

Why America Needs a New Way of War

Christopher M. Dougherty

About the Author



CHRIS DOUGHERTY is a Senior Fellow in the Defense Program at the Center for a New American Security (CNAS). His research areas include defense strategy, strategic assessments, force planning, and wargaming.

Prior to joining CNAS, Mr. Dougherty served as Senior Advisor to the Deputy Assistant Secretary of Defense for Strategy and Force Development at the Department of Defense (DoD). During this time, he led a handful of major initiatives including the development and writing of major sections of the 2018 *National Defense Strategy* (NDS), including the Global Operating Model, the Force-Management and Planning Construct, and the Force-Planning Priorities. He also helped develop the wargaming and analytic inputs to the NDS. Prior to the NDS, he wrote the FY2018 Defense Analytic Guidance, which revamped the previous force-planning construct and mapped out major reforms to the DoD's analytic enterprise. He conducted several assessments of the Joint Force's ability to execute the defense strategy, and led analysis and wargaming on a broad range of topics including deterrence in Eastern Europe and East Asia.

Before serving in the DoD, Mr. Dougherty was a research fellow at the Center for Strategic and Budgetary Assessments (CSBA). At CSBA, he coauthored reports on special-operations forces, directed-energy weapons, and defeating Iranian anti-access/area-denial strategies in the Persian Gulf. He published on protracted warfare in *The National Interest* and on the need for the Army to rethink its roles and missions in *Defense News*. He assisted with scenario development, game design, and post-game analysis for numerous wargames on topics including proxy warfare, future maritime competitions, and operational logistics.

Mr. Dougherty served as an airborne infantryman with the 2d Battalion, 75th Ranger Regiment in Fort Lewis, Washington, from 1997 to 2000.

Mr. Dougherty holds a master's degree with distinction in international studies from the Johns Hopkins University School of Advanced International Studies, and a bachelor's degree *summa cum laude* in international studies from the Henry M. Jackson School of International Studies at the University of Washington.

Acknowledgments

The author would like to thank Elbridge Colby, Loren DeJonge Schulman, Jim Mitre, David Ochmanek, Greg Grant, Jon Solomon, Billy Fabian, Col Jack "Winder" Arthaud, and Lt Col Charles "BB" Bris-Bois for their helpful feedback and edits. He is deeply in your debt. The author also would like to thank all of the members of the "A New American Way of War" core working group for their intellectual contributions to this effort. In addition, he would like to thank Neil Bhatiya, Sam Dorsheimer, and Ashley Feng for their assistance with the economic aspects of the American way of war. The author would like to thank Adam Routh, Molly Parrish, and Yashar Parsie, who provided invaluable research assistance. Finally, the author would like to thank Maura McCarthy, Melody Cook, and Susanna Blume for your assistance and patience with his first CNAS publication. All errors are the author's.

About the Defense Program

Over the past 10 years, CNAS has defined the future of U.S. defense strategy. Building on this legacy, the CNAS Defense team continues to develop high-level concepts and concrete recommendations to ensure U.S. military preeminence into the future and to reverse the erosion of U.S. military advantages *vis-à-vis* China, and to a lesser extent Russia. Specific areas of study include concentrating on great-power competition, developing a force structure and innovative operational concepts adapted for this more challenging era, and making hard choices to effect necessary change.

Cover Art

Melody Cook/CNAS

WHY AMERICA NEEDS A NEW WAY OF WAR

- 01 Executive Summary**
- 03 Introduction**
- 06 What Is a “Way of War?”**
- 07 The Current American Way of War**
- 09 A Changed World**
- 10 Why the Current American Way of War No Longer Work**
- 32 Key Challenges**
- 36 Concluding Thoughts**
- 38 Next Steps Toward a New American Way of War**

America's military has no preordained right to victory on the battlefield.

—2018 *National Defense Strategy*¹

Executive Summary

For the first time in decades, it is possible to imagine the United States fighting—and possibly losing—a large-scale war with a great power. For generations of Americans accustomed to U.S. military superiority and its ability to deter major wars, the idea of armed conflict between great powers may seem highly improbable. The idea that the United States—with the most expensive armed forces in the world by a wide margin—might lose such a war would seem absolutely preposterous. Nevertheless, the possibility of war and U.S. defeat are real and growing.

Given that U.S. armed forces' last major conventional combat operations were the massively lopsided victories against Saddam Hussein's Iraq in 1991 and 2003, many Americans might be wondering how this could come to pass. This report makes the case that one salient issue is that the American way of war—the implicit and explicit mental framework for U.S. military strategy and operations—that coalesced after the Gulf War is no longer valid.

China and Russia have spent almost two decades studying the current American way of war. While the Department of Defense (DoD) has taken its military superiority for granted and focused on defeating non-state adversaries, China and Russia have been devising strategies and developing new concepts and weapons to defeat the United States in a war should the need arise. They have offset their relative weakness versus the United States by using time and geography to their advantage and by focusing their weapons- and concept-development efforts on finding ways to attack vulnerable nodes in U.S. military operations. The goal of these strategies and concepts is to create a plausible theory of victory whereby China or Russia avoid a “fair fight” with the Joint Force and could therefore defeat the United States and its allies and partners in a regional war. These Chinese and Russian strategies, which once seemed implausible or far in the future, are beginning to pay off. They are shifting military balances in key regions and pushing allies and partners to reconsider U.S. security guarantees.

The declining U.S. military advantage in key regions and the increasing plausibility of the Chinese and Russian theories of victory animated the development of the 2018 *National Defense Strategy* (NDS). The NDS realized that, absent an effort to reshape U.S. military strategy, operational thinking, and consequent force design; the DoD and the Joint Force would face increasing difficulty ensuring favorable balances of power in key regions like East Asia and Europe;

countering Chinese and Russian coercion below the level of overt conflict; deterring Chinese and Russian attacks on allies and key partners; and, should deterrence fail, defeating Chinese and Russian aggression. Put more simply, the NDS and efforts like the Third Offset Strategy that preceded it are a flashing warning signal to the DoD, the Joint Force, Congress, and the American people that there are fundamental flaws in the current American way of war.

The potential consequences of these flaws are profound. The possibility of U.S. military defeat, or even the perception that defeat is plausible, could begin to unravel the United States' constellation of alliances and partnerships as allies and partners begin to hedge their bets on U.S. security guarantees. These relationships have helped the United States maintain a global order that for decades has made Americans secure, prosperous, and free.

Despite the warning signals and the dire consequences, changes to U.S. military strategy and operational thinking have been incremental, lethargic, and too focused on finding "silver bullet" technological solutions. Developing a new American way of war will require some shifts in resources and material, but at its core it is an intellectual challenge. Most efforts to drive change have done so with the goal of finding a way to make the current American way of war work again the way it did in Iraq in 1991 and 2003.

There is no going back to the post-Cold War era of U.S. military dominance. The DoD, the Joint Force, and the broader defense establishment have to come to grips with the systemic nature of the challenges posed by China and Russia. America needs a way of war that isn't predicated on historically anomalous imbalances in national power, but rather is suited for long-term competition with great powers with capable militaries and substantial non-military power.

The challenges posed by China and Russia are real and difficult, but American military thinkers have faced and bested similar challenges in the past. Previous generations of American military professionals won a two-front global war against Germany and Japan, built the intellectual framework for great-power competition and deterrence in the shadow of nuclear annihilation, and developed the technologies and concepts that underwrote U.S. military superiority from the end of the Cold War until today.

This paper is the opening salvo in an effort to solve the central military strategic problem facing this generation of American military professionals and policymakers. It aims to focus military thinking and policymaking on the

most critical issues, while also serving as the intellectual basis for developing a new American way of war. Given the urgency of the challenge and the consequences of failure, it is the duty of every American defense professional to sustain U.S. strategic advantages and pass them on to the next generation.

If we want everything to stay as it is, everything will have to change.

—From *The Leopard*, by Giuseppe Tomasi de Lampedusa²

Introduction

At first blush, a novel about the unification of Italy in the 19th century seems an odd fit with 21st-century American military strategy. And yet this sentence, about how Sicily's nobles could hold their position only by aligning with the liberal revolution against the Kingdom of the Two Sicilies, is a good metaphor for the paradoxes facing American military strategists, analysts, and planners. The United States is a status quo power navigating a period of disruptive change, or what Thomas Kuhn might have called a paradigm shift in the security environment.³ Sustaining America's military advantage will therefore require changing everything about how U.S. armed forces fight. Some changes may need to be radical, while many may be subtle. However, they must all flow from new assumptions about the character of modern warfare and the challenges facing the Joint Force.

Unfortunately, the DoD's responses to the many challenges posed by the emerging security environment have thus far been piecemeal and lethargic, largely because the Pentagon has failed to fully grasp the systemic nature and fundamental implications of the problem it faces: The American way of war that emerged following the Cold War will not work in an era of great-power competition.⁴ It rests on a foundation of strategic and operational assumptions that were the product of an anomalous historical period of unchallenged U.S. military dominance.⁵ The assumptions from that period are now deeply flawed or wholly invalid and must be updated for an era of great-power competition.

This has led to the situation in which U.S. armed forces are the most powerful in the world by a wide margin, and yet they increasingly run the risk of losing a future war with China or Russia.⁶ The root of the problem is the DoD's unwillingness thus far to fully come to grips with the reality that its principal competitors are no longer regional threats such as the Iraqs and Yugoslavias of the world, but rather great powers with advanced military forces and the ability to match U.S. escalation. The problems and risks that spread from that root assumption in our current way of war cross every domain and every function when applied to great-power competitors. The erosion of U.S. military advantage vis-à-vis China and Russia was a symptom of this infection, and the need to reverse it was the animating thrust of the *National Defense Strategy*. The change in emphasis wrought by the NDS is beginning to infiltrate the thinking and resourcing of the DoD and the military services, but overcoming 30 years of ingrained practices will not happen overnight.

Absent an effort to reshape U.S. military strategy, operational thinking, and consequent force design, the DoD will be unlikely to meet the NDS's mandate to prevail in the long-term competition with China and, to a lesser extent, Russia by ensuring rough balances of power in East Asia and Europe, respectively. More bluntly, the United States risks losing a plausible war or backing down when faced with one, with devastating strategic consequences. By setting conditions slowly over time, moving rapidly to seize key objectives before the United States or its allies and partners can respond, then offering to negotiate (while threatening to escalate), China and Russia could see a path to effectively using military force to harm vital U.S. national interests. Both China and Russia are pursuing such *fait accompli* strategies and developing supporting capabilities designed to offset the aggregate military superiority and “way of war” of the United States and its constellation of allies and partners.

How the Joint Force plans to fight in these types of scenarios is critical to the credibility of U.S. deterrence, the cohesion of U.S.-led coalitions, and the plausibility of the U.S. theory of victory. A military strategy that relies primarily on escalation may not provide a credible deterrent to Chinese or Russian coercion or limited-war strategies, particularly given China and Russia's nuclear weapons and other means of strategic escalation.⁷ A military strategy that cedes too much territory or fails to defend key allies and partners may have difficulty keeping a coalition together and may not provide a strong position for negotiation.

This problem is tractable, but addressing it will require profound change. This change must follow a coherent logic based on the foundation laid by the NDS. When faced with great-power competitors like China and Russia, the United States cannot afford to throw resources around without a clear strategy and priorities. The Defense budgets for fiscal year 2019 and 2020 take modest steps in the right direction, but they still reflect pre-NDS priorities in many ways. While some inertia and resistance to change is to be expected—a new Joint Force will not be built in a single budget—the evident lack of focus should be an area of concern. The NDS clearly prioritizes the need to deter and, if necessary, defeat Chinese and Russian aggression. What's needed now is for the DoD to define the next layer of detail on the military strategy and operational concepts—i.e., a



This image shows the Japanese attack on Pearl Harbor from the perspective of an Imperial Japanese Navy aircraft. The unwillingness of the United States to adopt a combat-credible posture in the Pacific contributed to a failure of deterrence and left U.S. forces scrambling to respond to Japan's offensive strategy. (U.S. Navy, NH 50930)

new way of war—necessary to realize this objective, not continued debate over the fundamental precepts of the strategy.

Profound change is necessary given the potential consequences of failure. The United States and its allies and partners created the present global order after almost four decades of great-power competition and warfare that caused unimaginable death, destruction, and human suffering. This order survived and evolved through 40 years of competition with the Soviet Union and gave way to a post-Cold War era that, while not perfect, saw enormous expansions in democracy, personal liberty, human rights, and economic opportunity across the globe. There were costs and setbacks to leading and maintaining the global order, but leadership has benefited the United States and the American people enormously in the form of security, freedom from foreign coercion, and economic prosperity.

Today, the global order is weakening. Many in the United States and allied and partner nations only see the costs and burdens of this order in the form of military obligations, regulations, and multilateral organizations. The benefits are often diffuse and the original catastrophes that spurred its creation are increasingly lost in the mists of history. Meanwhile, China seeks to create an alternative Sino-centric order in Asia, and Russia seeks to undermine the U.S.-led order at every turn. Should these efforts prove successful, it could mark a return to

the harsh zero-sum competitions between political-economic blocs that led to global cataclysms in the past. To paraphrase Mark Twain, the history of the early 20th century may not be repeating itself today, but it certainly appears to be rhyming.

U.S. armed forces—through their ability to deter or defeat aggression, enforce rules of the road, and maintain alliance cohesion—are critical to sustaining the U.S.-led global order. This is by no means an easy or inexpensive task, and the American people are right to enquire about the utility of these expenses. The empirical data are quite clear on this point. Deterring war by preparing to defeat aggression is expensive, but its costs pale in comparison to fighting a war—particularly a war with a great power. Thus, while developing a new American way of war may not be cheap, it is vastly preferable to the alternative.

