the idea of swapping modules as missions change— a tactic that has never been successful for the LCS class despite these vessels being designed specifically for that concept. Centuries of maritime warfare demonstrate that the future surface combatant needs to be loaded for its missions and ready to fight whenever it goes to sea. The challenge is to provide enough "space" or launcher cell capacity to fit all missions, from air defense (both for self-defense and defense of the strike group), land-attack strike, anti-submarine defense, and Ballistic Missile Defense (BMD), just to name the current competitors for space on the ship. Fleet commanders will then need to tailor the load-out of surface combatant weapons based on intended mission sets. Surface combatants tied to the defense of the strike group, for example, would require a high percentage of counter-air and BMD weapons. Surface combatants designated for independent operations away from the strike group might have a weapons load focused more heavily on the anti-surface role.

Such an example of tailoring a ship's weapons load to mission occurred when I commanded the 7th Fleet (2006-08). Our submarines were routinely heavily loaded with Tomahawk Land Attack Missiles (TLAMs) with only a "self-defense" load of torpedoes, since the wars in Iraq and Afghanistan posed little or no submarine threat. As we contemplated a potential Chinese threat, we pivoted to a heavy load of torpedoes and few TLAMs, as one cannot have too many torpedoes when preparing for a cross-Strait conflict. Although we did not publicly announce the change, I would have been comfortable with Chinese intelligence learning that there were significantly more U.S. torpedoes deployed to the region, as it greatly added to our conventional deterrence quotient (more on conventional deterrence later).

Future hypersonic and ballistic missile threats may require the Navy to rely on larger and much faster missiles of its own to adequately defend itself. Ship designers could include sufficient space for larger diameter launcher cells to accommodate these upgraded missiles. Any new surface combatant must also be designed to incorporate significant "margin" (extra unused space), giving it room to grow and add future capabilities and systems over the course of its 40-50 year lifespan.

Ship builders must also view power generation as a key parameter, as future systems such as laser weapons will bring this issue to the fore. Future miniaturization of power systems would significantly aid in both cost and size containment for any future combatant. This phenomenon has been quite visible over the years, especially in the world of combat systems. I remember when, as the Combat Systems Officer in a Spruance-class destroyer in the mid-1980s, my ship received a major sonar suite

upgrade. The replacement computers and cabinets were significantly smaller and occupied only three of the four forward sonar equipment spaces, eliciting joking suggestions that the newly emptied space could serve as a volleyball court.

Any future surface combatant will also require a robust organic aviation capability. This would include not only manned helicopters, but also the capacity to operate the Navy's increasingly capable unmanned aerial vehicles (UAVs). Future UAVs could give the surface combatant much greater over-the-horizon range and persistent surveillance and allow the individual ship to "see" and understand a much greater battlespace—all without sending manned helicopters into contested airspace covered by adversary surface-to-air missiles.

Additionally, an Anti-Submarine Warfare (ASW) suite will be required. This system should be part of a system of ASW assets—land-based aircraft, submarines, other surface ships, arrays (fixed and deployable), etc. The Theater ASW commander must be able, in near real time, to present accurate contact information (or even raw sonar data) to units throughout the AOR, eventually allowing our surface combatants to engage adversary submarines whether an individual ship holds contact or not. Also needed is a new, longer-range ship-launched torpedo capability, as the current aged 1960's vintage Anti-Submarine Rocket range is insufficient.

The U.S. Navy recently announced plans to give all DDG-51-class destroyers both a BMD and Integrated Air and Missile Defense capability. Any new surface combatant should be equipped with these latest systems as well. Care must be taken to balance the clear need for greater proven capabilities which are available now against the untested potential promised by emerging technologies. The evolution of the AEGIS combat systems and SPY radar technology set a prudent course and precedent. From AN/SPY-1A to AN/SPY-6, the program has heeded Admiral Wayne Meyer's edict to, "build a little, test a little, and learn a lot". The surface-to-air missile development history, based on similar tenets, has also been successful—from SM-1 to SM-6.

This brings me to the broader issue: the tradeoff between an exquisite design and capability and a successfully tested, current "leading edge" design. The Navy has suffered greatly from the former path. Double-digit billions of dollars were spent researching and developing the A-12 aircraft during the 1980s-90s, yet not a single A-12 made it to the fleet. The Seawolf-class submarine was so prohibitively expensive that the Navy truncated a planned 29-submarine buy to just three boats, while the mega surface combatant *Zumwalt*-class was cut to three units from an initial planned buy of 33 units.

