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Strategy for the Long Term: Long Range Planning and Force Design

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STRATEGY FOR THE LONG TERM:

LONG RANGE PLANNING AND FORCE DESIGN

by

James J. Wirtz

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**Title and Subtitle:** Strategy for the Long Term: Long Range Planning and Force Design

**Abstract:**
The U.S. Navy, as an institution, faces both significant challenges and opportunities in its efforts to match the accelerated pace of innovation produced by techno-strategic developments. However, the U.S. Navy lacks a strategy for the long term to manage innovation to better ride the waves of techno-strategic change that are forming on the maritime horizon. This project provides an overview of the contemporary techno-strategic setting and a survey of sophisticated strategies and operational concepts that position the U.S. Navy and its maritime allies and partners to prevail in today’s techno-strategic churn. The research culminates in a call for and a description of a “Consistent Navy Strategy.”

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ABSTRACT

The U.S. Navy, as an institution, faces both significant challenges and opportunities in its efforts to match the accelerated pace of innovation produced by techno-strategic developments. However, the U.S. Navy lacks a strategy for the long term to manage innovation to better ride the waves of techno-strategic change that are forming on the maritime horizon. This project provides an overview of the contemporary techno-strategic setting and a survey of sophisticated strategies and operational concepts that position the U.S. Navy and its maritime allies and partners to prevail in today’s techno-strategic churn. The research culminates in a call for and a description of a “Consistent Navy Strategy.”
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I. INTRODUCTION

As an institution, the Navy can shield its internal processes and programs from external interference to guarantee that personnel and resources will be available to sustain its ships well into the future. Nevertheless, it encounters difficulty when it comes to selecting and implementing strategy to guide force development in a coherent and consistent matter. Naval capstone documents are introduced so frequently that they rarely can gain traction. Responsibility for strategy within the Navy’s Pentagon Headquarters is subject to almost continuous reorganization activities. Institutional reforms are necessary before a Consistent Naval Strategy can shape Future Force Design.

A. DESCRIPTION OF DELIVERABLES

The project NRP 23 N039B “Strategy for the Long Term: Long Range Planning and Force Design,” was intended to support OPNAV N7 in its quest to develop a “Consistent Navy Strategy,” to help guide the ongoing transformation of the U.S. Navy to bolster the sea service’s contribution to deterrence in the western Pacific. Deliverables in this research effort included (1) a series of meetings in the Pentagon, Washington D.C. to present findings and to shape avenues of inquiry; (2) delivery and publication of two research papers; (3) organization of previously published material and original research conducted for NRP 23 N039B into a manuscript published by Routledge as a scholarly monograph entitled The U.S. Navy and the Rise of Great Power Competition: Looking Beyond the Western Pacific.

During the research project, three meetings were held at OPNAV N7 spaces in the Pentagon, Washington, D.C. These meeting roughly follow the timeline of required for quarterly progress reports to the sponsor.

Meeting #1: 12-13 January 2023

Meeting #2: 1 May 2023

Meeting #3: 26 July 2023

Meetings involved presentation of findings, discussion of direction of research, and delivery of finished reports.

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B. DESCRIPTION OF PUBLISHED RESEARCH

Two papers were delivered to OPNAV N7 as part of NRP 23 N039B. The first entitled “A New role for the CNO: Towards a Consistent Navy Strategy was published in the
This project also produced a scholarly monograph, entitled, The *U.S. Navy and the Rise of Great Power Competition: Looking Beyond the Western Pacific* (London: Routledge 2024). James A. Russell and Jeffrey E. Kline also contributed various chapters to this monograph. The volume is a mix of original and previously published material that describes how today’s great power competition, which is accompanied by the proliferation of anti-access and area-denial capabilities and strategies, is changing the face of naval operations in general, and U.S. Navy operations in the western Pacific in particular. The volume highlights how the changing techno-strategic nature of the maritime environment is challenging the position of dominance enjoyed by the U.S. Navy since the Battle of the Philippine Sea in July of 1944. It describes how a variety of new technologies and weapons systems are threatening to end the position of dominance enjoyed by carrier-based naval aviation. The authors explain why the U.S. Navy as an institution faces significant challenges and impediments in efforts to match the accelerated pace of innovation produced by techno-strategic developments. The U.S. Navy lacks a strategy for the long term to manage innovation to better ride the waves of techno-strategic change that are forming on the maritime horizon. The volume culminates in a discussion of sophisticated strategies and operational concepts that position the U.S. Navy and its maritime allies and partners to prevail in today’s techno-strategic churn. (See APPENDIX B)