This paper is intended to lay the intellectual foundation for developing a new American way of war. Its primary purpose is to identify the problems this new way of war is attempting to solve. Secretary of Defense James Mattis was fond of quoting Albert Einstein’s remark that if you have an hour to save the world, you should spend

59 minutes defining the problem and one minute to solve it.⁸ This paper represents the “problem definition” for a new American “way of war.” Accordingly, it will first define the concept of a “way of war” and explain why it is important. Then it will situate the discussion within the strategic context of the NDS, which provides the vision for U.S. defense strategy in an era of great-power competition. The body of the paper will examine the current American way of war, the key assumptions that underpin it, and why these are no longer valid, and the assumptions that ought to guide a new American way of war.

Absent an effort to reshape U.S. military strategy, operational thinking, and consequent force design, the DoD will be unlikely to meet the NDS’s mandate to prevail in the long-term competition with China and, to a lesser extent, Russia.



A U.S. soldier fires a Javelin anti-tank weapon as part of Saber Strike 16 near Tapa, Estonia, on June 19, 2016. Combined, joint training exercises such as Saber Strike help contribute to deterrence by improving interoperability and demonstrating resolve. (Ben Houtkooper/DoD Flickr)

What Is a “Way of War?”

Defined herein, a way of war is the paradigm or mental framework that military strategists and planners use to plan, prepare for, and fight the nation’s wars. Russell Weigley’s book *The American Way of War* was the first “official” use of the phrase in 1973.⁹ Since that time, a cottage industry of military historians and thinkers has written an array of works on the American way of war, which Antulio Echevarria catalogued extensively in the first chapter of his book *Reconsidering the American Way of War*.¹⁰ These works defined a “way of war” in diverse ways. This piece and the broader project on developing a new American way of war will focus on the overarching paradigm of U.S. military strategy and operational concepts.

Carl Builder captured the nature of this subconscious paradigm with the idea of “images of conflict” in his classic *The Masks of War*:

By images of conflict, I mean, literally, the picture (movie or still) that jumps into one’s mind when talking about a future conflict, or some critical moment in that conflict . . . (t)hey have the common characteristic of capturing for the observer the essence of a conflict in a picture . . . Those images, much more than analysis, may be the basis for judgments about the prospects and conduct of future conflicts.¹¹

This paradigm is expressed through informal patterns of thought and behavior, as well as more concrete manifestations such as (ideally) the *National Military Strategy*, the *Capstone Concept for Joint Operations*, other joint concepts, operational plans, contingency plans, and future concepts of operation. Put another way, the American way of war is the implicit (and sometimes explicit) framework that U.S. military strategists and operational planners start from when confronting a military problem. The specifics may vary to some degree based on the opponent, national strategic objectives, and geography, but the basic structure of joint strategy and operations remains—it is so pervasive in American military thought that its application has become subconscious.

This subconscious framework manifests itself most clearly in wargames and operational planning exercises. Faced with a problem of military strategy and operations, U.S. military thinkers arrive at remarkably similar solutions nearly every time. This partly reflects the nature of the challenges involved. Just as there are only so many ways to make an omelet, there are only so many ways to project power globally given the laws of physics and the state of human technology. An optimist might argue that this consistency in strategy and operational thinking reflects successful promulgation of concepts and doctrine. A pessimist might counter that it reflects professional military education and personnel systems that value knowing what to think over knowing how to think.¹² Regardless of perspective, this framework exists, and its influence over how the Joint Force thinks about war, how it plans, how it fights, what equipment it buys, how it trains and postures its forces, etc. is profound.

This project focuses on this paradigm as it exists today and how it must change for the future. While informed by American military history, it will avoid the debates about the American way of war (or the American way of battle) that Weigley initiated and that others, such as Echevarria and Brian McAllister Linn, continue. These debates are worthwhile and provide a broader context to the discussion, but wading into them likely would be a distraction from the topic at hand, which is the future of U.S. military strategy and operational thinking.



Students wargame at the Naval Postgraduate School in Monterey, California. The consistency of U.S. warfighting approaches in wargames highlight the pervasiveness of the current American way of war. (Javier Chagoya/DVIDS)

The Current American Way of War

The current American way of war, what some have called the Desert Storm model, is optimized to deal with rogue state adversaries like Iraq or Yugoslavia, adversaries that lacked both top-tier conventional militaries and nuclear weapons.¹³ Many have written about the current American way of war, but perhaps none have summarized it as well as Alan Vick of RAND. Writing about the challenges of air base defense in 2015, Vick summarized what he called the “new American way of war” thusly:

- Rapidly deploy large joint forces to forward bases and littoral seas.
 - Create rear-area sanctuaries for U.S. forces through air superiority.
 - Closely monitor enemy activities while denying the enemy the ability to do the same.
 - Begin combat operations in the manner and at the time and place the United States chooses.
 - Seize the initiative with a massive air and missile campaign focused on achieving air superiority in the opening hours or days.
 - Maintain the offensive initiative through parallel and continuous air operations throughout the depth of the battlespace.
- Sustain the air campaign from sortie factories—air bases and carriers generating large numbers of aircraft sorties (intelligence, surveillance, and reconnaissance [ISR]; strike; refueling) with industrial efficiency and uninterrupted by enemy action.¹⁴

While reflecting an airpower-centered perspective, Vick diagnoses most of the current American way of war correctly. Building on his work, this paper posits the following as the current American way of war:

- Maintain a “tripwire” forward presence for peacetime shaping operations.
- Increase presence during crises through “flexible deterrent operations (FDOs).”
- Rely on basing access and overflight from allies, partners, and other states in the theater.
- Exploit sanctuary in the homeland and other theaters to deploy forces without threat from enemy attack.
- Build up and sustain expeditionary forces in the theater over weeks or months, and marshal forces at concentrated land and sea bases and staging locations close to enemy territory.
- Conduct extensive intelligence preparation of the battlespace.



F-117 fighters return to Nellis AFB, Nevada, after Operation Desert Storm. The ability of the F-117 to deliver precision strikes within Iraqi air defenses was a critical advantage for U.S. forces, and this combination of stealthy airpower and precision-guided munitions has become a core part of the American way of war. (Mike Baquette/DoD)

- Commence offensive operations at the time and place the United States chooses.
- Attack regime targets and command, control, communications, computing, intelligence, surveillance, and reconnaissance (C4ISR).
- Establish aerospace, information, and maritime dominance throughout the theater.
- Attack the adversary's fielded forces and critical infrastructure to degrade its forces, erode its will to fight, and systemically disrupt the cohesion of the regime and its military.
- Conduct ground operations once enemy forces are heavily outnumbered, degraded, and disorganized.
- Combine precision firepower with rapid maneuver—enabled by information dominance and mostly secure lines of logistics—to fix and annihilate enemy forces and seize key terrain with minimal U.S. casualties.
- Exploit other levers of power (diplomacy, information, and economics) for coercive leverage.

This expeditionary warfare model proved devastatingly effective in the first Gulf War, and variations have been used against Serbia in 1999, the Taliban in 2001, Iraq again in 2003, and Libya in 2011.¹⁵ This is the starting point—or what some refer to as the “school

solution”—for joint planning.¹⁶ The model has become ingrained in U.S. military strategy since the DoD codified it into the first major post-Cold War defense strategy. *The Bottom-Up Review* of 1993 centered on the “two-war” force-sizing construct, which DoD planners envisioned as simultaneous Gulf War-like conflicts against Iraq and North Korea.¹⁷

The durability of this model is can be attributed to several factors. First, it has worked. This approach has been incredibly effective at delivering operational success, despite the inconclusive strategic outcomes that often followed. Second, and related to the first point, no adversary has yet been able to counter it in a conventional sense. Third, this model was a good fit for an era when the principal military threats to U.S. interests and international stability came from rogue states rather than peer or near-peer adversaries. During the post-Cold War period, the DoD faced a broad array of geographically dispersed challenges, but few of these required the Joint Force to deploy large, heavy forces rapidly to respond to time-critical threats.¹⁸ At the same time, calls for a “peace dividend” led to an increasingly U.S. homeland-based posture that ensured jobs and crucial congressional support while simultaneously necessitating an expeditionary way of war.¹⁹ The problem facing the DoD is that the fundamental assumptions that made the current American way of war a good fit for the post-Cold War era are no longer valid in an era of great-power competition.

The problem facing the DoD is that the fundamental assumptions that made the current American way of war a good fit for the post-Cold War era are no longer valid in an era of great-power competition.

A Changed World

Yet this is the world in which we live, as the 2018 *National Defense Strategy* lays out.²⁰ China and to a lesser degree Russia now pose the primary threats to American security. North Korea, Iran, and terrorism pose distinct, but lesser challenges. Against these threats, the United States marshals two critical and interdependent advantages: a wide constellation of allies and partners, and an ability to project and sustain military forces globally. Our allies and partners extend American military and political power and provide access and support to U.S. operations. America's ability to project power overseas provides allies and partners with an extended deterrent in peace and a defender in the event of enemy coercion or aggression.

The purpose of these advantages is to maintain favorable regional balances of power in key theaters, particularly East Asia and Eastern Europe.²¹ A favorable balance of power, realized through a combat-credible forward posture and a clear delineation of U.S. vital interests, deters overt aggression and provides credible military options should deterrence fail.²² It also better empowers friendly forces to confront coercive behavior below the threshold of overt armed conflict without undue concern about the risks of escalation, while enabling the use of other elements of national power.

The optimal standard for U.S. defense planning has been, and should continue to be, non-nuclear deterrence by denial. This means the ability to defeat adversaries' theories of victory for aggression against our allies and established partners by directly denying their ability to achieve operational objectives without dependence on vertical or horizontal escalation.²³ Strategies of deterrence by threat of mutual annihilation or graduated punishment certainly have their places, but not as cheap or "low-risk" replacements for the military force necessary to halt and defeat aggression. In deterrence, as with many things in life, cheap and low-risk options often-times have enormous hidden costs and risks, and this is certainly the case with respect to defending our allies. The United States should not want to enter into a contest in pain infliction with Russia or China over our allies or key partners.

This is particularly important because the most worrying potential conflicts of the future involve highly stressing scenarios with a significant potential asymmetry of interests between the United States and its potential adversaries. In particular, the United States will need to find ways to effectively defend Taiwan, the Philippines, and Japan from growing Chinese military

power, and the Baltics, Poland, Scandinavia, and allies on the Black Sea from Russian coercion and aggression. In these scenarios, threats to rapidly escalate in response to limited conventional aggression become incredible, as adversaries are unlikely to believe that U.S. policymakers will be willing to "trade Tacoma for Taipei," or "New York for Narva," and are probably ill-advised given the potential consequences.

An indirect approach to deterrence theoretically offers a way to exploit America's unique strengths to shape adversary behavior with less risk to U.S. forces.²⁴ As a global power the United States has many means—such as blockades, punitive strikes, sanctions—to impose costs on an adversary through horizontal escalation. The problem in practice is finding the right amount and type of threats or coercive pressure to force an adversary to back down in a timely manner without leading to unwanted escalation. Too little pressure and the adversary may not change course before it achieves its aims; too much and it may perceive its survival to be at stake.

Achieving this balance in practice is even harder given the strategic situation facing the United States. In conflict scenarios with a significant asymmetry of interests between the United States and its potential adversary—such as the defense of an ally or partner within the adversary's perceived sphere of influence—the adversary is likely willing to suffer a great deal of punishment before backing down. Additionally, most potential

The optimal standard for U.S. defense planning has been, and should continue to be, non-nuclear deterrence by denial.

adversaries are fully aware of the United States' ability to use its global advantages to impose costs and will have "priced" those costs into their decision to go to war. Discerning which threats are likely to deter an adversary without prompting unfavorable escalation is more difficult during the heightened tension and compressed time lines of a crisis. Finally, any global campaign to impose costs indirectly will have negative second- and third-order impacts on our allies and partners, many of whom have deep economic ties with China and Russia.²⁵ These four factors turn an already-small sweet spot for effective deterrence-by-punishment into a razor-thin opening.

Instead, the ability to deny adversaries' objectives by defeating their aggression without dependence on vertical or horizontal escalation that would threaten the survival of their regimes or ways of life makes for

a far more credible and effective deterrent, and a more attractive strategic approach should deterrence fail. This is why the NDS focuses on defeating adversaries' aggression at the place of attack and on favorably managing escalation, and why it places such emphasis on the "blunt layer" in its global operating model. During a crisis or conflict, this approach is designed to place the burden of escalation on adversaries, not the United States. Potential adversaries must know that they will confront U.S. forces capable of eviscerating their assault echelons from the outset of a conflict. This will impede their operations long enough for the United States and its allies and partners to marshal sufficient forces to counterattack from a position of strength, regain any lost territory, make further escalation unattractive, and compel war termination on terms favorable to the United States and its allies and partners.

A regional advantage founded in non-nuclear deterrence also provides a base of options for confronting coercive behavior below the level of overt armed conflict, known commonly as "gray-zone" behavior. Successfully countering gray-zone actions will require a diverse array of tools, including U.S. forces operating by, with, and through partners in the NDS' "contact layer," as well as non-military instruments of power.²⁶ Many gray-zone problems involve a simple calculus: Is the object in question worth the risk of escalation if the action is confronted? While this is a predominantly political calculation, improving the Joint Force's ability to act across the spectrum of conflict—and to prevail in the event of escalation—opens up options for U.S. policymakers and forecloses them to adversaries.