The future surface combatant needs to maintain feasible design requirements and defer the exquisite until those aspects can be adequately tested and completely mastered. The U.S. Navy already has fewer ships than the PLA(N), and another severely

truncated ship class would put America in an unwinnable tail chase. The U.S. simply cannot afford to waste undue time and resources pursuing new exquisite capabilities when doing so may well be a fool's errand that trades off with the production of usable vessels.

In the grand strategic calculation, numbers are just as important as capabilities. Given the vastness of the Asia-Pacific region, America must not allow potential adversaries to establish sanctuaries in areas where they know the Navy lacks sufficient forces and, in particular, enough surface combatants. Even though this essay is focused on Asia-Pacific challenges, I imagine the future requirements for naval engagement (note I did not say "presence") in the U.S. Central Command and U.S. European Command AORs will not vanish. The need to lock-in the design and cost and start producing these ships in numbers cannot be overemphasized. The U.S. no longer has the largest navy in Pacific, as recent reports place the number of PLA(N) ships at 335+—and growing at a significant pace. Meanwhile, the Navy currently possesses fewer than 300 ships, with the long-touted goal of a 355-ship navy no closer to attainment than when it was declared. The quality of America's ships clearly matters, but in any Asia-Pacific scenario, so will quantity.

The future surface combatant—designed and equipped as outlined above—will allow the U.S. Navy to more widely disperse surface combatants that are capable of offensive operations, even as tensions rise. In a counter-PRC scenario, such surface combatants could threaten Chinese warships and other important vessels such as oil tankers and merchant ships, even if these economic assets are escorted by PLA(N) vessels.

Yet the Navy must acknowledge that the Asia-Pacific security environment has changed dramatically in recent years. While serving as the 7th Fleet Commander, I believed North Korea, not China, to be the greatest regional threat to American interests. While North Korea was regularly firing ballistic missiles, massing artillery tubes in range of Seoul, and was led by an unpredictable and perhaps irrational dictator who seemed unaware of the risks of launching an attack, I felt the PRC leadership was completely rational and very calculating of such risks. As long as China's leadership thought that the United States had sufficient force to counter its combat operations, I believed the PRC would be deterred. A non-successful war would threaten Chinese Communist Party rule, which was the leadership's prime concern. Ultimately, China would not act if success was in doubt, and the forward-deployed U.S. military assets made a successful outcome problematic in their calculations.

Since then, China has greatly increased its combat capability, lethality and capacity, creating the risk that its "success calculation" of a potential conflict with the United States has been skewed closer to a positive one. I return to my leading quote from our current National Defense Strategy: "The willingness of rivals to abandon aggression will depend on their perception of U.S. strength". This concept is better described as

conventional deterrence, which, as I outlined in an April 2012 U.S. Naval Institute *Proceedings* article, is founded on, "ready, combat-credible forces, forward-deployed and capable of making a potential adversary's decision to use force an unsuccessful option."<sub>3</sub>

Conventional deterrence is arguably the key mission of the U.S. Navy in today's globalized world, and the United States should not hesitate to unapologetically fill this role, especially in the Asia-Pacific. America must up the ante for China's calculation of risk, and the future surface combatant, as outlined in this essay, can be a vital part of strengthening future U.S. conventional deterrence and shifting China's future risk assessments in America's favor.

In summary, the future combatant must have sufficient endurance and inherent seakeeping capability. It should be designed with high-end warfighting as its primary mission. This ship must have the ASCM capability to put at risk adversary naval forces at distances greater than those it faces. This greatly increased offensive capability is key, and goes hand-in-glove with an engage-on-remote system that ties together all surveillance assets. The ship must be designed with sufficient margin for future capabilities and power augmentation to support those capabilities. Magazine/launcher capacity is a key element. And importantly, the Navy must guard against the "exquisite design and capability" (bleeding edge) rather than fully tested and ready (leading edge) systems. Improvements can successfully evolve on that foundation as the highly successful SPY radar history shows us.

Finally, America must solidify these requirements and start building the next generations of surface combatants now at significant annual rates, much as we did with the DDG-51 class in the 1990s. Numbers matter, and another truncated surface ship class along the lines of *Zumwalt* will not tilt the PRC's (and others') risk calculation in the direction needed. America's conventional deterrence will be greatly enhanced by bringing a capable next surface combatant class, in great numbers, to sea. And soon.