C. DISTRIBUTION OF FINDINGS

Materials produced for this project have been widely distributed across OPNAV and have been integrated into a monograph suitable for classroom use. This project continues with the award of NRP 24 support. It also has benefited from additional NRP funding in support of OPNAV N3/5 dealing with the issue of “integrated deterrence,” and conventional-nuclear integration. All reports delivered under one NRP project are also delivered to the other NRP sponsors and to other interested commands (USSTRATCOM, USPACFLEET, INDO-PACOM, Navy SSP, etc.). Similarly, research funded by other reimbursable sponsors (USSTRATCOM) has been shared with N7 and N3/5.
II. SUMMARY

The U.S. Navy, as an institution, faces both significant challenges and opportunities in its efforts to match the accelerated pace of innovation produced by techno-strategic developments. However, the U.S. Navy lacks a strategy for the long term to manage innovation to better ride the waves of techno-strategic change that are forming on the maritime horizon. This project provides an overview of the contemporary techno-strategic setting and a survey of sophisticated strategies and operational concepts that position the U.S. Navy and its maritime allies and partners to prevail in today’s techno-strategic churn. The research culminates in a call for and a description of a “Consistent Navy Strategy.”

Navy programs and programmatics unfold over many decades. Nevertheless, the Office of the Chief of Naval Operations (OPNAV) lacks the organizational capabilities and culture to apply pressure over long periods of time to shape the capabilities of the future Navy, which is the primary object of Navy Force Design activities.

This research explored the various scientific, technical, programmatic, and strategic considerations inherent in any OPNAV long-term planning effort. The study first described why a long-term planning effort was both desirable and necessary, the factors that complicated long-term planning (strategic and technological uncertainties and opportunities, sunk costs, and organizational resistance to fundamental change), and the organizational impediments that stand in the way of Navy efforts to implement long-term force design.

The study validated and reinforced OPNAV efforts to create a so-called “Consistent Navy Strategy,” and provided a framework for additional effort to bolster Navy long-range planning efforts. This project served as a capstone to ongoing efforts to support N7 efforts to transform the U.S. Navy to better meet contemporary and future strategic challenges. The implications of the study highlight the need for a fundamental cultural shift within the U.S. Navy and to develop and implement ways to undertake painful but necessary changes within the Navy over the coming decades. The topic sponsor is circulating the basic ideas encapsulated in this research across OPNAV.

Recommendations for Further Research
Future research should explore practical operational and organizational recommendations to develop, popularize, and implement a Consistent Navy Strategy over the next several years.
APPENDIX A

“Designing Maritime Campaigns with Unmanned Systems: Overcoming the Innovation Paradox”

PRE-PUBLICATION VERSION

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Paper Prepared for Center for International and Maritime Security

Disclaimer: The opinions expressed here are the author’s alone and do not represent the position of any government, government agency, commercial firm, or other entity.

Will unmanned forces transform naval campaigning? Given recent events following the Russian invasion of Ukraine, maritime transformation appears to be well underway. Autonomous and semi-autonomous aircraft and surface vessels have damaged or destroyed Russian surface combatants, air defense systems, and supply depots. According to one apocryphal story, target fixation on a distant Bayraktar TB2 aerial drone supplied to Ukraine by Turkiye caused a loss of situational awareness aboard Russia’s Black Sea Flag ship, the cruiser Muskva. As a result, the Russians never managed to engage the two “autonomous” Ukrainian R-360 Neptune cruise missiles that hit them, giving the unfortunate Muskva the new distinction of being the largest warship sunk in battle since World War II. Land warfare also has seen its share of innovative applications of autonomous and semi-autonomous technology, from swarming drone attacks against urban areas to single hand grenades precisely dropped on lone soldiers in slit trenches dug into the Ukraine steppe. One could also point to recent press reports about a flurry of drone activity across the U.S. Navy. In September 2023, two unmanned surface vessels sailed from Hawaii to participate in exercises with Carrier Strike Group 1 in the Western Pacific, while the Navy’s Task Force 59 based in Bahrain has become the de facto U.S. Navy drone innovation center with its ongoing experimentation with small autonomous vessels as intelligence, surveillance, and reconnaissance (ISR) platforms.¹