A U.S. Navy P-8A Poseidon maritime patrol aircraft participates in trilateral antisubmarine warfare exercises with British and Japanese forces. A multinational combination of maritime patrol aircraft and surface vessels could be part of military efforts to counter gray-zone coercion in the maritime domain and provide options in the event of escalation. (William Andrews/DVIDS)

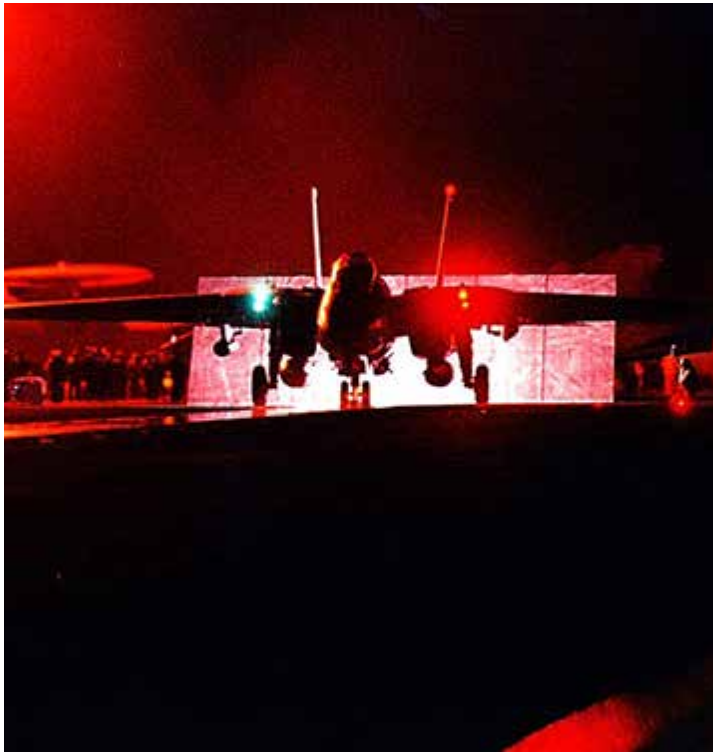
Why the Current American Way of War No Longer Works

The foundational assumptions underpinning the current American way of war are that rogue regional threats, such as Iraq, Iran, and North Korea, are the principal threats to U.S. security, and that the most worrisome scenario would be simultaneous conflicts with two of these adversaries. This was the foundation of the two-war force sizing construct of the 1993 *Bottom-Up Review* and subsequent quadrennial defense reviews until the 2018 NDS shifted toward a new force-management and planning construct.²⁷ Alongside these explicit assumptions has been the implicit assumption that U.S. military-technological superiority—epitomized by precision-guided weapons and supporting sensors, information technology, and networks—would remain unchallenged.

These assumptions made sense at a time when the Soviet Union was collapsing, China's military power was still mostly latent, and the cost and difficulty of building advanced precision weaponry seemed prohibitive for potential competitors. Likewise, the two-war standard was a reasonable yardstick for determining how far the United States could shrink its military while remaining a global superpower. It also had the benefit of drawing on the Gulf War to determine how the Joint Force would fight these types of wars, and what the requisite forces would be. The unfortunate consequence of this wholly sensible decision, however, was that the DoD benchmarked the Joint Force against relatively static threats that lacked meaningful abilities to contest the way of war that emerged from the Gulf War.²⁸

The world has changed markedly since 1993 and even since 2003—the last time that the United States engaged in large-scale conventional conflict. By far the most important difference is the continuing rise of China, the strikingly rapid modernization of the People's Liberation Army (PLA), and its emergence as a highly formidable armed force. Accordingly, the foundational idea of the NDS is that an increasingly capable China, and to a lesser extent a revanchist Russia, represent the most stressing challenges to U.S. national security. This shift has profound implications for the American way of war. The many assumptions and approaches Vick laid out no longer hold in a strategy focused on China and Russia. They need to change to meet the NDS's requirements—thus America needs a new way of war and new military capabilities to enable it.

Why is the current way of war no longer valid in an era of great-power competition? The basic problem is that an



A U.S. Navy F-14 Tomcat prepares to launch from the USS Theodore Roosevelt in support of Operation Allied Force in 1999. Yugoslavia's inability to contest the maritime domain allowed U.S. Navy ships to operate close to their targets and provide enormous combat power in support of NATO operations. (Donne McKissic/DoD)

expeditionary model involving methodical deployments of forces over thousands of miles to vulnerable bases will not work against China or Russia. Indeed, both of these states have gone to school on this way of war over the last 10–20 years and have devised myriad strategic and operational counters to it along with capabilities designed specifically to target vulnerabilities inherent in the preferred American way of operating. This has resulted in a situation in which many, if not most, of the assumptions and rationales behind the current American way of war no longer obtain. Accordingly, each of these aspects of the legacy way of war is now, at a minimum, contested, if not outright obsolete.

The remainder of this section is a point-by-point description of the assumptions underpinning the current American way of war, a brief discussion of how China and Russia can render these assumptions invalid, and how this change should affect U.S. operational thinking and planning.

First, however, a brief caveat. This paper combines China and Russia together for the purpose of analytic and narrative brevity. Their motivations, perspectives, strategies, operational capabilities, and tendencies all

differ to substantial degrees. While acknowledging these differences, their approaches to challenging and countering the current American way of war share sufficient similarities at a high level that a combined view still yields useful insights. Nevertheless, a deeper dive on the unique challenges posed by each competitor is warranted.

Maintain a “Tripwire” Forward Presence for Peacetime Shaping Operations.

This assumes that the mere presence of U.S. forces—regardless of their ability to fight effectively—will deter aggression.

The logic is that any aggressor would have to attack them, and any attack on U.S. forces would inevitably prompt an overwhelming U.S. response that would roll back the aggression and impose on the aggressor severe costs, potentially including regime change. Under this assumption, credible combat power is less important than the ability to reassure allies and convince adversaries of U.S. commitment. This approach can work with rogue powers that have no meaningful ability to prevent or withstand a counterattack at a time and place of America's choosing, but less well against great powers with significant military capabilities.²⁹

The question for allies and partners facing post-Cold War regional threats was: “Will the United States intervene?” In this environment, symbolic gestures mattered. Given current trends, the question for allies and partners facing Chinese or Russian aggression may increasingly become, “Can the United States intervene?” In this environment, symbols matter less than capability.



An F-15C lands at Kadena Air Base, Japan. Kadena's proximity to China makes it highly vulnerable to missile and air strikes in the event of a conflict. (Matthew Seefeldt/DVIDS)

Chinese and Russian military strategies seek to avoid direct confrontation with the United States, or to use their A2/AD systems to deter, delay, and degrade any potential military response if confrontation is unavoidable. Without the threat of an effective military response in the event of conflict, a tripwire presence loses its viability, as it doesn't "trip" anything. Instead, it runs the risk of becoming a vulnerable target, a hostage, or irrelevant. This is particularly concerning since Chinese and Russian strategies, combined with neglect of alliance relationships, are weakening collective responses to coercion and aggression.

Simply adding more forces to a theater doesn't necessarily solve this problem, since China and Russia's A2/AD operations target vulnerable nodes in our way of war to achieve systemic effects. Putting more aircraft at a forward airbase, for example, adds no effective combat power if missile strikes destroy the fueling systems, disable the runway, and kill aircraft on the ground.³⁰ As this paper will explore in greater detail below, there

The question for allies and partners facing post-Cold War regional threats was: "Will the United States intervene?" Given current trends, the question for allies and partners facing Chinese or Russian aggression may increasingly become, "Can the United States intervene?"

are strong incentives to attacking an adversary first in a mature precision-strike regime, particularly in the dangerous period when peacetime crises transition to outright conflict.

Rather than tripwires or a peacetime orientation, U.S. forward posture in Asia and Europe (and to a lesser extent the Gulf) must be combat credible.³¹ This means ensuring that forward forces, bases, and other critical facilities can withstand and operate effectively under coordinated multi-domain attacks with minimal warning, possibly before hostilities begin.

A combat-credible forward posture of U.S., allied, and partner forces should cause military planners in China and Russia to doubt their ability to gain a lasting advantage through preemptive strikes, or systemically degrade U.S. forward combat power. In turn, this should prompt them to question their ability to achieve their goals without a prolonged and costly confrontation and the

prospect that their aggression will fail or incur unacceptable risks or costs. This kind of forward posture doesn't necessarily need to win a war, but it needs to avoid losing one while making a counterattack more effective and opening up options for war termination from a position of strength.³² Combat-credible forward postures in Asia and Europe that can deny coercion or rapid aggression present China and Russia with a dilemma during a crisis: back down, or escalate a conflict in ways that galvanize a U.S.-led coalition.

Increase Presence during Crises through "Flexible Deterrent Options (FDOs)."

This assumes that adding forces alters the regional balance of military power—and therefore adversary deterrence calculi—in ways that cannot easily be countered.

Against rogue regional threats, reinforcing the theater during a crisis can deter provocations or aggression by signaling capability and intent. Given their limited military power, these states have difficulty offsetting or negating the change in the regional military balance.

As the previous section discussed, more forces forward do not necessarily equate to a stronger deterrent against China or Russia without a combat-credible posture. Adding more forces to a theater with vulnerable, highly concentrated "hub" bases may simply provide more targets for a first strike. Alternatively, China and Russia possess sufficient military forces across different geographic commands to offset the reinforcement of any particular theater. Russia, for example, could use its interior lines to reinforce the Baltic region during a crisis by shifting forces from their Central, Southern, or Eastern military districts faster than the United States could reinforce the region from its global posture. Should an FDO possess enough combat power to fundamentally alter the military balance during a crisis, it could actually push China or Russia into an aggressive act out of fear that the additional forces are a prelude to war.

Both FDOs and the reliance on tripwire postures to some extent reflect a flawed emphasis on reassuring allies over deterring adversaries. In both cases, U.S. forces are intended to convey a signal of intent and will, but they do not substantially tilt the military balance. Against adversaries that already perceive the balance to not be in their favor—e.g., Hussein's Iraq following the Gulf War—U.S. force presence is more about reassuring allies and stabilizing the region than deterring aggression.

However, this focus on reassurance is actually problematic in areas where the military balance may be



An F-22 Raptor participates in Exercise Vigilant Ace-18 at Gwangju Air Base, Korea. The DoD often uses forward deployments of advanced aircraft like the F-22 to reassure allies and deter potential adversaries. (Kristen Heller/DVIDS)

uncertain or unfavorable for the United States and its allies and partners. In that case, a small addition of U.S. forces that has a negligible impact on deterrence may cause an ally or partner to erroneously feel more secure. Under this misapprehension, they may reduce their readiness or military investments or engage in more provocative behavior that could draw the United States into a conflict that it is not postured to fight. While reassurance of allies is obviously important, it must be subordinate to deterrence.

FDOs likely will remain part of the DoD's tool kit for responding to crises, but they should be reexamined for their applicability to the challenges posed by China and Russia. FDOs should reinforce a combat-credible posture, rather than further expose U.S. forces to a debilitating first strike. They should be less predictable, with different forces converging from multiple locations consistent with the NDS' Dynamic Force Employment concept. They must be calibrated to induce doubt and caution into the minds of Chinese and Russian planners and policymakers, without causing them to fear preemptive U.S. action.

Rely on Basing Access and Overflight from Allies, Partners, and Other States in the Theater.

This assumes that states are willing to risk their relations with the aggressor, not to mention the possibility of retribution, to support U.S. operations.

During operations against rogue regimes, regional states typically have allowed basing and overflight access. Sometimes, this is because they actively support operations to rid their region of a destabilizing threat. Other times, states rationally calculate that the benefits of good relations with the United States outweigh the costs of soured relations with a pariah regime. Regardless of the reason, basing access and overflight have not been significant limiting factors in planning for these sorts of operations.

China and Russia are not small, pariah regimes with limited influence over states

in their regions. They are great powers with lasting economic, political, and cultural relationships with many of the states on their periphery. They possess myriad carrots and sticks with which to induce or coerce regional states to deny basing access and overflight to

Both FDOs and the reliance on tripwire postures to some extent reflect a flawed emphasis on reassuring allies over deterring adversaries. In both cases, U.S. forces are intended to convey a signal of intent and will, but they do not substantially tilt the military balance.

U.S. forces. While many allies and partners, and possibly even some nonaligned states, will provide access and overflight in crises or conflicts with China or Russia, many may not. Or they may place so many restrictions on U.S. operations from their territory or through their airspace that U.S. planners determine that these states are functionally off-limits.

The dynamics of regional alignment can be fluid and depend highly on domestic issues and the specifics of

any given situation. Nevertheless, in many cases, prudence suggests that the United States should start with the assumption that access and overflight will likely not be granted in a conflict scenario with China or Russia, and work from that basis, rather than the inverse. This would have two potentially salutary effects. First, it would focus U.S. defense cooperation and other instruments of national power on wooing (or corralling) wavering states with critical geographic locations (e.g., the Philippines). Second, it would encourage development of new operational concepts and necessary capabilities that are resilient to changes in access and overflight.

Exploit Sanctuary in the Homeland and Other Theaters to Deploy Forces without Threat from Enemy Attack.

This assumes that adversaries lack the capability to attack locations outside the primary theater of operations.³³

The current American way of war assumes that rogue regimes such as Iraq and North Korea lack effective means of attacking distant U.S. bases in the homeland or in other theaters such as Europe. This allows U.S. forces, equipment, and material to move from garrisons and depots to ports and airfields without enemy interference, which speeds deployment time lines and allows the Joint Force to respond quickly to crises. It means that planners can assume that forces, equipment, and supplies are safe at their home stations and that critical supporting infrastructure like the military industrial base, fuel refineries, chemical plants, railroads, highways, ports, airports, and supporting computer networks may suffer from friction, but they will be largely free from enemy attack.

The 2018 NDS stated clearly that the homeland is no longer a sanctuary. While this statement is a bit misleading, as the historical idea of the homeland as a sanctuary is more of a collective delusion than a rational assessment, states, and possibly some non-state actors, can meaningfully interfere with the Joint Force and its supporting infrastructure in places that were previously considered safe. Two trends are driving this shift. The first is the change in opponents from rogue regimes to great powers. China and Russia possess capabilities for long-range attacks that rogue regimes like Iraq and North Korea do not.³⁴ Russia, in particular, has a variety of conventional weapons systems with which it could attack the U.S. homeland to disrupt deployment of forces and materiel, as well as U.S. command and control.³⁵ Should the United States find itself in a conflict with China or Russia, it can no longer assume that the homeland will be safe from kinetic attack, and the risk of attack will increase if U.S. forces strike their homelands.