Vice Admiral Doug Crowder is the former Commander, U.S. 7th Fleet and former Deputy Chief of Naval Operations (Operations, Plans & Strategy). He is a career surface warfare officer, including five sea commands.

<sup>&</sup>lt;sup>3</sup> Doug Crowder, "Storm Warnings?," *Proceedings*, April 1, 2012

#### The Threat in the Information Domain

Brigadier General Robert S. Spalding USAF (ret)

The U.S. Navy has sailed the seas for more than two hundred years, protecting supply lines, the American people, and our way of life from enemies and the elements. In the last 30 years, the world has changed, and competition is different. The U.S. Navy must adapt to remain relevant in the 21st century. Today, strategic competition is steadily drawing us into warfare where information, trade, and finance are more relevant than bombs, bullets, and missiles.

To understand where this development may lead, we must look to past competition with the Soviet Union. On August 21, 1968 Soviet tanks rolled into Czechoslovakia to forcibly quell the uprising known as the "Prague Spring." The United States chose to continue its campaign of nuclear deterrence and containment and not respond militarily to the incursion. The invasion demonstrated that Russia could use its military to protect its gains in Eastern Europe. This strategic competition continued throughout the Cold War without resulting in direct combat between the U.S. and U.S.S.R. Thus, the Soviets established that advantage could be gained through "peaceful" means, while the threat of nuclear devastation kept a check on the direct application of violence between nuclear powers.

The United States ultimately defeated the Soviet Union by forcing state bankruptcy, but the focus of its post-Cold War national security has instead centered entirely on the application of high-technology precision violence. Within a decade after Prague Spring, the U.S. would begin a policy of technological development that would provide U.S. military forces with conventional arms that could overmatch Soviet forces. This process of technological development was the Second Offset and led to the military advantage showcased in the first Gulf War. In the Gulf, technology like stealth, GPS, computers and satellite communication gave the impression of an unstoppable U.S. military juggernaut.

At the end of the Cold War, the U.S. Navy launched new, more peacetime-focused missions—everything from counter-piracy to humanitarian disaster relief—slowly shaping a force less suited to conflict with peer adversaries. The Littoral Combat Ship (LCS) is a prime example. It was designed to be less a war fighting machine and more like a Coast Guard vessel, capable of policing the commons.

The decades at war since have led to a constant and continuous refinement of how best to support counterterrorism and low-intensity conflict. This has spawned an American brand of post-9/11 warfare, which has created a disconnect between the application of violence and its intended goal. Put simply, the American way of war became focused on

efficiently destroying less militarily capable targets, even if doing so was in no way connected to favorable geopolitical outcomes for the U.S.

Naval warfare no longer involves only ships, but also computing, networking, sensors, space-based satellites and other inventions developed for Cold War military applications. These are now combined in ever more creative ways to operate fluidly across the domains of the modern battlefield. Theory and doctrine are constantly refined so that soldiers, sailors, airmen and marines can efficiently achieve mission success. But to what end?

At the same time the U.S. military was developing the knowledge that underpins current technology, the private sector was commercializing much of the same. After the bulk of research and development was completed by the military, commercial-use engineering and marketing led rapid developments in each of the underlying technologies – made possible because the manufacturing process is responsible for 70 percent of innovation. Through globalization this technology began to proliferate. During the Cold War, the U.S. and its allies worked to keep the then-modern technology from the U.S.S.R. Once the Berlin Wall fell, however, these controls were removed.

While warfare was the center of technological development in the 20th century, it was still tied to the foundational thinking of two Westerners from the 18th and 19th centuries. Prussian military theorist Carl von Clausewitz's insight was that war is a political act, and the chief impediment to achieving political interests is the adversary's military. Antoine-Henri Jomini, however, may have had more influence, and the Western application of the art of war therefore became: "kill the enemy faster than he can kill you using decisive combat power." Today, the U.S. military's quest for perfect lethality is the quest of a bygone era. By continuing on this path, the military may well fail to uphold its *raison d'être* – defending the Constitution.