In fact, the moniker “drone revolution” might better characterize the Global War on Terror (GWOT) than the more recent conflict in Ukraine. U.S. drones were right-sized

for the counter-terrorism mission – their limited weapons payload could engage a single soft target, while the intelligence community could support their demand for ISR and queuing against a limited number of senior al-Qaeda leaders. They also operated in a permissive environment unimpeded by modern air defenses or cyber-attacks against data networks. They were so successful and so one sided, in the sense that U.S. forces faced little risk of harm in conducting drone operations, that they tended to detach the use of force from domestic political constraints. Drones were revolutionary in the GWOT because they nearly depoliticized war, turning conflict into an administrative act.² Force is inherently difficult to use because the use of force is inherently political; anything that softens that relationship increases force’s appeal as an instrument of statecraft.

**Doubts About Drones**

Despite mounting evidence drawn from recent battlefield experience and enthusiastic recognition of the growing effectiveness and influence of autonomous and semi-autonomous systems and weapons in war, some Navy officers are expressing reservations about the impact of drones in the maritime domain, especially in the western Pacific.³ They note, for instance, that the Navy is already stretched to the breaking point by the effort to maintain and supply its existing manned surface fleet; it cannot create the infrastructure needed to support hundreds of medium sized and large autonomous surface vessels in the relatively short time envisioned by current ship building plans. Others suggest that the weapons payload carried by most drones is too small to create more than a nuisance. Instead of a five-pound warhead, a one-thousand-pound warhead would be more appropriate when it comes to disabling a major surface combatant. Autonomous systems also need a range of thousands, not hundreds, of miles to operate in the Pacific. Drones that have limited battery life, or that have to be transported and deployed within reach of sophisticated anti-access and area denial systems, or that require weeks of lead time, produced by exquisite indications and warning intelligence, for movement to operational areas, or that create windows of vulnerability when they need to be retrieved to be re-charged, re-furbished or otherwise serviced once they are deployed, might just be a waste of resources or worse, a destabilizing element in a regional military balance. A semi-autonomous drone armed with a Hellfire missile might in fact be the perfect weapon to end Ayman al-Zawahiri’s retirement in downtown Kabul but using an autonomous weapon to hit a modern multi-mission warship on the high seas is another matter.⁴

So, who has it right, the optimists or the pessimists? They both are correct, which creates an “innovation paradox” that was recently addressed by a survey of past efforts at

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³ As Colin Gray repeatedly noted, recent battlefield experience provides evidence that is ignored at great peril because battle “is the only test that counts,” see Colin S. Gray, *War, Peace and International Relations: An Introduction to Strategic History* (London: Routledge, 2012), p. 19.
maritime innovation. Vincent O’Hara and Leonard Heinz looked at the operational history surrounding the introduction of mines, the automobile torpedo, radio, radar, submarines, and aircraft from about the turn of the 19th century to World War II. Their analysis suggests that the process of innovation and weaponization is a moving target that is shaped by the maturity of the technology involved, tactical and operational considerations, strategy, doctrine, organizational acceptance of new weapons and platforms, and the countermeasures possessed by the opponent. Innovation also is slowed by the fact that significant warfare at sea is mercifully rare. Without the only test that really matters, that is, battle itself, it is difficult for visionaries to assess the capabilities created by their new weapons against likely opponents and countermeasures. What O’Hara and Heinz discover is that myriad considerations, which are often circumstantial, transitory, or linked to shortcomings in ancillary systems or doctrine, can limit the performance and impact of new weapons. “Successful” innovations do not spring forth spontaneously but involve a process of refinement and maturation that can take decades to produce an effective weapon, regardless of the enthusiasm surrounding the new technology or system.