The second trend placing the homeland at risk is a change in the areas of vulnerability and the means of attack toward deniable or semi-deniable attacks. Virtually every aspect of the systems and infrastructure that enable the deployment of U.S. forces relies on computer networks that are vulnerable to cyberattacks. U.S. communications networks are vulnerable to deniable or semi-deniable attacks on space infrastructure and undersea cables.³⁶ While most adversaries would be cautious about kinetically striking the U.S. homeland or the territory of a major U.S. ally during a crisis or early in a conflict, many might be willing to attempt deniable or semi-deniable attacks on computer networks, space systems, or undersea infrastructure that could seriously hobble U.S. operations and society without easy attribution or loss of life.

Operational planning should start from the assumption that China and Russia will contest U.S. operations wherever possible, including in the homeland and at overseas bases outside the primary theater of operations. Chinese and Russian interference likely will start with covert or deniable actions such as information



U.S. Army M-60 tanks assemble after debarking the USNS Antares following Reforger 86. The Reforger exercises were a key component of late-Cold War deterrence and conducting similar deployment exercises today that emphasize contested mobility could help improve the Joint Force's ability to respond to Chinese or Russian aggression. (Nathaniel McBride/DoD)

Operational planning should start from the assumption that China and Russia will contest U.S. operations wherever possible, including in the homeland and at overseas bases outside the primary theater of operations.

operations, cyberattacks, or attacks on submarine cables, then progress to overt kinetic actions as the conflict escalates. Attacks may be direct (e.g., attacks on U.S. forces and bases) or indirect (e.g., attacks on supporting civilian transportation infrastructure or industrial base facilities). Planners should assume that, in addition to the ordinary friction of warfare, interference will increase deployment time lines and induce confusion both in force deployments and sustainment. One method to explore this issue and increase resilience to interference is to conduct exercises akin to the Cold War Return of Forces to Germany (Reforger), with an active opponent or red team trying to deny, degrade, or delay the deployment.³⁷

Build Up and Sustain Expeditionary Forces in the Theater over Weeks or Months, and Marshal Forces at Concentrated Land and Sea Bases and Staging Locations Close to Enemy Territory.

This assumes that the United States will have weeks or months to respond to a crisis or a conflict, and that adversaries cannot contest U.S. strategic mobility or effectively attack forward bases in the theater.

The Gulf War of 1990–91 was likely the high-water mark of U.S. expeditionary power projection. Starting from a minimal base, the United States required just over two months to put in place sufficient forces to defend Saudi Arabia, and over four months to assemble sufficient forces to eject the Iraqi military from Kuwait.³⁸ At the time, defense planners rightly considered the movement of that quantity of forces over those distances, in that time line a miracle of logistics.

A host of favorable conditions contributed to this “miracle.” Iraq had no capability to interdict the flow of forces outside the theater and made no significant attempts to disrupt reception, staging, and onward integration (RSOI) of forces in theater. The latter decision was particularly fortuitous for U.S. forces. Until the arrival of the 24th Infantry Division and its armored and

mechanized brigades in late September, the light forces of the XVIII Airborne Corps regarded themselves as “speed bumps” against any concerted armored thrust into Saudi Arabia by the Iraqi army.³⁹ To illustrate the vulnerability of U.S. posture prior to the arrival of heavy forces, U.S. Central Command conducted a wargame before the conflict called Internal Look 90, during which Iraqi forces launched a southward thrust, seized the port of Jubayl, and imposed 50 percent attrition on defending U.S. forces.⁴⁰ Prior to the war Saudi Arabia and the United Arab Emirates had built substantial infrastructure during the 1980s to support potential U.S. force flows, which prevented choke points in the theater. The Joint Force was, if not at the height of its Cold War readiness, very close to it. This readiness included the air- and sea-lift necessary to rapidly transport U.S. forces across the Atlantic—or to the Persian Gulf. The Soviet Union acquiesced to the U.S. deployment to the Gulf, freeing up strategic mobility assets and forces from the European theater.

Iraq’s inability to interdict the flow of forces into the Gulf, and its unwillingness to attack forward staging bases had the obvious first-order effect of ensuring that U.S. and coalition forces arrived in the theater of operations largely on time and intact.⁴¹ The second-order effects were that the United States was able leverage civilian air- and sealift, and that offloading and RSOI could occur relatively close to the area of operations, rather than at a distant location, such as Jeddah on Saudi Arabia’s west coast. These effects further accelerated the rapid establishment of combat power in the Gulf.

U.S. military operations and planning since the Gulf War have proceeded largely from the assumption that U.S. forces would have ample time to respond



Supplies and equipment pile up during Operation Desert Shield in 1990. Iraq’s inability to interdict the flow of forces and materiel to the Gulf or strike forward-marching areas allowed the U.S.-led coalition to amass an enormous amount of combat power virtually uncontested. (DoD)

and unfettered movement and RSOI; however, these assumptions are badly flawed for operational planning versus China or Russia.⁴² Both potential adversaries observed Iraq's failure to interdict or disrupt U.S. force deployments to the Gulf and resolved not to repeat Hussein's folly. China has invested heavily in a variety of long-range systems designed to attack or disrupt the flow of U.S. forces, primarily at key nodes like sea- and airports. Russia likewise has invested in means to attack U.S. forces as they deploy and assemble, including quiet submarines; air-, sea-, and ground-launched missiles; and special-operations forces. In addition to kinetic weapons, both China and Russia probably possess the ability to use cyber attacks against military and civilian transportation networks to disrupt and delay force deployments. China and Russia also doubtlessly will use deception and information operations to stretch U.S. response time lines further by preventing rapid indications or conclusive warning of an impending attack, which in turn would delay the decision to deploy forces.⁴³ China and Russia presumably will be reluctant to cede the initiative once combat commences. Neither competitor would be likely to seize a key piece of terrain, as Iraq did with Kuwait, then sit and wait for the counterattack to commence.

In addition to stretching time lines, Chinese and Russian attacks—or even just the threat of attacks—can impose what John Stillion and Bryan Clark of the Center for Strategic and Budgetary Assessments have called “virtual attrition.”⁴⁴ Virtual attrition occurs when forces are unavailable to execute the commander's priority missions, either because they are delayed getting to the theater, because they are diverted to other missions, or

Military strategy and operational planning for China and Russia should start with the assumption that that they will seek every opportunity to stretch U.S. decision and deployment time lines, contest every step of U.S. power projection, and look to gain and maintain the initiative.

they are suppressed by the threat of attack. In deploying forces to Eastern Europe, for example, the threat of Russian submarine attacks against ports and sea lines of communication may require the U.S. commander to allocate surface combatants and maritime patrol

aircraft to defend ports on the Eastern Seaboard, patrol Atlantic shipping lanes, or escort convoys of ships from the United States to Europe. These multi-mission assets would then be unavailable to support operations in the primary theater. Convoying ships, rather than deploying them when they are ready, helps protect them from attack but likewise stretches time lines and leaves assets unavailable to the theater commander.⁴⁵ In this way, even the threat of attack can present commanders with a dilemma: prioritize speed to reduce risk to the mission but accept the risk that some forces may be interdicted; or prioritize force protection and potentially put the mission at risk.

Military strategy and operational planning for China and Russia should start with the assumption that that they will seek every opportunity to stretch U.S. decision and deployment time lines, contest every step of U.S. power projection, and look to gain and maintain the initiative by attacking forward bases and staging locations. Attacks on logistics assets and infrastructure will directly slow U.S. responses, impose virtual attrition, and have second- and third-order effects on the Joint Force's ability to use civilian assets such as the Civilian Reserve Air Fleet and the Voluntary Intermodal Sealift Agreement fleet, as well as the willingness of allies and partners to contribute support to coalition operations. By impeding U.S. global power projection in this way, while minimizing their exposure to U.S. or coalition attacks (e.g., by conducting operations deniably or rapidly), potential adversaries could maximize their local military advantage and offset or even negate the United States' global advantage in military power.

Conduct Extensive Intelligence Preparation of the Battlespace.

This assumes that U.S. forces have sufficient time to gather intelligence before conflict and that adversaries cannot effectively thwart U.S. intelligence gathering.

In virtually every post-Cold War operation or planning scenario, U.S. forces enjoyed massive asymmetric advantages in intelligence versus potential adversaries, and this advantage would only grow as wars continued. In both Iraq wars, U.S. commanders had a good understanding of the enemy order of battle, the disposition and condition of enemy forces, enemy command and control, and key nodes of government power.⁴⁶ In contrast Iraqi leaders and commanders possessed very little information about U.S. and coalition forces, particularly as U.S. air forces began degrading and destroying Iraqi C4ISR networks. This asymmetry enabled U.S. commanders to maneuver

audaciously, with the famous “Left Hook” of the first Gulf War and the simultaneous armored thrusts into the heart of Iraq in 2003. This aggressiveness could be undertaken at acceptable levels of risk because U.S. commanders knew their flanks were secure while the Iraqi forces had little or no idea where the fatal blows would land. While U.S. forces had some intelligence advantages in the Balkans and Afghanistan, it varied based on weather, terrain and, in the case of Afghanistan, the sudden nature of U.S. involvement and the irregular nature of the foe.

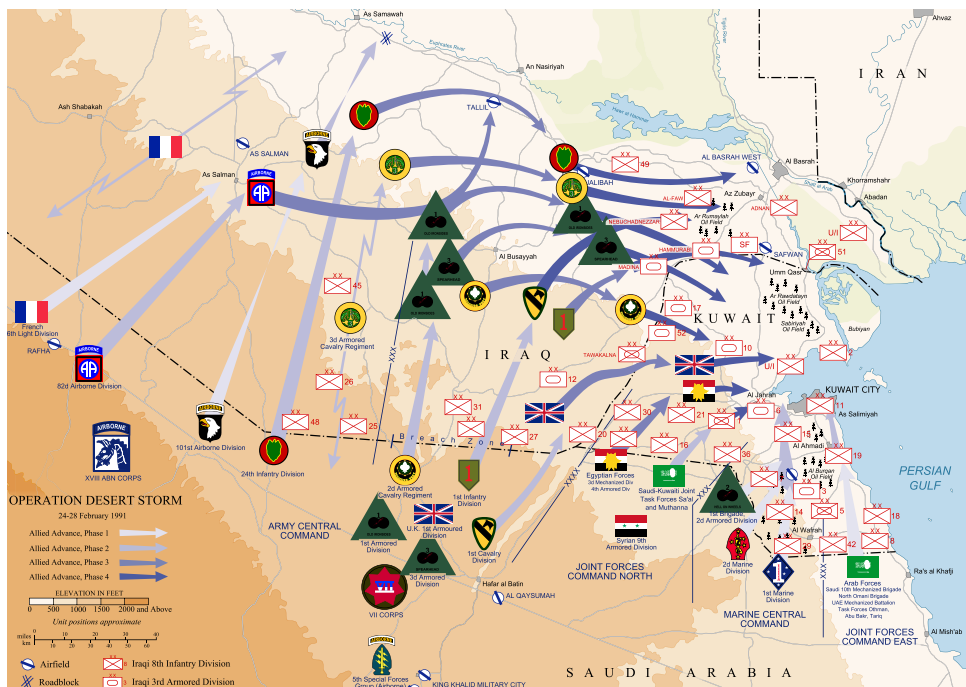
While the United States has myriad means of collecting intelligence on potential adversaries, several stand out in the post-Cold War era. The first is the use of space-based ISR, which past adversaries or potential adversaries had limited technical means to counter, instead relying on cover, concealment, decoys, and deception. While these techniques can be effective, they impose a tax on operations by diverting resources away from the main effort. The second is the use of penetrating and standoff airborne collection platforms, both prior to and during the conflict. The last is increasing use of cyberattacks against adversary networks. Under the right conditions, these tools give U.S. commanders an almost insurmountable intelligence advantage.

In a potential conflict with China or Russia the initial U.S. intelligence advantage may be limited, or even tilt toward a disadvantage. As explored elsewhere in this paper, neither China nor Russia will cede the operational initiative to give U.S. forces time to collect intelligence on the battlespace or their force dispositions. If they are able to initiate a crisis or a conflict on their time lines, they may choose a moment when conditions (e.g., weather) negate some U.S. ISR systems. Moreover, the contrast between the U.S. experiences in the Balkans and Afghanistan versus Iraq are telling. The Joint Force possesses unparalleled ISR collection capabilities, but these can be offset to some degree by climate, terrain, and a competent opponent.⁴⁷

Both China and Russia have a variety of means to disrupt, degrade, or even deny U.S. use of space for ISR collection, and both possess formidable integrated air defense systems that can severely restrict or deny altogether airborne ISR missions.⁴⁸ In the event of a conflict, China and Russia are likely to launch substantial cyberattacks to exploit U.S. networks for intelligence or to degrade their effectiveness.⁴⁹ Cyber, which has become a source of strength against weaker opponents, may in turn become a vulnerability.

Given the centrality of intelligence to warfare, and its particularly critical role in modern combat, the U.S.

armed forces must address this shift from asymmetric advantage in intelligence to potential weakness. At a minimum, U.S. operational planning should not assume adequate intelligence preparation of the battlespace, nor should it assume that U.S. forces inevitably will gain an advantage in ISR operations. More realistically, planners and commanders should assume that collecting, disseminating, and acting upon intelligence about the battlespace will be a dynamic competition during pre-conflict activities, and reflect this in their theater campaign plans. Increasingly, operational planning may need to assume that, rather than being a supporting effort,



During Operation Desert Storm, an enormous information advantage allowed the U.S.-led coalition to execute the “Left Hook,” an audacious flanking maneuver, with relatively little risk of Iraqi countermeasures. (U.S. Army)

the ISR battle instead may be the main effort, particularly from the perspective of maintaining deterrence. U.S. forces may need to employ counter-ISR measures of their own, such as deception and concealment, as a principal means of force protection and keeping potential adversaries off-balance. The less confident potential adversaries are regarding their understanding of the battlespace and U.S. and coalition forces, the more likely they are to behave cautiously, thereby remaining deterred.