While the U.S. perfects its art of warfare, the Chinese Communist Party is refining a distinctly different type—the "People's War" —which began under Chairman Mao and was later elevated by two People's Liberation Army colonels. Mao used his theory of war to best the militarily superior General Chiang Kai-shek, who was supported coincidentally by the West. According to Mao, people are the heart of power, and it is the people who must be won. Although Mao's concept of war as a political act is the same as Clausewitz's, their development paths are distinctly different. Mao, an astute historian, loved the themes of China's Three Kingdoms period literature, which reveled in the wily commander defeating his adversary by wit rather than might. Another Chinese classic, "Art of War," is far less about war than how to subdue a foe without confrontation.

Mao infused the CCP with certain ideas—the most important being that warfare is almost always about controlling the information domain, and therefore is always

political. Accordingly, the most important audience for Mao's brand of warfare is the citizens of China.

During the Tiananmen Square protests of 1989, the CCP struggled internally with how to respond. Once the decision was made, however, the struggle shaped the CCP's definition of strategic competition in a 21st century digital construct. The three lessons learned from the massacre's aftermath were:

- 1. The CCP is under attack from forces within China in collusion with forces from the West (mainly the U.S.).
- 2. Economic liberalization must be paired with ideological struggle.
- 3. If the party were ever to become fractured, it would fail.

Thus, mandatory indoctrination was instituted at all educational levels, and massive resources were expended to ensure democratic principles could not seep through the cracks created by the opening and reform of the Chinese economy. This has led to a deliberate methodology of adapting Western technology that was developing on a path of openness towards a closed system where information (data) is a critical national resource. In the CCP's modern model of war, the state must never relinquish control of data, and in the 21st century, whoever controls data holds power.

The CCP has accordingly used many of the same tools—computers, networking, GPS—that the DoD has used on the battlefield, but in a different context. Today the BATs – Baidu, Alibaba and TenCent – use the same tools to dominate the e-commerce environment. This environment features terabytes of data on every conceivable action a human can take in a digital world. Empowered with ubiquitous AI-infused cameras and an army of censors, the CCP has become the most potent IT-based totalitarian in the world.

Today, America's famously advantageous geography provides an insufficient barrier to totalitarianism. Evidence from the National Endowment for Democracy1 and the Hoover Institution2 has outlined Chinese influence activities around the world. During the 2016 U.S. elections, the Russians used AI bots, big data and social networks to sow divisions in the U.S. populace and continue to do so today. Surfing digital waves has therefore enabled adversaries to bypass the U.S. Navy, cross two great oceans, and threaten the most vibrant democracy in the world.

<sup>&</sup>lt;sup>1</sup> Juan Pablo Cardenal et al., "Sharp Power: Rising Authoritarian Influence," 2017.

<sup>&</sup>lt;sup>2</sup> Larry Diamond and Orville Schell, *China's Influence & American Interests: Promoting Constructive Vigilance* (Stanford, CA: Hoover Institution Press, 2019).

Two distinct notions of warfare separate the West and the East. The former, and more traditional, leads to ever more precise methods of killing on a conventional battlefield, whereas the latter seeks to influence by targeting the populace. The former has clearly reached its peak, while the latter is slowly coming into its own. Interestingly, both systems employ many of the same technologies, yet deploy them in different ways and environments. Simultaneously, the evolution of technology powering the commercial world is accelerating while the U.S. military lags.

Ray Kurzweil, a noted futurist, believes that technological innovation is accelerating. In his words:

An analysis of the history of technology shows that technological change is exponential, contrary to the common-sense "intuitive linear" view. So, we won't experience 100 years of progress in the 21st century — it will be more like 20,000 years of progress (at today's rate). The "returns," such as chip speed and cost-effectiveness, also increase exponentially.3

While computing, networking, flight, navigation, and stealth took a long time to master, technology is now moving so fast it is almost impossible to know where we will be in 20 years. It is hard to fathom, for example, that the iPhone only came into being on June 29, 2007. Today, the smartphone is so ubiquitous that it is hard to imagine life without it. There are also numerous studies regarding the detrimental societal effects which would come to pass if precision navigation and timing from GPS and/or the power grid were lost.

The response of the U.S. military—including the Navy—to the rise of digital technology in everyday life has been to plan and train for its loss. Thus, celestial and compass navigation, as well as communication-out procedure, is in vogue. At the same time, adversaries are using tactics, techniques, and procedures designed to takeout the technology upon which society now depends. Russia demonstrated critical infrastructure attacks in Georgia and Ukraine. Since the security of U.S. critical infrastructure is by and large left to the private sector, we have the potential for a genuine catastrophe. This means the U.S. military's misplaced focus on defeating a foe across the sea might allow chaos to reign at home.