O’Hara and Heinz suggest that our assessment of the future role and impact of autonomous and semi-autonomous systems has more to do with psychology than technology. That is, we share a collective bias in viewing technology as a “full up round,” so to speak, not a work in progress. There is a tendency to extrapolate from successful evolutions observed in the skies above Kabul or the waters off Crimea and to expect the same results in the western Pacific. There also is a tendency to treat technology as a weapon and new weapons as silver bullets – a once size fits all solution to whatever the opponent might throw at us. Or in the words of Hilaire Belloc, “whatever happens, we have got the Maxim, and they do not.” By contrast, to be effective, technology must be subjected to a process of weaponization, whereby it is integrated into an existing strategy, force structure, doctrine, and logistical scheme. It also is helpful if the officers charged with operating these new weapons understand the science behind them, how they work, and the limits of their performance instead of first confronting their knowledge deficit at the worst possible time – in battle. Recent descriptions of the night naval battles off Guadalcanal, for example, paint a disturbing picture of officers who did not understand the limits of radar or how to exploit its advantages. Some of them did not even understand the nature of the information that was being collected and displayed by their new sensors.

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7 James J. Wirtz, “A Strategists Guide to Disruptive Innovation,” *Military Strategy Magazine* Vol. 8, Iss.4 Spring 2023, pp. 4-9/1


**Overcoming the Innovation Paradox: Integrating the Sea Hunter into a Naval Campaign**

Treating innovation as a campaign – the conduct and sequencing of logically linked military initiatives aimed at advancing well-defined strategy-aligned priorities over time – offers a promising way of taming the innovation paradox by increasing the likelihood that new weapons can be used to meet operational and strategic objectives. In this sense, the technical considerations behind the integration of new weapons into Fleet tactics are of tertiary importance compared to the task of making sure that autonomous systems can be used to achieve political objectives. To be more specific, how can the Sea-Hunter unmanned surface vessel be integrated into a campaign in the Western Pacific?

The campaign would begin by acknowledging that the United States has adopted a strategy of deterrence based on denial, that is, in the event of deterrence failure U.S. forces will focus on preventing the opponent from achieving their objectives. The goal of a deterrence strategy is not to engage in conflict, but to preserve the peace, prevent some unwanted fait accompli, and to ensure that change occurs through democratic and rules-based processes. Indeed, the outbreak of hostilities would represent a failure of strategy, a complete failure of the U.S. military to deter conflict, and a political and humanitarian catastrophe, forcing the nation to engage in an unwanted war. So how can a campaign using Sea Hunter strengthen deterrence, and in the unfortunate event of deterrence failure, how can the campaign be used to deny the opponent their objectives?

The Sea Hunter could be integrated into the Fleet quickly creating many hybrid (crewed and uncrewed) surface action groups. The Sea Hunters might serve several roles – as decoys, as ISR platforms, or as carriers of containerized weapons as a cost-effective way to increase firepower. The mission force mix is a technical or operational matter, best left to operators to resolve after they are informed by analysis. Organizing a campaign around such deployments would strengthen deterrence in several ways. First, as they are deployed and undergo the process of integration into the Fleet, they will create a dynamic problem for the opponent. Instead of a static force posture, that barely changes year to year, experimentation with Sea Hunter, demonstrating different types of operations, can complicate an opponent’s planning, reducing their confidence in various schemes to use surprise or novel military evolutions to create a fait accompli. Efforts to bolster deterrence create a “reveal-conceal” issue, that is, how much capability should be revealed to bolster deterrence and how much capability should be concealed to bolster warfighting capabilities in the wake of deterrence failure. Resolving this issue could even be undertaken with a campaign philosophy – new capabilities might be revealed from time to time to keep the opponent off balance or even during a crisis to reduce the opponent’s confidence in their existing military preparations.

Second, the Sea Hunter can bolster the credibility of the maritime deterrent threat by increasing the survivability of the Fleet’s second-strike capability, which is the force

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that matters if U.S. strategy fails in the Pacific. 11 Because conventional deterrent threats are “contestable,” that is, the opponent has a say when it comes to their execution, steps must be taken to win the battle of the opening salvo. 12 In other words, because the United States embraces a deterrent strategy, it is unlikely that the United States will fire the first shot in a conflict, which would bring about the war Washington wants to avoid in the first place. A deterrent strategy must envision a way to defeat or misdirect an opponent’s effort to fire effectively first. Here the Sea Hunter’s ability to act as a decoy, complicating the opponent’s planning and misdirecting its opening salvo, provides an important capability to the Fleet. Decisions about concealing or revealing capabilities become crucial in this regard. Nevertheless, the ability to lead the opponent to activate sensors, fire, reveal their position, and miss will constitute a significant tactical success if deterrence fails. Instilling in the opponent’s mind the idea that the previous sequence of events is a distinct possibility would also do much to increase the survivability of conventional second-strike forces, thereby increasing the overall credibility and hence effectiveness U.S. deterrence strategy.