Commence Offensive Operations at the Time and Place the United States Chooses.

This assumes that adversaries cannot dictate the tempo or geographic location of a conflict.

The phrase “at a time and place of our choosing” is so common in U.S. military strategy and operational planning that it has become cliché. Its ubiquity reflects the pervasiveness of the assumption that U.S. forces will engage with a potential adversary where and when they choose. The usefulness of this somewhat chest-thumping assertion was debatable, even during the post-Cold War period, but there was some validity to it. The United States and its coalition allies and partners fought almost exclusively on the territory or in the airspace of adversaries and, with few exceptions, initiated hostilities with the adversary when they were ready.

This temporal and geographic initiative gave planners a great degree of operational freedom. This may seem comical to the United States Central Command (USCENTCOM) planners who scram-

Absent changes to U.S. force posture and operational concepts, the opening rounds of war with China or Russia are likely to have more in common with 1941 than 1991.

bled to respond to Hussein’s invasion of Iraq in 1990. However, their position was inestimably better than that of U.S. planners in the Pacific theater in 1941 and 1942, who found themselves scrambling to respond to Japanese offensives against key U.S. and friendly positions while suffering from qualitative and quantitative disadvantages in forces.⁵⁰



U.S. sailors abandon the badly damaged USS Lexington at the Battle of the Coral Sea in 1942. Lack of preparation, combined with a need to halt the Japanese offensive, pushed U.S. forces in the Pacific into risky and often bloody engagements. (U.S. Navy)

Absent changes to U.S. force posture and operational concepts, the opening rounds of war with China or Russia are likely to have more in common with 1941 than 1991. China and Russia have witnessed the folly of ceding the initiative to the United States and will orient their strategy and operations toward preventing an effective U.S. response. Both likely will attempt to leverage non-military aspects of power—particularly information operations—and covert, clandestine, and sub-conventional forms of coercion to confound U.S. indications and warning and set the battlespace and terms of engagement to their advantage. Should these efforts succeed, China and Russia may be able to achieve their objectives without resort to combat, or at least direct conflict with the United States. Should these efforts fail, China and

Russia would be able to dictate the terms of the fight to a large extent, at least initially.

Rapid, and possibly preemptive attacks against U.S. and allied C4ISR networks and forward bases and forces would leave U.S. commanders scrambling

for situational awareness and a means to coordinate an effective response. These attacks may be limited and non-kinetic to avoid escalation, or they may be broader and destructive to achieve a knockout blow or, failing that, signal willingness and capability. In any case, the United States would not be dictating the scope, scale, location, or timing of the conflict. Amid the resultant

chaos, China and Russia may seek to seize key objectives and offer to negotiate an end to hostilities in order to undermine the political will of the United States and its allies and partners. Both powers may contrast this diplomatic offer with implicit or explicit threats of escalation to further strain a U.S.-led coalition.

As opposed to methodically building a coalition and marshaling overwhelming force as in the Gulf War, U.S. political leaders and commanders might resemble their World War II counterparts—looking to stem the bleeding, keep critical allies and partners onside, and counterpunch until they can stabilize the situation. The ability of China and Russia to expand and escalate these conflicts using both military and non-military means would complicate U.S. efforts to seize the initiative through vertical or horizontal escalation.

Operational and force planning for potential conflicts with China or Russia should proceed from the assumption that these potential adversaries will initiate operations at a time and place of their choosing and likely will hold the initiative for much longer than past adversaries. To use the traditional phased operational planning construct, U.S. commanders and their staffs may find themselves thrust immediately from an uneasy “Phase Zero—Shape” into a long and bloody “Phase Two—Gain Initiative.”⁵¹ There are many potential implications of this situation, but three stand out.

First, the Joint Force should shift away from peacetime “shaping” operations toward a more fluid mix of competition for influence and access and deterrence of aggression. Shaping is too vague; specifying that U.S. armed forces are vying for influence and access while trying to deter aggression more clearly links the operational actions and desired outcomes to a strategy of maintaining advantageous balances of power alongside a constellation of allies and partners in key regions. By combining the two, it acknowledges the aggressive state of the competition and the need to be prepared to transition from competition to combat immediately.

Second, U.S. planners and commanders need to find ways and means to attack the adversary’s operational center of gravity without first fully seizing the initiative. Think of these operations as the inverse of the famed Doolittle Raid against Tokyo in 1942, which was operationally meaningless, but helped shift strategic perceptions of the war in Japan and the United States.⁵² In the future, the ability to quickly disrupt and heavily attrit the enemy’s power-projection forces likely will be essential to denying them a *fait accompli*. Success in this crucial opening phase of the conflict then will buy time for the Joint Force and the forces of allies

and partners to recover and begin to control the tempo of operations.

Third, operational and force planning must place a far greater emphasis on resilience rather than efficiency. U.S. forces and overseas bases and facilities should be developed and postured under the assumption that they must operate effectively while under sustained, precise, multi-domain attacks.⁵³

Conduct Strategic Strikes against Regime Targets and Command, Control, Communications, Computing, Intelligence, Surveillance, and Reconnaissance (C4ISR).

This assumes that such strikes are feasible and will not provoke escalatory responses from the adversary.

Attacking an adversary’s ability to gather information, make decisions, and command and control their forces is hardly new in warfare. However, the increasing sophistication of sensors and networks and their centrality to modern warfighting has made counter-C4ISR one of the highest-priority missions for the Joint Force. The early strikes of both Gulf wars and the bombing campaign against Slobodan Milosevic’s Yugoslavia all focused on the regime leadership and their ability to understand events, make decisions, and command and control their forces.⁵⁴ These attacks grew out of the work of the influential airpower theorists Colonel John Boyd and Colonel John A. Warden III, both of whom sought to apply airpower systemically to induce in adversaries strategic paralysis, moral collapse, and ultimately defeat.⁵⁵ The validity of these theories—and therefore the histories of these conflicts—remains a matter of some debate. However, regardless of whether the aim is to induce strategic paralysis or cripple operations, the idea of attacking adversaries’ eyes, ears, nervous systems, and brains remains attractive and a central part of U.S. and adversary operational thinking.⁵⁶

Given the increasing centrality of data and information to modern life and warfighting, the side that can accurately gather information, understand it correctly, and act on it more quickly—while resisting adversary attempts to exploit, disrupt, or deny this ability—will likely have a decisive advantage. While few would disagree with the objective, achieving it against China and Russia is likely to be enormously more difficult than the campaigns against Iraq and Yugoslavia. There are four major reasons for this shift: difficulty in collecting intelligence before or early in a conflict, China and Russia’s first-mover advantage, Chinese and Russian A2/AD networks, and the likely asymmetries of interest involved in potential conflict scenarios.

As noted above, collecting intelligence on China and Russia before or during the opening phases of a conflict will be far more difficult than it was against less capable post-Cold War foes. Unfortunately, this sort of intelligence is critical to launching effective attacks against C4ISR networks, as targeteers need to have a sufficient understanding of adversary networks to achieve systemic disruption or degradation with a limited number of offensive weapons. While some C4ISR assets, such as over-the-horizon radars and satellite ground stations, can be difficult to conceal, China and Russia likely will attempt to hide as many of these assets as possible, and likely will harden, defend, or make redundant those that are not easily concealed. Concealing, hardening, or defending C4ISR systems is fundamentally easier for China and Russia than it is for the United States, since their assets are predominantly in their homeland and can be commingled with other, non-military systems. Given the need to project U.S. C4ISR coverage far from the continental United States, U.S. systems often are on overseas bases, in space, or on vulnerable air or maritime platforms, which makes them harder to conceal or defend, and therefore easier to target and strike.

In general, the first mover in the C4ISR battle will have an enormous advantage, as the side that is rendered deaf, dumb, and blind first will face enormous difficulties in mounting successful attacks on their opponent's C4ISR systems. Given that China or Russia likely will dictate the time, location, and tempo of operations in a potential conflict with the United States, U.S. planning should proceed from the assumption that this first-mover advantage will accrue to China and Russia. This will make the task of disrupting and degrading Chinese and Russian C4ISR early in a conflict all the more difficult, and it places a heavy premium on developing more resilient U.S. C4ISR infrastructures and procedures.

Given the increasing centrality of data and information to modern life and warfighting, the side that can accurately gather information, understand it correctly, and act on it more quickly—while resisting adversary attempts to exploit, disrupt, or deny this ability—will likely have a decisive advantage.

U.S. armed forces enjoy an enormous advantage over China and Russia in the quantity and quality of their C4ISR assets and their operational expertise in conducting persistent ISR and strike operations in distant locations under combat conditions. Unfortunately, many of these assets and much of this experience has been oriented toward the relatively permissive environments prevailing in conflicts against weaker opponents such as Iraq and irregular adversaries, such as al Qaeda and the Taliban. Both China and Russia possess A2/AD systems—and particularly counter-space and air defenses—that make it difficult to bring this advantage to bear early in a conflict. Chinese and Russian electronic warfare, dazzling, cyberattacks, and kinetic strikes will target U.S. space capabilities, both in orbit and on the ground. Chinese and Russian missile and air attacks will seek to destroy U.S. aircraft on the ground and disrupt or degrade airbase operations. The airborne C4ISR assets that remain will face dense layers of sophisticated air defenses before they can reach a position where they can provide targeting information for strikes on Chinese or Russian C4ISR systems. These assets will have difficulty remaining on station in contested environments, thereby reducing their ability to find, fix, target, and track mobile or relocatable targets. Operating in contested environments also will limit the effectiveness of C4ISR assets' sensors and communications systems, as some types of active sensors or communications can give away a platform's location and render them vulnerable to attack. Many types of sensors and communication systems are also susceptible to degradation or deception via electronic warfare. U.S. forces simply will not be able to assume the availability, security, or validity of their networked operational and tactical "pictures."

In spite of these obstacles, U.S. forces will be able to conduct some attacks on adversaries' C4ISR networks, and this ability will grow over time as more U.S. forces arrive in the theater and as U.S. attacks cumulatively degrade adversary A2/AD systems. This is where the asymmetries in interests noted earlier come into play. In a scenario—such as a conflict with China over Taiwan or Russia over the Baltics—where the stakes are much higher for China and Russia, they will be likely to respond much more aggressively to perceived U.S. escalation. In contrast, U.S. policymakers will be much more circumspect about creating the perception of escalation, both for internal political reasons as well as to hold together a coalition of allies and partners that may be concerned about turning a local dispute into a broader regional or even global war.

Under these conditions of asymmetry, launching massive, crippling attacks on Chinese or Russian C4ISR—almost all of which is located in their respective homelands and closely tied to their regimes’ abilities to maintain internal control—would be enormously escalatory and potentially strategically untenable. Given that U.S. strategies in past conflicts often have centered on decapitating or removing the ruling regime, it would be difficult for Chinese or Russian leadership to perceive a massive attack on their C4ISR as something other than an existential threat.⁵⁷ Unlike Iraq or Yugoslavia, China and Russia possess a variety of means—including nuclear weapons and other forms of strategic attack—to respond to this sort of escalation.

While the exact triggers for escalation may be difficult to know beforehand, operational planning cannot simply assume that mutual nuclear and strategic deterrence will hold.⁵⁸ This assumption is enormously misleading and dangerous. It pushes operational planners toward maximally aggressive solutions to the pressing operational problem of gaining C4ISR superiority, without taking into consideration the enormous strategic consequences of these operations. This challenge is daunting enough operationally, and it becomes more difficult when planners must restrain their attacks to limit the risk of unfavorable strategic escalation. As difficult as it may be, U.S. planning for counter-C4ISR in a potential conflict with China or Russia must find a way to degrade their ability to effectively target U.S. forces and command and control their power-projection forces, without creating the perception that the regimes’ existences are at stake or otherwise provoking unfavorable escalation.



U.S. space-based C4ISR and position, navigation, and timing capabilities have become central to the American way of war, but they are highly vulnerable to attack. (United Launch Alliance/DoD)

U.S. forces can thread this needle with acceptable amounts of calculated risk. China and Russia have predicated their counter-C4ISR concepts directed against the United States on this exact prospect. Unlike the broad and kinetic U.S. approach to counter-C4ISR of the past quarter century, it may well be that defeating a great power’s C4ISR in an armed conflict translates to non-kinetic means—both passive and highly discriminate active—to temporarily disrupt or deceive the adversary’s C4ISR within localized areas for specific operational purposes. This highlights the importance of conducting counter-C4ISR actions within a broader operational concept vice pursuing such actions as an operational end in and of itself.

Establish Aerospace, Information, and Maritime Dominance throughout the Theater.

This assumes that this level of dominance is feasible in strategically relevant time lines.

The U.S. approach to operations since World War II has tended toward limiting risk and avoiding “fair fights” in which conditions prevent the United States from leveraging its asymmetric advantages to limit risk to U.S. forces. The consequence of this emphasis has been a tendency toward methodical operations to establish dominance in information (C4ISR), air, space, and maritime domains before engaging in ground combat or other operations designed to compel the adversary to surrender. Essentially, U.S. post-Cold war operations and planning have traded time and firepower to reduce risk to forces. This approach made sense in a strategic environment where the United States had ample time to respond to threats, the defensive capabilities of adversaries or potential adversaries were limited, and vital U.S. interests were not at stake. The long campaign to suppress, degrade, and deny Iraq’s air defenses during the Gulf War was a perfect example of this approach. It worked in large part because U.S. forces did not face dire time pressures (e.g., from an Iraqi assault south into Saudi Arabia), and because Iraq’s defenses—while capable by the standards of the Gulf region—were not as advanced nor as competently operated as they could have been.⁵⁹

Given Chinese and Russian investments in A2/AD and power projection, it is highly unlikely that the Joint Force will enjoy the time and space to simultaneously establish multi-domain superiority and halt Chinese or Russian forces before they achieve their objectives. Despite their range, density, and sophistication, A2/AD networks are not “bubbles” of preclusive defenses at given ranges, which is how media coverage and graphics often portray



U.S. F-15s and F-16s fly during Operation Desert Storm. U.S. airpower enjoyed virtually uncontested air dominance after suppressing Iraq's air defenses and grounding or destroying its air force. This level of dominance and freedom of maneuver will not likely obtain in a potential future conflict with China or Russia. (U.S. Air Force)

them. During a conflict, the purpose of these systems is to deter U.S. intervention by raising the cost of conflict beyond the value of the disputed object—again, the likely asymmetries of interest in a potential conflict with China or Russia are key. If these systems fail to deter the United States, they would disrupt, degrade, and delay any U.S. response for long enough that China or Russia could seize its objectives at acceptable levels of risk.