It was for this world of accelerating technological disruption that two People's Liberation Army colonels wrote "Unrestricted Warfare" in 1999. In a then unconventional manner, the two theorists applied the same U.S. technologies once used to destroy Saddam's military in three weeks to a rapidly changing new world. To American military

<sup>&</sup>lt;sup>3</sup> Ray Kurzweil, "The Law of Accelerating Returns," in *Alan Turing: Life and Legacy of a Great Thinker* (New York: Springer-Verlag, 2004), 381-416.

practitioners it was almost as if they had written it for an alien world. In a sense they had.

While U.S. military strategists were trying to move at ever faster cycles on the battlefield, the Chinese strategists had an epiphany. They realized the U.S. military had first-mover advantage on "their" battlefield. American dominance of the battlefield barred entry for competitors, making victory too expensive to achieve. The American economy vastly outstripped the Chinese one, so that there was no way a competitive Chinese military could be developed in the colonels' lifetimes. While the Chinese military was trying to catch up, they knew the U.S. military would be adapting too.

The colonels' answer was to stretch the battlefield. Using Mao's People's War, they moved the battlefield into the population, both Chinese and Western. They rightly assessed that the way to best a militarily superior foe was not direct confrontation. Instead, they surmised that convincing the population to follow CCP interests would be far easier, more cost effective, and ultimately less risky. In doing so, they correctly anticipated future warfare, where three key trends had developed – nuclear weapons, globalization, and the Internet.

Trend one: The Cold-War's benign outcome proved nuclear-armed nations could avoid direct combat with other nuclear-armed opponents. Assured second-strike capability is all that is required for deterrence, and there are many ways to attain it with today's technology.

Trend two: Globalization allowed for direct attack of the nation's homeland without the concomitant expensive military buildup. Today, for example, China can silence someone in the U.S. by merely pressuring their employer.

Trend three: The internet meant direct access to a nation's data. This data, when combined with big data analytics, AI, machine learning, social media, e-commerce, and fintech, meant you could build an alternative international order on top of the prevailing system without the risk of war.

A 21st century version of People's War was born.

In fact, they predicted how the Taliban could use the information battlefield to deal with American military superiority in Afghanistan:

Influenced by human rights and other new political concepts, plus the integration trend in international economics, the interlocking demands and political positions involving the interests of various social and political forces, the proposal of the concept of "ultimate concern" for the ecological environment, and particularly the

value of human life, have resulted in misgivings about killing and destruction, forming a new value concept for war and new ethics for warfare.4

By carefully orchestrating how military strikes in Afghanistan were portrayed, the Taliban demonstrated mastery of the narrative. U.S. military theorists quickly caught on to the Taliban's tactic, but it was never thoroughly adopted or understood. When used correctly on the battlefield, the narrative can make killing passé.

In other words, the precise warfare perfected—and being used—by the West could be nullified without firing a shot. The two visionaries wondered about how best to conduct warfare in this new world. While the American way of war centered on the platform, like the LCS, the two PLA colonels identified the internet as their main weapon system. It was a truly network-centric methodology. They wrote:

To a very great extent, war is no longer even war but rather coming to grips on the internet, and matching the mass media, assault and defense in forward exchange transactions, along with other things which we had never viewed as war.5

Let us now go back to Clausewitz's assertion that war is a political act. Let us also assert that it is the obligation of the U.S. military to prevent the coercion of the American public to force them to accede to a foreign nation's demands. In fact, it is one of the key authorities given by the American people to the U.S. government:

We the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, **provide for the common defense**, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America.<sup>6</sup>

Today, the U.S. military is racing to rebuild, to meet a modern military foe more capable than the Taliban. While the U.S. military has perfected killing on the traditional battlefield, the true modern battlefield—our society—is left unprotected. The U.S. Navy is aiming to build two new aircraft carriers and other exquisitely expensive military equipment yet seems disconnected from how to protect the homeland.

The advanced U.S. military that swept into Baghdad in 2003 and controlled Iraq in three weeks can draw a direct line back to the Second Offset. The research and development that followed led to the commercialized IT world currently leveraged by

<sup>&</sup>lt;sup>4</sup> Qiao Liang and Wang Xiangsui, *Unrestricted Warfare: Chinas Master Plan to Destroy America* (Dehradun: Natraj Publishers, 2007), 18.