Conclusion

The way forward is clear. Strategists and tacticians cannot simply take existing autonomous and semi-autonomous systems and operations that were successful in past battles, transfer them to a new geo-strategic setting, and expect to achieve the same results. Instead, the process of weaponization must continue, by developing new applications of autonomous and semi-autonomous technologies to solve specific problems at hand. Solving this “Left of Battle” problem, devising war winning strategies, is especially difficult when it comes to new technology. 13 In other words, the chances of successful innovation increase if new weapons are integrated into a campaign to achieve tactical and operational goals that contribute to overall strategic and political objectives. There is no doubt that the promise of new autonomous technologies is growing; nevertheless, their successful application requires the active participation of those who will have to employ new systems and weapons at sea. Planners also must abandon the perennial quest to produce war-winning “silver bullets” and instead focus on developing systems that provide even modest advantages and most importantly, “cost-effectiveness at the margins” – autonomous weapons must cost less than their intended targets.

With these criteria in mind, several missions could be quickly undertaken by drones in the Western Pacific. For instance, the resilient and expendable ISR platforms under development by Task Force 59 could be adapted to monitor areas of interest across the Western Pacific. Data collected would help establish normal types of activity, enriching the information available to improve the accuracy and sensitivity of indications

and warning intelligence. Better warning could increase the survivability of U.S. forces while decreasing the prospects that the opponent might be able to launch a successful fait accompli by providing the time necessary for U.S. units to move towards some point of contention.

None of the applications mentioned in this article are especially creative. They constitute little challenge to the state of the technological art. None hold out the prospect of becoming a silver bullet. Nevertheless, they all can bolster deterrence in the Western Pacific, but only if Navy officers embrace the process of weaponization seriously by devising effective campaigns to overcome challenges and achieve strategic objectives in the Western Pacific.
APPENDIX B

The U.S. Navy and the Rise of Great Power Competition: Looking Beyond the Western Pacific

Authors: James J. Wirtz, Jeffrey E. Kline and James A. Russell

This volume is a mix of original and previously published material that describes how today’s great power competition, which is accompanied by the proliferation of anti-access and area-denial capabilities and strategies, is changing the face of naval operations in general, and U.S. Navy operations in the western Pacific in particular. The volume highlights how the changing techno-strategic nature of the maritime environment is challenging the position of dominance enjoyed by the U.S. Navy since the Battle of the Philippine Sea in July of 1944. It describes how a variety of new technologies and weapons systems are threatening to end the position of dominance enjoyed by carrier-based naval aviation. The authors explain why the U.S. Navy as an institution faces significant challenges and impediments in efforts to match the accelerated pace of innovation produced by techno-strategic developments. The U.S. Navy lacks a strategy for the long term to manage innovation to better ride the waves of techno-strategic change that are forming on the maritime horizon. The volume culminates in a discussion of sophisticated strategies and operational concepts that position the U.S. Navy and its maritime allies and partners to prevail in today’s techno-strategic churn.

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James J. Wirtz is a Professor in the Department of National Security Affairs and Dean of the School of International Graduate Studies at the Naval Postgraduate School, Monterey, California. Professor Wirtz earned his degrees in Political Science from Columbia University and the University of Delaware. He also was a John M. Olin Pre-Doctoral Fellow at the Center for International Affairs, Harvard University and a visiting professor at Stanford University. Professor Wirtz is the author of Understanding Intelligence Failure: Warning Response and Deterrence (Routledge, 2017) and The Tet Offensive: Intelligence Failure in War (Cornell University Press, 1991, 1994) and scores of journal articles and book chapters. He also has co-edited over twenty-five volumes. Along with co-editors John Baylis and Colin Gray, he recently completed the 7th edition of Strategy in the Contemporary World (Oxford, 2022). In 2016, the Intelligence
Studies Section of the International Studies Association honored him as a Distinguished Scholar.