Like their U.S. counterparts, neither Chinese nor Russian leaders wish to engage in a fair fight, and certainly not with an adversary that enjoys absolute advantages in the quality and quantity of key weapons systems and personnel. A2/AD approaches help China and Russia level the playing field by severely limiting and delaying an effective U.S. response through real and virtual attrition, with a particular focus on constraining information and aerospace power. While China and Russia respect the capabilities of U.S. ground and maritime forces, they realize that the true asymmetric advantages of the U.S. armed forces are their ability to operationalize information at high wartime tempos (much of which relies on space) and deliver devastating effects through airpower (both land- and sea-based).

Given the Joint Force's significant, albeit potentially declining, qualitative edge in platforms and personnel, a symmetrical strategy of annihilating or attriting U.S. airpower through air-to-air combat likely would be suicidal for the PLA Air Force or the Russian Air Force. Instead, their A2/AD approaches asymmetrically target the vulnerable points in the system-of-systems that

comprise U.S. aerospace power—what the PLA calls “systems destruction warfare.”⁶⁰

Kinetic and non-kinetic (e.g., jamming, dazzling, and cyber) attacks on space systems could deny U.S. long-range communications; ISR; and space-based position, navigation, and timing (through the Global Positioning System or GPS). Air and missile attacks on U.S. forward bases could destroy aircraft on the ground and disrupt airbase sortie generation for operationally significant periods of time, particularly if these attacks could strike critical systems like fuel farms or pumping stations. Further air, missile, or cyber attacks against U.S. mobility and logistics networks could deprive forward forces of fuel, munitions, and spare parts and prevent rapid reinforcement of the theater.

Joint Force Air Component Commanders could pull their aircraft back to more defensible bases farther from adversaries' threat systems, but while this might reduce attrition on the ground, it would induce “virtual attrition,” as fewer aircraft would be able to reach their targets and they would not be able to remain on-station as long in key locations. Adversary surface-to-air missile (SAM) systems like Russia's infamous S-300 and S-400



Joint Air Launched Decoys (MALDs) are prepared for loading onto a B-52H Stratofortress. MALDs provide critical suppression of enemy air defenses capabilities to the Joint Force. (Micaiah Anthony/DVIDS)

and increasingly capable fighter aircraft such as China's J-20 and J-31 would threaten U.S. aircraft—and particularly non-stealthy combat aircraft and critical ISR and refueling tankers—at ever-increasing ranges. These systems would impose further “virtual attrition” on U.S. airpower either by limiting U.S. air operations to stealthy aircraft; necessitating large “gorilla” packages containing significant electronic warfare support; or by forcing increased use of scarce, penetrating long-range standoff munitions.⁶¹ Each approach can be effective, but with the tradeoff that they limit operational capacity.

At sea, a combination of threats from antiship ballistic missiles, submarines, and long-range air- and sea-launched cruise missiles would severely impede the ability of U.S. surface vessels, including aircraft carriers, to operate persistently at ranges where they could efficiently bring their offensive striking power to bear early in a conflict. Given the threat environment and current air- and missile-defense capabilities and concepts, Navy surface vessels operating in contested waters—which they would have to do to bring the bulk of their striking power to bear—would likely expend most of their time and munitions defending themselves against attack rather than attacking the enemy.⁶² Even if the U.S. Navy manages to avoid attrition in such a scenario, “virtual attrition” has heavily curtailed its combat power, with the exception of the undersea force.



The guided missile submarine (SSGN) USS Ohio departs the Puget Sound Naval Shipyard in Bremerton, Washington. Together, the four Ohio-class SSGNs have the ability to launch more than 600 strike weapons, such as Tomahawk Land-Attack Missiles. Their retirement in the mid-2020s will severely reduce U.S. undersea strike capacity. (Kenneth Takada/DVIDS)

While enormously capable and difficult for adversaries to counter, the Navy's undersea fleet is too small, and the weapons capacity of today's submarines is too limited, to substitute wholesale for the offensive striking power of surface vessels.

Ground forces, particularly in Europe, do not escape the A2/AD threat. As mentioned previously, every aspect of strategic mobility may come under attack, with fixed nodes like ports, airfields, railway junctions, bridges, and marshaling yards presenting particularly tempting targets. Any locus of C4ISR, such as headquarters, operations centers, communications nodes, or intelligence centers may come under kinetic and non-kinetic attack. This will represent somewhat of a shift for ground forces that have become accustomed to enjoying relative sanctuary at major bases in Iraq and Afghanistan. However, ground forces have long operated persistently within the “threat rings” of adversary systems and have numerous methods for preventing detection, defending themselves, and continuing to operate under attack, so this should be a shift in emphasis, rather than a fundamental change.

The most consequent shift for ground forces is likely to be the loss of air and maritime superiority, particularly early in a conflict. U.S. ground forces have not come under significant air attack since the Korean War and have altered their doctrine and force structure accordingly. Concepts and doctrine have minimized the importance of air defense and the need to conduct long-range fires from the ground under the assumption that the United States would own the air and that airpower would perform the deep strike mission. During amphibious operations, U.S. ground forces have been able to assume that the U.S. Navy controls the seas and that U.S. airpower has used its air superiority to suppress, if not destroy, major land-based threats such as antiship cruise missiles. Without air superiority, sea control, or effective suppression of advanced land-based threats, contested amphibious operations against a competent adversary can be suicidal.

As with the air and maritime domains, the aim of Chinese and Russian A2/AD operations is to avoid a fair fight by systemically weakening U.S. ground forces or rendering them ineffective or irrelevant through “virtual attrition.” In the case of a potential conflict in Eastern Europe, Russian multi-domain attacks along with aggressive maneuver will pose U.S., allied, and partner ground forces with a classic combined-arms dilemma. U.S. forces can maneuver to seize key terrain and potentially halt adversary forces, thereby exposing themselves to withering air, missile, and artillery strikes; or U.S. ground forces can hunker down and cede initiative and key

terrain to the adversary, with the attendant risk of being bypassed or surrounded.⁶³ The lack of viable ground forces to at least slow Russian aggression would further weaken

The scale and temporal limitations of the challenge strongly suggest that an attempt to focus on counter-A2/AD operations as a means of limiting risk to U.S. forces is likely an operational dead end.

the effectiveness of U.S. airpower, as Russian forces would be able to disperse, move rapidly, and otherwise present less-tempting targets for air and missile strikes.

With the playing field leveled, both the Chinese and Russian militaries will use their A2/AD systems and rapid maneuver to put U.S. commanders “on the horns of a dilemma.” Commanders can attack the A2/AD systems—such as air defenses and anti-ship missiles—to create freedom of maneuver, reduce risk to their forces, and eventually bring a larger proportion of their total force to bear. This may preserve U.S. forces, but it will come at the cost of ceding time and space for Chinese and Russian power-projection forces to seize their objectives and present the United States and its allies and partners with a *fait accompli* that may be difficult or impossible to overturn. Alternatively, U.S. commanders can attack Chinese and Russian power-projection forces in the face of functioning A2/AD networks and risk casualty rates that might make continued operations unsustainable or prohibitively costly.

The challenges posed by A2/AD networks have led many in the U.S. defense community to wrongly identify them as the operational center of gravity for China and Russia. This misidentification has focused concept and capability development on degrading or defeating these systems or rolling back their geographic coverage so that the Joint Force can again enjoy freedom of maneuver.⁶⁴ The scale and temporal limitations of the challenge strongly suggest that an attempt to focus on counter-A2/AD operations as a means of limiting risk to U.S. forces is likely an operational dead end that plays directly into Chinese and Russian military strategies by attacking their shield, rather than the vulnerable assets and operations that shield is protecting. Given the central role that mobile ground-based missile systems play in both Chinese and Russian A2/AD networks, counter-A2/AD operations often include significant missile-suppression campaigns.⁶⁵ These types of missions have poor historical track records, with the failed “Scud hunt” from the Gulf War being the most infamous.⁶⁶ U.S. forces with complete air

dominance in open terrain failed to destroy or suppress Iraqi launches of liquid-fueled Scud missiles. U.S. C4ISR capabilities for fleeting targets admittedly have improved since the Gulf War, but a similar hunt against Chinese or Russian missiles would be far more difficult. U.S. forces would not enjoy air dominance, the terrain would be more complex, and most Chinese and Russian missiles are solid-fueled, which reduces their launch cycle time lines, thereby making them more difficult to target and strike before launch.

Instead of methodically battering down adversaries’ defenses or vainly hunting for mobile missile systems, U.S. operational concepts for defeating Chinese or Russian aggression should focus on defeating Chinese or Russian power-projection forces operating within functional A2/AD networks, before those forces can seize key objectives and present the United States with a *fait accompli*. David Ochmanek of RAND has suggested developing concepts and capabilities that within 72 hours can damage or destroy roughly 300-plus high-value PLA Navy vessels in Chinese littoral waters, or roughly 2,000-plus Russian armored vehicles on NATO’s eastern frontier.⁶⁷ While this sounds difficult, it is eminently achievable within technical and fiscal constraints.

It is important to note that this is not merely an exercise in acquiring and striking targets. China and Russia have seen the devastating impact of U.S. precision



Military personnel examine a Scud missile body during the Gulf War. Despite contemporary success stories, later assessments showed that attempts to counter the Scud threat with missile defenses and offensive “Scud hunting” operations were largely unsuccessful. (DoD)

firepower against massed, undefended forces and are unlikely to present such a tempting target. U.S. operational planners must use a mix of military art and science to slow the movement of adversary forces, channelize them into vulnerable positions, and counter their efforts to avoid detection.

The DoD should not wholly ignore development of concepts and capabilities to degrade and ultimately defeat A2/AD systems including mobile missile systems. Rather, the shift is in priority, emphasis, and timing. It is a move away from using time to regain the level of dominance and freedom of maneuver enjoyed during the post-Cold War era, and toward rapidly achieving a level of advantage sufficient to blunt enemy attacks and buy time for global U.S., allied, and partner advantages to come to bear, thereby buttressing deterrence-by-denial.

Attack the Adversary’s Fielded Forces and Critical Infrastructure to Degrade Its Forces, Erode Its Will to Fight, and Systemically Disrupt the Cohesion of the Regime and Its Military.

This assumes that the adversary cannot protect their territory or forces from air and missile attack, or respond to strategic attacks.

In post-Cold War military campaigns, the United States and its allies and partners have exploited advantages in time and their ability to establish multi-domain dominance to methodically hack away at the power of adversary regimes. In a visceral sense, U.S. operations first attack the brain, eyes, ears, mouth, and nervous system, then begin striking the vital organs and limbs. The object of these campaigns was to compel surrender or, failing that, to significantly degrade the adversary’s governmental power, political will, social cohesion, and military capabilities prior to ground operations.

In the case of both the Gulf and Kosovo wars, U.S. full-spectrum dominance and the punishing air and missile campaigns it enabled left the adversary regimes with few good strategic options. They could hope to split the coalition (which Iraq tried to do by bringing Israel into the war), or they could hope to gain the support of Russia, whose strategic clout might be enough to give the United States pause. Absent such a low-probability/high-impact event, their best hope was that U.S.-led coalitions would tire of the campaign or that the prospect of casualty-intensive ground operations would deter them (hence Saddam Hussein’s hyperbole about the “mother of all battles”).⁶⁸ However, as U.S. air operations pummeled or neutered their ground forces, this became increasingly implausible.

Once U.S. and coalition aircraft had suppressed and

degraded Iraq’s air defenses and the regime’s ability to command and control its forces, the Gulf War air campaign began targeting fielded Iraqi forces.⁶⁹ Iraq’s decision to place many of its forces in a largely static defense in open terrain without any effective air defenses, combined with a lack of effective C4ISR, left these units vulnerable to repeated coalition air attacks. The weaker these forces became, the less capable they were of deterring a U.S. ground invasion. U.S. and NATO forces conducted a similar air campaign against Yugoslavia during Operation Allied Force, although with greater difficulties in finding and targeting Yugoslavian forces in the field.⁷⁰ Nevertheless, these forces had to hide, disperse, and abandon heavy weaponry to avoid air attack, which significantly reduced their military effectiveness.⁷¹

U.S.-led coalitions possessed a wide array of options for compelling surrender or degrading adversary capabilities to the point where further operations could be conducted at low levels of risk. For all its limitations and difficulties, the war in Kosovo epitomized this asymmetry in strategic options.⁷² Once U.S. and NATO forces degraded Yugoslavia’s C4ISR, suppressed and degraded their air defenses, and removed the immediate threat to Kosovo, the coalition was free to explore myriad military and non-military coercive strategies to compel the Milosevic regime to surrender. These strategies included attacks on critical infrastructure in Yugoslavia, as well as strikes against economic targets associated



Iraq’s failure to mount an effective defense of its airspace allowed U.S. and coalition air strikes to destroy many Iraqi aircraft, like this Iraqi Su-25 on the ground. (U.S. Air Force/DoD)

with the regime and its core political supporters.⁷³ The precise mechanism that prompted Milosevic to give up remains a subject of debate. The key point of these historical cases from the perspective of military strategy and operational concepts is that the United States had the time and freedom of maneuver to explore a variety of options to degrade, threaten, and ultimately compel the opposing regime, while Iraq and Yugoslavia could only hope that events broke their way. Both interventions began as minor regional conflicts, but only the U.S.-led coalition could turn them into a war of survival for their adversary with virtually no reciprocal risk.