<sup>&</sup>lt;sup>5</sup> Ibid, 119.

<sup>&</sup>lt;sup>6</sup> U.S. Const. Preamble.

Silicon Valley, and the CCP, for profits and control. What will 5G, a technology that blends the same tools originally invented for the Cold War in a new and much more potent manner, mean to future CCP leaders? Who is their General Schwarzkopf, whose television interviews with videos of bombs going down ventilation shafts captivated the two Colonels who wrote "Unrestricted Warfare?" And what are they planning for?

It could be that the CCP will design a military around a hyper-capable combination of computing, networking and radio frequencies that brings their forces together with artificial intelligence and data to master killing at a far higher efficiency than U.S. forces can imagine. It is more likely that they will attempt to use data and economics to slowly influence the U.S. population to abandon their freedoms while the U.S. Navy patrols the seas oblivious to the danger at home.

Brigadier General Robert S. Spalding is a senior fellow at Hudson Institute. His long career in government includes service as Special Assistant to the U.S. Air Force Vice Chief of Staff, Senior Director for Strategic Planning for the National Security Council, and Commander of the 509th Operations Group at Whiteman Air Force Base.

#### **Conclusion: Charting a Course**

#### Navigating Through Rocks and Shoals in the Fog

The Navy faces many challenges as it defines the roles and capabilities of its future surface combatants, as the preceding pages make clear. Differing perceptions of the Navy's purpose, doubts over its ability to operate within range of an enemy, questions of survivability, criticisms of past choices and unexpected obstacles in the shipbuilding process combine to cast doubt on the Navy's future roles and missions.

Unmentioned in this study is the debilitating effect of repeated continuing resolutions and uncertainty over funding on the nation's defense industrial sector, as well as the service itself. The potential for additional cuts to America's defense budget in the wake of significant unexpected federal spending in response to COVID-19 also goes unaddressed, since the circumstances surrounding this issue remain largely unwritten. Space and time simply preclude an examination of all the complex obstacles.

One subject which did receive significant focus in the report is the future of the aircraft carrier. Our intent was not to produce a carrier study. But, given the centrality of the aircraft carrier to U.S. naval operations and the necessary capabilities of other ships in a carrier strike force, we must cite the impact of current perceptions of this most important, keystone: capability.

In early 2019, the Department of Defense considered cancelling the USS Truman's midlife complex overhaul. This type of overhaul requires, among other things, the removal and replacement of spent nuclear fuel. It is a reality for nuclear-powered vessels, and without this overhaul, the *Truman* would have to be retired early. The DOD concluded that the money saved by cancelling this overhaul would be better spent in pursuit of emerging weapons technologies.

Congress erupted. The news that one of the few centerpieces (there are only 11 aircraft carriers) of American naval power and a key component of its forward presence would be eliminated from its force structure midway through its service life energized political, industrial, defense, and public interest. The proposal called into question fundamental canons of the Navy's strategic concept since the 1940s. The importance of the aircraft carrier was supported for years by legislators, and the appearance of the plan to retire *Truman* early was the equivalent of an "all back full" order aboard a speeding vessel.

Confusion and disbelief followed. If the Navy was not sure of the value of the aircraft carrier, what was the plan? How should this affect the needed capabilities of the rest of the surface navy? And just how vulnerable and ineffective was the carrier? What

else have we not been told? America believed that the aircraft carrier was essential to its naval strategy, and without a credible, fully developed alternative, putting the *Truman* out to pasture seemingly signaled that the Navy had NO strategy.

Before the Navy can gain support for complex shipbuilding concepts and decisions it must define, or redefine, its strategic concept – the how, when and where it anticipates protecting the nation against threats to its security. As was done with the advent of the nuclear era, questions of survivability and effectiveness must be convincingly answered. Warfare only gets more complicated with technology's accelerating progress and the establishment of new conflict domains—cyber, electromagnetic spectrum, and information warfare —in addition to the traditional air, land, sea and space.