Jeffrey E. Kline

Jeffrey E. Kline is currently a Professor of Practice in the Operations Research department and is the Director of the Wayne P. Hughes Jr. Naval Warfare Studies Institute. He teaches Joint Campaign Analysis, systems analysis, executive risk assessment and contributes to maritime security education programs offered at NPS. He supports applied analytical research in naval warfare, maritime operations and security, theater ballistic missile defense, and future force composition studies. Professor Kline was a member of the 2017 Chief of Naval Operations Fleet Design Advisory Board. He has also served on several Naval Study Board Committees. His NPS faculty awards include the 2019 INFORMS Military Application Society J. Steinhardt Award for Lifetime Achievement in Military Operations Research, Superior Civilian Service Award, 2011 Institute for Operations Research and Management Science (INFORMS) Award for Teaching of OR Practice, 2009 American Institute of Aeronautics and Astronautics Homeland Security Award, 2007 Hamming Award for interdisciplinary research, 2007 Wayne E. Meyers Award for Excellence in Systems Engineering Research, and the 2005 Northrop Grumman Award for Excellence in Systems Engineering. He is a member of the Military Operations Research Society, the Institute for Operations Research and Management Science, and the Naval Warfare Studies Institute.


James A. Russell

James A. Russell serves as Associate Professor in the Department of National Security Affairs at NPS, where he is teaching courses on innovation in military organizations, Middle East security affairs, terrorism, and national security strategy. His latest articles are, “Saudi Arabia: The Strategic Dimensions of Environmental Insecurity,” Middle East Policy 23, No. 2 (Fall 2016): 44-58; “Nuclear Reductions and Middle East Stability: Assessing the Impact of a Smaller Nuclear Arsenal,” Nonproliferation Review 20, No. 2 (Summer 2013): 263-268; and “Counterinsurgency American Style: Considering David

From 1988-2001, Mr. Russell held a variety of positions in the Office of the Assistant Secretary Defense for International Security Affairs, Near East South Asia, Department of Defense. During this period, he traveled extensively in the Persian Gulf and Middle East working on U.S. security policy. He holds a Master’s in Public and International Affairs from the University of Pittsburgh and a Ph.D. in War Studies from King’s College, University of London.

**Unique Aspects of Volume**

Because it considers technology, geo-politics and traditional maritime strategy, this volume is relatively unique in the field of security studies. The closest competing works are a series of “think tank” studies and articles that can be divided into several schools of thought. Members of the “active denial” school, for instance, would deter the PRC by denying it benefits from military aggression, without having to inflict a decisive defeat on China, or attacking targets on the mainland.14 Active denial thus holds out the possibility of deterring, or defeating, aggression whilst moderating the chances of escalation. The “offshore control” school would interdict China’s global trade, whilst helping the island states of the western Pacific to protect their territorial integrity. China’s economic exhaustion and a stalemate of the maritime conflict could help end hostilities with minimal loss of life, or the destruction of economic infrastructure.15 Others advocate a “maritime pressure” strategy that relies on “inside-out” defenses to deter Chinese

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aggression against Taiwan and the first island chain. It suggests that survivable forces could be deployed within range of China’s anti-access/area denial network to complicate offensive operations along the Asian mainland, while “outside forces” operating beyond the range of China’s shore-based weapons would be used to create defense in depth. One can certainly argue about the pros and cons of these various strategies, but authors of these competing approaches agree on one fundamental point that was best expressed by Thomas Mahnken: “The United States Navy today suffers from a critical deficit in strategic thinking about the most consequential challenge of the current era: the rise of China and the threat it poses to U.S. interests in the western Pacific and beyond.”

Outside of this literature, there are no monograph length works dealing with how today’s great power competition, which is accompanied by the proliferation of anti-access and area denial capabilities and strategies, is changing the face of naval operations, especially in the western Pacific. The closest competitors might be James Holmes, *A Brief Guide to Maritime Strategy* (Annapolis: Naval Institute Press, 2019) or Michael McDevitt, *China as a Twenty-First-Century Naval Power* (Annapolis: Naval Institute Press, 2020).