In a potential conflict with China or Russia, the United States and its allies and partners are unlikely to find themselves in such an advantageous strategic position. Both China and Russia possess sufficient air, missile, and antiship defenses that rendering them

In a potential conflict with China or Russia, the United States and its allies and partners are unlikely to find themselves in such an advantageous strategic position.

functionally defenseless could require years of offensive operations and a quantity of advanced munitions far in excess of current U.S. munitions stocks.⁷⁴ Their regimes are not nearly as fragile as those of Hussein's Iraq or Milosevic's Yugoslavia. Their military forces are sufficiently capable, resilient, numerous, and geographically dispersed that comprehensively degrading them in a long strategy of attrition would be infeasible. Both regimes likely would escalate the conflict long before U.S. attacks might achieve this level of degradation, thereby preventing them from being laid bare to strategic attacks and coercion that would fundamentally weaken the regime and foment internal discord. Both China and Russia have experienced that level of national weakness within, if not living memory, at least the memory of the generations that birthed the current leadership. Neither will allow their state to become that vulnerable, and both are able and willing to engage in countervailing strategic attacks to avoid that outcome. Put another way—the United States and its allies and partners cannot assume that they could achieve a level of dominance that would allow them to easily escalate a limited regional conflict with China or

Russia as a means of compelling favorable war termination. This lack of escalation dominance is one of the core differences between the regional threats of the post-Cold War era and great powers like China and Russia.

From an operational perspective, this requires the United States to be prepared to fight and win limited regional conflicts against China or Russia. This necessitates the ability to defend vulnerable allies and key partners, and to directly defeat the Chinese or Russian forces engaged in aggression without immediate resort to escalation or strategies of attrition and exhaustion. Since U.S. force posture will not enable a preclusive defense at every point on the U.S. security perimeter, this means friendly forces must be able to hold sufficient terrain in vulnerable allies and partners, such as the Baltic States and Taiwan, to prevent their collapse and enable a counterattack from a position of strength. Revisiting David Ochmanek's criteria from earlier in the paper, this likely will require a U.S.-led coalition to have the conventional ability to destroy 300-plus high-value PLA-Navy (PLAN) vessels in the Taiwan Strait, or 2,000-plus Russian armored vehicles in the Baltic region within 72 hours of the start of a conflict.⁷⁵ The ability to accomplish the former would allow the coalition to prevent China from using its largest amphibious vessels and other key ships to land their cargos on Taiwan's beaches. The ability to accomplish the latter would allow NATO to inflict loss rates of 50 percent or more on the first operational echelon of a combined-arms Russian invasion of the Baltic states.

Escalation or strategies of attrition and exhaustion may come into play, but—given the asymmetries of interest and lack of unchallenged escalation dominance—the U.S.-led coalition must defend its interests in such a way as place the burden of escalation on China or Russia, which will further strengthen the coalition and make U.S. escalation seem more reasonable, and therefore more credible.

Conduct Ground Operations once Enemy Forces Are Heavily Outnumbered, Degraded, and Disorganized.

This assumes that the United States will control the tempo of operations, possess dominance across all domains, and that U.S. airpower and strikes will be able to systemically degrade adversary ground forces.

In both Gulf Wars, U.S. and coalition ground forces fought Iraqi forces that, for all intents and purposes, were already defeated. This is not to say that the ground invasions were without risk (they were not), or that

U.S. and coalition ground forces did not perform superbly (because they did). However, the coalition air campaign, and the decisions of the Hussein regime, had left the Iraqi ground forces mostly cut off from their command and control and logistical resupply, heavily attrited, and sapped of the will to fight. In hindsight, the absurdly lopsided outcomes of the invasions of Iraq seem overdetermined: A highly-trained professional military with advanced equipment and competent leadership defeated a third-rate conscript force with obsolescent equipment and incompetent leaders, which also had endured weeks of bombardment.

The purpose here is not to wade into the tedious debate regarding the relative merits of airpower versus ground forces. Rather, it is to note that U.S. ground forces have not faced a serious threat at the operational level of war since the end of the Cold War. Insurgent forces in Iraq and Afghanistan could achieve fleeting moments of tactical superiority, and could conduct a fairly effective strategy of exhaustion aimed at U.S. political will and fiscal priorities, but they did not pose an operational risk to U.S. forces. Ground forces, therefore, understandably have spent the last 15 years attempting to solve pressing tactical (e.g., improvised explosive devices) and strategic challenges (e.g., cultural competency), while generally downplaying the importance of operational problems like supporting maneuver forces with fires and air defenses.



An Iraqi T-55 tank lies destroyed during Operation Desert Storm. Despite fielding the world's fourth-largest military at the time, Iraqi forces faced overwhelming disadvantages against the U.S.-led coalition. (Gawlowicz/U.S. Navy)

In a potential conflict with China or Russia, U.S. ground forces would not enjoy this degree of overmatch. Ground combat between U.S. forces and the ground forces of China or Russia would be much more of a fair fight. Attrition likely would exceed anything U.S. forces have seen since the worst days of Vietnam. Operational defeat would be a distinct possibility.⁷⁶ Both China and Russia would be able to contest U.S. air superiority over and near the battlespace, meaning that not only would U.S. ground forces not have persistent access to close air support, but also that they could come under air and missile attack. This shift is made worse by the fact that both China and Russia have built their ground forces around the assumption that they would not enjoy air superiority in a potential conflict. As a result, both Chinese and Russian ground forces possess large quantities of capable artillery and air and missile defenses. While Chinese and Russian personnel and training may not yet be on par with U.S. standards, they are improving, and their frontline units may approach a level of readiness and training similar to U.S. forces.⁷⁷ The same applies in equipment and materiel; U.S. forces may continue to enjoy some advantages, but the gap in quality is not nearly what it was against Iraqi forces, and in some areas, U.S. equipment may actually be inferior.

In addition to these symmetrical force-on-force issues, the erosion of the assumptions underpinning U.S. post-Cold War operational planning may have relatively more profound impacts on the ground forces than the Air Force or the Navy. Threats to strategic mobility are particularly problematic for an Army that has adopted an expeditionary posture and has had difficulty responding to threats quickly even under more benign conditions.⁷⁸ Moreover, the loss of air and maritime dominance, combined with an increasing focus on the Indo-Pacific region and the resultant focus on air and maritime forces, is pushing U.S. ground forces to contemplate how they can balance supporting roles in joint operational concepts with their traditional role as the supported forces in joint warfighting. In highly contested environments like East Asia and Eastern Europe, for example, forward deployed ground forces may be able to use fires, air and missile defense, and electronic warfare to create maneuver space for U.S., allied, and partner air and maritime maneuver.

Combine Precision Firepower with Rapid Maneuver—Enabled by Information Dominance and Mostly Secure Lines Of Logistics—to Fix and Annihilate Enemy Forces and Seize Key Terrain with Minimal U.S. Casualties.

This assumes that every preceding assumption of the current American way of war holds.

After almost 20 years of inconclusive stability, counterinsurgency, and counterterrorism operations, a triumphal valedictory seems out of place. And yet the disappointing denouements of many of America’s post–Cold War conflicts should not erase the phenomenal operational accomplishments that preceded them. The Iraqi military in the Gulf War may have been stronger on paper than it was in practice, yet it was still the fourth-largest military in the world, operating on or very near to its “home turf,” in a region where the United States had almost no permanent ground-force presence. While the absurdly lopsided outcome was partly due to the weakness and incompetence of the Iraqis, it also was due to the incredible capabilities of the late–Cold War U.S. armed forces.⁷⁹ Although less celebrated, operations against Yugoslavia, Afghanistan, Iraq again in 2003, and even Libya and ISIS have demonstrated the unmatched ability of U.S. armed forces to project and sustain advanced military forces in distant regions.⁸⁰ There is a good reason that China and Russia have spent so much time in recent decades going to school on the American way of war and looking for ways to defeat it. The United States has shown that it can defeat fairly large regional opponents halfway around the world with virtually no operational risk and very few casualties. From the perspective of U.S. competitors and adversaries, the American way of war has proven terrifyingly effective.

The problem, as the preceding paragraphs have illustrated, is that this terrifyingly effective war machine relies on a host of assumptions, each of which presents vulnerabilities that a capable, competent adversary can exploit. Under more normal historical circumstances, competitors likely would have begun deploying countermeasures to the American way of war that emerged from the Gulf War almost immediately. However, the collapse of the Soviet Union and the nature of the bipolar system left the United States without a real military competitor for almost two decades. The United States alone possessed advanced systems like precision-guided munitions and stealth aircraft. Rather than compete in the realm of conventional operations, states either pursued nuclear deterrents, made themselves hard to swallow through irregular warfare and other forms of weapons

of mass destruction, or some combination of the two.⁸¹ These strategies were reasonably effective in self-defense, but they would not support a bid for regional hegemony or other actions that would seriously threaten vital U.S. interests.

As the NDS and the numerous intelligence and military assessments that informed it have made clear: This relatively quiescent period in military-operational competition is over. China and Russia have pursued operational and strategic counters to the present American way of war, with a particular focus on using precision-guided weapons—previously an area of functional U.S. monopoly—to disrupt U.S. forces systemically. The United States is entering what the late Andrew Marshall, Barry Watts, Andrew Krepinevich, and others have called “a mature precision-strike regime,” in which multiple military competitors possess the ability to strike targets with accuracy independent of range.⁸²

The American way of war has proven terrifyingly effective. ... The problem is that this terrifyingly effective war machine relies on a host of assumptions, each of which presents vulnerabilities that a capable, competent adversary can exploit.

The implications of a shift from a monopoly on precision-strike toward a mature regime are profound—they cut to the heart of virtually every aspect of the current American way of war and are eroding the ability of the Joint Force to defend U.S. vital interests from coercion or aggression. At the same time, China and Russia have pursued novel approaches (e.g., land reclamation in the South China Sea) and new twists on old methods (e.g., the use of social media for information warfare), to aggressively undermine the United States and its constellation of allies and partners. This erosion of the Joint Force’s conventional deterrent and increasingly insistent competition in the so-called “gray zone” both are taking place under the shadow of nuclear weapons and new forms of strategic attack such as cyber.

The lopsided victories of the post–Cold War era are likely a thing of the past. America needs to prepare for a new era of great-power competition by developing a new way of war that accepts this reality. The Joint Force, the DoD, and Congress need to prepare for an era of warfare

that may look and feel very different than what they have been accustomed to. The American people may need to be prepared for levels of attrition and operational setbacks that haven't been seen since Vietnam and Korea, respectively.

The recent first flight of the Kratos XQ-58A Valkyrie demonstrator illustrates the fundamental change in mindset that must occur.⁸³ The Air Force Research Laboratory, which sponsored development of the XQ-58, views it as a low-cost “attritable” aircraft. This means that, while it is intended to be used multiple times, it has been designed to a low cost without a human pilot so that its loss in combat will not be an issue. Its low cost should allow it to be procured in large numbers and enable operational commanders to use it in ways that they might not use a manned platform or a much more expensive and scarce unmanned asset. This, on the whole, is a step in the right direction for U.S. airpower, which has been moving increasingly toward an empirical proof of Augustine’s law.⁸⁴ The issue from the perspective of the American way of war is that this still presupposes that war can and should be relatively bloodless and free of attrition. In a possible future war with China or Russia, every U.S. platform will be “attritable,” and to pretend otherwise is foolhardy.⁸⁵



The infamous “highway of death” epitomized the lopsided nature of the Gulf War. (Joe Coleman/U.S. Air Force)

Exploit Other Levers of Power (Diplomacy, Information, and Economics) for Coercive Leverage.

This assumes that the United States and its coalition partners will have significant advantages in these areas.⁸⁶

The current American way of war assumes that the United States and its coalition allies and partners will have enormous advantages in non-military aspects of power. To use the military acronym, these are the Diplomatic, Information, and Economic aspects of DIME. This assumption accords with post-Cold War history. Iraq, Serbia, Afghanistan, and Libya all lacked any meaningful power in those areas. Iraq and Serbia both attempted to leverage their diplomatic relations with their erstwhile sponsors in the Soviet Union and Russian Federation, only to find that those connections were of little value. Iraq tried to deter and disrupt the coalition during the Gulf War through its ability to affect the global market for energy. While Iraq’s actions temporarily doubled the global price of oil, this strategy failed.⁸⁷ The possibility that Iran might seek to disrupt or even choke off the flow of oil and gas by harassing shipping through the Strait of Hormuz or mining it altogether has long been a concern of U.S. policymakers and defense strategists.⁸⁸ While there is ample debate regarding the military feasibility or strategic desirability of such a strategy from an Iranian perspective, based on the history of the Gulf War and the Tanker Wars, it likely would not succeed at deterring U.S. intervention.⁸⁹

The inability of regional states to challenge U.S. supremacy in non-military aspects of power has simplified the decision to go to war against them, made military operations against them easier, and provided additional leverage for favorable war termination. If, in 1990, Iraq could have used economic power to pry away some of the United States’ European or Asian allies and used diplomatic persuasion or coercion to pry away some Arab allies, or if it could have leveraged its relations with the Soviet Union to greater effect, it could have shrunk the size and coherence of the coalition, reduced U.S. access and overflight in the region, and impeded U.S. efforts to redeploy forces from Europe to the Gulf. The effect of these changes is difficult to predict, but they likely would have complicated the decision to go to war and, should the administration of George H. W. Bush still have decided to use force to eject Iraqi forces from Kuwait, they likely would have limited the options available to USCENTCOM planners.