At times, assumptions of the nation's future policy will have to be made and tested. A prudent assumption may be that, as long as we have maritime allies throughout Asia, Europe, and the Middle East, the Navy and the Joint Force will be required to maintain engagement in these regions to provide reassurance and support deterrence. Deterrence, in turn, is based on an undoubted ability to prevail, a condition that must be evident to our public in order to gain the needed resources. The Navy must answer the questions of how it will prevail in the face of widespread skepticism, both at home and abroad.

Over time the site of decisive action for the Navy shifted. It was once the sea, ably documented by Alfred Thayer Mahan. Destruction of the enemy fleet and elimination of the enemy's merchant shipping were the objectives. Then the world's littoral became the site of decisive action as power projection ashore became necessary for the Navy to defend the nation, as demonstrated in World War II, the Korean War, and America's non-great power conflicts in the Middle East. America is prepared to do this in other theaters as well, including the Western Pacific, where it projects influence ashore through its forward presence and operations, backed by its potential to shift to combat operations.

The increase in land-based and space-based surveillance capabilities, coupled with weapons that are accurate at extended ranges, effectively expands the world's littoral, as forces operating on land and at sea can engage an opponent at much greater distance than ever before. The first island chain (which runs from Japan to the Straits of Malacca and encompasses the East and South China Seas) is said to be under Chinese threat and de facto control, while China claims "undisputed historical sovereignty" despite no support from the U.S. or U.N. Chinese officials boast of "Guam Killer" missiles, and some believe that America's allies and its forces in this archipelago cannot survive. Amidst these challenges, the Navy and the nation must show that it can operate and prevail from a position already in contact with an enemy.

Force design, capabilities, and operations must be built and continuously upgraded in support of that concept.

In the interim, we may conclude that future surface combatants must be built with the potential for expeditious upgrades when technology presents itself. Development of directed energy weapons means increased electrical power generation capability will be highly valued, as well as available internal and external space for adaptation. Shipboard weapons must be capable of much greater range with guided weapons. Rearming at sea should be as normal as refueling at sea. With surveillance support from the joint force, ships must be able to defend against attacks by ballistic and cruise missile, as well as hypersonic glide weapons. The autonomous revolution suggests space and command capabilities, however sized, should be available for easy adaptation to operations with unmanned aerial, surface, and underwater platforms. Network adaptability, resiliency, and common operational picture integrating all across the joint force, allies, and friends across air, land and sea is essential.

Meeting all these benchmarks will not be easy, but the stakes are far too high for the Navy to fall short. Naval power remains an essential component of America's national defense and preserving American naval superiority will require careful strategic planning on the part of America's civilian and military leaders. Although the Navy must navigate through treacherous waters in the coming decades, a carefully charted course will enable it to avoid any submerged hazards and remain safely afloat through the foreseeable future.

#### About the Editors:

Lieutenant General Wallace C. Gregson, Jr. is Senior Director for China and the Pacific at the Center for the National Interest. He retired from the Marine Corps in 2005 with the rank of Lieutenant General. He last served as the Commander, U.S. Marine Corps Forces Pacific; Commanding General, Fleet Marine Force, Pacific; and Commander, U.S. Marine Corps Bases, Pacific, headquartered at Camp H. M. Smith, Hawaii. He served as Assistant Secretary of Defense for Asian and Pacific Security Affairs from May 2009 to April 2011.

**Matthew Reisener** is Chief of Staff at the Center for the National Interest. He holds a Master of Arts in international relations from the University of Chicago and a Bachelor of Arts in political science and communications from William Jewell College.

### Acknowledgements:

We are very grateful to Fincantieri for their generous financial support for this project, as well as for the Center for the National Interest's American Sea Power discussion series which inspired the creation of this report.

A special debt of gratitude is owed to Vice Admiral Doug Crowder, U.S. Navy (ret) and Brigadier General Robert S. Spalding USAF (ret) for their insightful essay contributions to this report.

We would also like to thank Toshi Yoshihara, Dmitry Gorenburg, Congressman Randy Forbes, Mark F. Cancian, Milan Vego, Captain Jerry Hendrix USN (retired), and Thomas X. Hammes for participating in the American Sea Power discussion series and for allowing us to share their insights on the future of America's Navy as a part of this collection.

Special acknowledgement is due to George Beebe, Anya Gorodentsev, and Jordan Henry, our colleagues at the Center for the National Interest, for their invaluable contributions, assistance, and guidance throughout the writing process.



1025 Connecticut Ave NW, Ste 1200 Washington, DC 20036 www.cftni.org