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The U.S. Navy and the Rise of Great Power Competition: 
Looking Beyond the Western Pacific

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Chapter “Introduction”

1. Original Material

Abstract: Sometimes, change in maritime affairs occurs at a leisurely pace. Sometimes, the pace of change is accelerated -- technological and geo-political trends emerge and combine rapidly to transform maritime affairs. Military and political trends in the western Pacific suggest that the world has encountered or is about to encounter a pivotal moment when existing weapons, tactics and operations might be rendered obsolete by techno-strategic change. This volume considers these developments from three perspectives by describing the techno-strategic setting, by describing the institutional constraints that impede the ability of the U.S. Navy to respond to these changes, and by describing a new approach to naval force planning and strategy to cope with these developments.

PART I THE CHANGING TECHNO-STRATEGIC SETTING

Chapter 1: “A Maritime Conversation with America”
Originally published in Orbis, Vol. 66, Issue 2, 2022, 166-183

Abstract: Over the last century, the U.S. Navy has encountered critical moments when the emergence of new technologies and competitors caused paradigmatic shifts, undermining established operations and force structure. Today, the rise of an assertive China and its new anti-access and area-denial capabilities threaten the aircraft carrier-based maritime dominance of the U.S. Navy. Citizens and elected officials alike need to be conversant in the process to create the strategy, forces, and metrics needed to guarantee that the United States wins the emerging maritime competition in the western Pacific. It is time to explain to the American public the enduring considerations and limitations that shape the operations of their global Navy.

Abstract: A call for innovation as a means to outpace the acceleration of technological change and to bolster capabilities quickly is a central theme of contemporary U.S. Naval Strategy. The need for innovation is accepted, but the integration of readily available technologies into the Fleet is slow. Innovation unfolds according to “Navy-Time,” a cycle lasting between a long-decade and thirty-years. To accelerate the innovation process in the U.S. Navy, the chapter offers a Concept of Operations for innovation that outlines how a deliberate process of analysis, weaponization and integration can move new ideas and weapons into the Fleet in a strategically relevant timeframe.

Chapter 3  “Imagining Maritime Conflict in the Indo-Pacific: Can Analogies Substitute for Strategy”

Abstract: Historical analogies are sometimes used to imagine the scope and nature of a potential conflict in the Indo-Pacific. Using analogies, scenarios, and “images” of future war, instead of strategy, however, can produce an inadequate assessment of future material, operational, and tactical requirements that will be encountered by the U.S. Navy in the maritime domain. Without a long-term strategy to set force development and guide operational requirements, the U.S. Navy will suffer from a “strategic deficit” when it comes to dealing with deterrence, coercion, and escalation in the Indo-Pacific. As planning guidance, the use of analogies is no substitute for strategy.

PART II THE U.S. NAVY: INSTITUTIONAL CONSTRAINTS

Chapter 4: “Innovation and Navy-Time”

Wirtz Chapter from Alessio Patalano and James Russell (eds.) Maritime Strategy and Naval Innovation: Technology, Bureaucracy, and the Problem of Change in the Age of Competition (Annapolis: Naval Institute Press, 2021)

Abstract: Although the U.S. Navy is adept at integrating new technologies into its force structure, integration does not occur at a rapid pace.
Anywhere from a long decade to thirty years will transpire before new technology can be weaponized and integrated into the fleet. This pace of change is governed by planning, budgeting and personnel cycles that actually constitute the essence of the Navy. Accelerating the pace of innovation within the Navy is possible, but only if the very essence of the Navy changes to accommodate the increasingly dire need to meet today’s maritime challenges.

Chapter 5: “Long-Term Navy Strategy: Meeting the Techno-Strategic Challenge.” Quasi Original material

Published as “The U.S. Navy’s Generational Challenge” by Survival (Summer 2022). However, the two versions are very different. The published article is less detailed version of the manuscript contained here.

Abstract: Technological, social, and environmental developments are producing changes at such a rate that they threaten to overwhelm the ability of individuals, societies and governments to adapt. The pace and impact of this technological churn is especially difficult for the US Navy because of the long time frames involved in traditional navy planning, acquisition and personnel cycles. The U.S. Navy should prepare to ride succeeding waves of techno-strategic change – particularly the “robotics wave” – and apply three rules of strategy in thinking about the role of technology in war at sea.

Chapter 6: “Twenty-First-Century Innovation Pathways for the U.S. Navy in the Age of Competition,”


Abstract: Recent programs such as the littoral combat ship, the Zumwalt-class guided-missile destroyer, and the Ford-class aircraft carrier all have highlighted the Navy’s failure to produce innovative, affordable ships in the quantity and of the quality needed to configure a larger, redesigned fleet. Unless the Navy can address mistakes made in these programs it will have difficulty innovating successfully – with potentially disastrous consequences.

PART III TOWARD A US NAVY STRATEGY

Chapter 7: “Impacts of the Robotics Age on Naval Force Design, Effectiveness, and Acquisition”
Abstract: By embracing the robotics age, the U.S. Navy might be able to hurdle acquisition challenges to bring cutting-edge technology to contemporary naval warfare. Incorporating robotics technology into the fleet as rapidly as possible would magnify the fleet’s capacity, lethality, and opportunity – all critical to strategic and tactical considerations. Doing so would also recognize the fiscal constraints under which our present force planning cannot be sustained. Recognizing the fundamental shift in maritime affairs that is embedded in the robotics age can help Navy planners refocus efforts to emphasize the “right side” of their offensive kill chain – the side that delivers the packages producing kinetic and non-kinetic effects.

Chapter 8: “The ‘Bi-Modal’ Navy: Force Design Revisited”

Abstract: The growth in the size of the People’s Liberation Army Navy and the expanding reach of its anti-access and area-denial assets have given a new urgency to developing a distributed offensive naval capability in the form of a “bi-modal” navy. Luckily, for the U.S. Navy, new and inexpensive autonomous technologies offer a way to supplement existing sea-control forces built around carrier strikes groups. A fleet of mostly small, inexpensive, and largely non-crewed offensive platforms could operate forward as sensors, decoys, and missile shooters, not only to absorb and misdirect the opponent’s first salvo, but also to engage the opponent’s sea-denial capabilities at the outset of a conflict.

Chapter 9: “Indications & Warning Intelligence for the Western Pacific”

Abstract: I&W intelligence fell out of fashion following the demise of the Soviet Union. One reason for this volte-face was that the United States and its allies enjoyed a distinct military advantage over likely opponents – forces were available in theater to cope with most of the contingencies likely to be encountered. Today, the steady growth in the size and capability of Beijing’s military has made it increasingly difficult for the United States and its friends and allies across the western Pacific to respond effectively to a PRC initiative with the forces maintained in a typical peacetime “day-alert” posture. Instead, forces will need to be “generated” by curtailing routine activities, completing ongoing maintenance, and focusing logistics on combat readiness to maximize unit availability in the required theater of operations. This chapter describes the I&W Intelligence as a system that can strengthen the U.S. maritime deterrent in the western Pacific. It also explores the various stratagems that
might be adopted to complicate the efforts of I&W analysts to generate warnings and associated responses to untoward developments.

Chapter 10:  
“The United States Navy and Integrated Deterrence”

Original Material

Abstract: As Navy strategists and planners contemplate technological and operational innovations, they need to consider how their plans interact with a whole of government approach to deterrence in the Indo-Pacific. While the term “integrated deterrence” has created consternation among some observers, it stands as a call to consider how various tactical, operational and administrative “stovepipes” can be combined in a unified deterrent effort. Strategists need to consider how various Navy programs and operations might interact with programs and operations undertaken by other U.S. military and civilian agencies to present a credible and capable future deterrent.

PART IV THE WAY AHEAD

Chapter 11:  
Conclusion: A Strategy for the Long Term

Original Material

Abstract: As an institution, the Navy can shield its internal processes and programs from external interference to guarantee that the personnel and resources will be available to sustain its ships well into the future. Nevertheless, it encounters difficulty when it comes to selecting a strategy to guide force development in a coherent and consistent matter. Each Chief of Naval Operations attempts to leave their imprimatur on strategy and force development, which dissipates efforts to move the Navy in a specific direction. A “Strategy for the Long Term” that can be implemented over the long term is needed to guide naval innovation along desired pathways.
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