Non-military aspects of U.S. power can help coerce adversaries into accepting unfavorable war termination

Russia and China have vastly different economic and diplomatic statuses compared to regional powers such as Iraq or North Korea, and they may not be equally vulnerable to these forms of coercion.

terms and provide means to enforce post-conflict order. After the Gulf War, U.S. diplomatic and economic power helped maintain the sanctions regime that crippled Iraq as a military threat.⁹⁰ Similarly, economic coercion was critical to the campaign against Slobodan Milosevic's Yugoslavia.⁹¹ Both Hussein's Iraq and Milosevic's Yugoslavia were minor, peripheral players in global diplomacy and economics. Had these states been major global powers that were deeply enmeshed in global financial and trade networks, it might have opened up new avenues of coercion, but it also likely would have increased the negative second-order effects of using non-military tools against them, and given them their own non-military means to fight back. Maintaining a tight sanctions regime against Iraq from 1991 to 2003 was difficult; doing the same thing over the same time frame to China or Russia likely would be impossible.



During Operation Allied Force in 1999, U.S. and NATO forces had ample time and freedom of maneuver to pursue multiple strategies to coerce Yugoslavia's surrender. One strategy was to target economic assets owned by members or close compatriots of the Milosevic regime, such as this bombing of factory in Serbia. (U.S. Navy)

Russia and China have vastly different economic and diplomatic statuses compared to regional powers such as Iraq or North Korea, and they may not be equally vulnerable to these forms of coercion. China is surely vulnerable to economic coercion, as it is highly dependent on the global economy for energy, food, and certain advanced technologies. However, its status as the world's second-largest economy and as one of the largest trading partners for the United States (as well as many key U.S. allies and partners) could make a concerted, long-term sanctions regime or trade embargo difficult to enact and enforce.⁹² Russia, by contrast, is far more dependent on the global economy than the global economy depends on Russia.⁹³ Russia therefore may be just big enough to be vulnerable, but not big enough to make coercive measures counterproductive. At the same time, Russia has significant recent experience in insulating its economy from the effects of economic sanctions—whereas China has not devoted as much attention to this concern.

In either case, both Russia and China would have a variety of economic and diplomatic tools to offset U.S. and coalition strengths in these areas. Both are members of the U.N. Security Council, giving them veto power over any attempt to use the U.N. to broaden or legitimize U.S. actions, and they have had success historically in building coalitions in the General Assembly. While hurdles in the U.N. might not directly hamper U.S. actions, it could give an excuse to states that wish to remain on the fence during a conflict, but are worried about incurring the wrath of the United States following the conflict. Both states maintain deep economic, political, and cultural ties with states on their periphery, which they could use to deny U.S. forces access and overflight. China, in particular, could use a variety of carrots and sticks to induce or coerce regional states like the Philippines, Indonesia, Vietnam, and Malaysia to stay on the sidelines, delegitimize U.S. actions, or even to support Chinese operations.⁹⁴ A lack of support from these key states might call into question the willingness of the United States to intervene in regional disputes. Should the United States use economic coercion—i.e., sanctions, trade embargoes, or a blockade—to pressure China, the cost of this coercion would also fall on the United States economy, as well as the economies of key U.S. allies and partners such as South Korea, Japan, Australia, the Gulf States, and NATO. While this does not wholly invalidate such an approach, it significantly raises its costs and reduces its potential impact, as states will have a great deal of incentive to cheat or avoid aligning with the United States in the first place. For its part, Russia could



Images of destruction at U.S. bases, like this Air Force RF-4C that was destroyed during the Tet Offensive in 1968, and the chaos in major cities like Saigon and Hue undermined U.S. support for the war in Vietnam, even though the offensive badly weakened the Vietcong insurgency. (U.S. Air Force)

threaten to curtail energy exports to wavering European states during a crisis with NATO.⁹⁵ Such a strategy may not be able to stop a U.S.-led intervention, but it would weaken the coalition, raise the costs of intervening, and put pressure on national leaders and commanders to resolve the conflict more quickly.

The ability to shape perceptions of conflict is often just as powerful as the conflict itself. Many historians believe that U.S. reporting on the Tet Offensive in 1968—and particularly Walter Cronkite’s newscast that challenged the U.S. government’s prevailing narrative of success—helped fuel negative public perceptions of the conflict, even as the offensive effectively destroyed the Vietcong as a fighting force.⁹⁶ U.S. foes in the post-Cold War era have been unable to use information operations to disrupt mainstream narratives and erode support for operations to this degree. The information operations of Iraq, Iran, and North Korea often have been laughably amateurish, as epitomized by the work of Iraqi Minister of Information Muhammad Saeed al-Sahhaf, also known as “Baghdad Bob,” who issued proclamations during the 2003 invasion of Iraq that were clearly divorced from reality.⁹⁷

China and Russia have far more powerful and sophisticated information capabilities than states like Iraq and North Korea. Rather than enjoying a significant asymmetric advantage in strategic information, during a potential conflict with these great-power competitors

the United States might be at a disadvantage. While this disadvantage may have direct impacts on the force (for example, alternative narratives could sap the morale of U.S., allied, and partner troops), indirect impacts may be larger and more worrisome. By targeting the governments and populations of allies and partners in the coalition, Chinese and Russian information operations could deny U.S. forces access or support. Russian information operations have successfully attacked weaknesses in the U.S. political system—similar actions during a crisis or a conflict may be enough to erode domestic support and delay or altogether prevent U.S. intervention.⁹⁸ China has been slowly increasing its information operations through its Belt and Road Initiative. This has included joint ventures with major U.S. and European media outlets, as well as outreach through small, local news media. This enables China to shape opinions over time and publicize its alternative narratives during crises. As an indication of China’s commitment to this aspect of its strategy, it recently created the first Belt and Road Initiative broadcasting station in Cambodia.⁹⁹

The solutions to many of these non-military aspects of Chinese and Russian power may lie outside the military sphere. Nevertheless, military strategy and operational planning for potential conflicts with China and Russia cannot proceed from an assumption that the main challenge is bringing our absolute advantage across all instruments of national power to bear through a whole-of-government strategy. The more worrisome possibility is that, in some scenarios, the United States may be significantly weaker than China or Russia in diplomacy, information, and economics, and this will place an added burden on an already heavily laden DoD.

Rather than enjoying a significant asymmetric advantage in strategic information, during a potential conflict with these great-power competitors the United States might be at a disadvantage.

Key Challenges

This survey of the assumptions underpinning the current American way of war highlights a handful of key challenges. Solving them will be central to developing a new American way of war and military forces capable of executing it.

Loss of operational sanctuary in a mature precision-strike regime. Military forces have historically been able to find sanctuary, or freedom from effective enemy attacks, at some given range from the adversary. These sanctuaries are where military forces would generally place critical supporting functions that they wished to protect from disruption, such as headquarters and logistics hubs. The range needed to achieve sanctuary generally has increased over time as artillery reached farther and as ground vehicles and then aircraft became more capable, but the accuracy and mass of attacks historically have decreased as a function of range, thereby limiting long-range strikes to small, harassing attacks like the Doolittle Raid. Nuclear weapons began to shift this paradigm, as the development and deployment of large quantities of intercontinental ballistic missiles provided mass striking power at range that was difficult for an adversary to counter, and the destructive power of nuclear warheads helped offset their relative lack of accuracy. Given their strategic implications, however, nuclear ICBMs had little impact on operational sanctuaries in anything but a cataclysmic war. The advent of precision-guided munitions coupled with long-range sensors and networks into “reconnaissance-strike complexes” has fundamentally shifted the paradigm.

Throughout most of history, attacking an adversary’s operational vulnerabilities—e.g., headquarters, supply lines, depots, ports, or airfields—required some form of risky maneuver to penetrate their sanctuary, as closing within fairly close range was the only means to deliver accurate firepower. For example, Germany’s blitzkrieg, which it developed from its late-World War I storm-trooper penetration tactics, was designed to penetrate into the adversary’s rear areas and wreak havoc, thereby collapsing their ability and will to fight without an attritional slog. Even when it was successful, as in the invasion of France, penetrating the front line required substantial casualties.¹⁰⁰ Exploiting the penetration to systemically disrupt French and British forces required the leading Panzer units to essentially ignore flank security and almost constantly outrun their logistical support. The systemic disruption created among French and British forces was astounding, but the risks run were equally enormous for Germany.

Precision-guided weapons allow long-range firepower to achieve the systemic operational effects against sanctuaries that previously required raids and other high-risk maneuvers. This was one of the insights that led to the concurrent development of AirLand Battle and the Second Offset strategy—defeating a numerically superior opponent required some form of operational disruption and asymmetric attrition. Long-range precision-guided weapons could achieve this by attacking Warsaw Pact rear areas and second-echelon forces without high-risk maneuvers. U.S. air planners in the Gulf War applied similar thinking to the Iraqi military, and the systemic disruptions they achieved left Iraq’s deployed military forces nearly defeated even before the 100-hour ground war. Cyber attacks conceivably could have similar “range-independent” capabilities that would further degrade sanctuaries. The impacts of this are difficult to assess, however, given the limited operational usage of cyber capabilities in wartime and the general secrecy that shrouds these potential uses of cyber.

The problem, from the perspective of the American way of war, is that U.S. military strategy and operational thinking for the last 30 years have focused on relatively weak regional opponents like Iraq or, since 9/11, on non-state adversaries. While understandable given the strategic priorities of the nation, this focus has fostered a sense of complacency based on the belief that only U.S. armed forces could conduct sustained precision long-range strike campaigns to induce systemic disruptions. Given sufficient range from the adversary, U.S. operational and force planning assumed that critical systems—such as air- and sea-bases, C4ISR systems, logistics nodes, and headquarters—would enjoy sanctuary and unimpeded freedom of maneuver. Because of this flawed assumption, the Joint Force unwittingly has opened itself to systemic disruption across virtually every key warfighting function. The imperative to economize while supporting ongoing operations—combined with the perception of sanctuary—has led the DoD to prioritize efficiency over resilience. For example, hardening and burying the massive fuel farms that supply aviation gas for aircraft is far more expensive than building standard above-ground tanks—this sort of expense is “wasteful” if airbases are assumed to be in sanctuary, but potentially critical to sustaining air operations under attack by an opponent with precision-guided weapons.

To exploit the vulnerabilities caused by the assumption of sanctuary and the focus on efficiency, China and Russia have developed and continue to seek weapons that will enable them to achieve systemic disruptions of U.S. forces by targeting critical but relatively undefended

nodes—such as air bases and space infrastructure—that the DoD has assumed to be free from attack since the end of the Cold War.

The loss of operational sanctuary for U.S. forces reflects the maturation of the precision-strike regime that Marshall, Watts, Krepinevich, et al. predicted. As Watts and others have noted, precision-guided weapons promise accuracy independent of range, but range is still a driver of cost—therefore, long-range precision weapons remain relatively scarce, even for advanced militaries.¹⁰¹ This scarcity creates an imperative to use these weapons to achieve disproportionate, systemic effects. At the same time, both sides in this military competition recognize the vulnerability of the long-range “kill chains” that enable effective use of these weapons.¹⁰² Taken together, this creates enormous incentives for operational aggressiveness to attack the key supporting systems of long-range reconnaissance-strike complexes.¹⁰³

The operational impacts of these incentives may drive toward a warfare regime that resembles World War II carrier operations in the Pacific, except at much longer ranges. In that competition, the enormous long-range scouting and striking power of the carriers, combined with their vulnerability and scarcity, conferred incredible advantage on the side that could effectively strike the enemy’s carrier force first.¹⁰⁴ As the dean of naval tactics, Captain (Retired) Wayne P. Hughes would point out, this wasn’t wholly novel—success in naval combat has long come down to “attacking effectively first.”¹⁰⁵ The concentration of critical systems in the carrier heightened and focused this imperative. The side that could sink or disable the other’s carriers not only would destroy scarce platforms, but likely destroy or disable many aircraft and precious aircrews along with them. This loss of scouting and striking power would systemically weaken the opposing fleet in any engagement, and multiple such losses could permanently cripple the opposing fleet if the losses could not be replaced. Such were the potential systemic impacts, that the U.S. and Imperial Japanese navies went to great lengths to attack each other’s carriers, launching incredibly risky and even suicidal air raids in hopes of disabling or sinking them.

This emerging paradigm driven by the loss of operational sanctuary helps explain why the 2018 NDS emphasizes both lethality and resilience to such a great degree. Lethality requires the Joint Force to be able to strike diverse targets—with a particular focus on achieving systemic disruption—inside contested environments from the outset of a conflict. Resilience demands that the Joint Force must be able to withstand precision attacks on key nodes and systems, and continue to



The battles of the Coral Sea and Midway emphasized the value of lethality—the ability to strike effectively first—and the resilience necessary to withstand and recover from damage. Despite being badly damaged at the Coral Sea, the USS Yorktown contributed to the U.S. victory at Midway before being disabled by Japanese air attacks. (U.S. Navy)

operate effectively.¹⁰⁶ Together, demonstrating the ability to defeat an adversary’s strategy and plans by striking or suppressing key nodes and operational centers of gravity, while being able to withstand a first strike and continue fighting effectively, should provide a convincing conventional deterrent to aggression.

Vulnerability of information, basing, and logistics.

This paper has largely eschewed discussing symmetrical military-operational competitions, such as air-to-air, naval fleet, or ground combat. This is not to imply that these competitions are wholly irrelevant to a new American way of war. Rather, it reflects the fact that neither China nor Russia wishes to enter into such a competition without first systemically disrupting U.S. military operations. A focus on air-to-air combat between U.S. aircraft and their Chinese or Russian counterparts, for instance, may overlook the impact that airbase and counter-C4ISR attacks have in defining the parameters of air-to-air engagements. In many cases, these systemic impacts may have greater influence on combat outcomes than differences in the quality or quantity of platforms, sensors, munitions, or personnel.

Instead of symmetrical combat, three particular areas stand out in the shift from the post-Cold War era to the new era of great-power competition: information, basing, and logistics. As noted previously, information has long been critical in warfare, but its salience has increased as modern military forces have come to depend on accurate, detailed, and timely information to conduct precision-strike operations. Prior to a conflict, China and Russia will work to deny or manipulate information to

prevent a timely and coherent response from the United States and its allies and partners. During a conflict, China and Russia will try to exploit information to their advantage or, failing that, disrupt, degrade, and deny U.S., allied, and partner access to information.

The vulnerability of airbases—both land- and sea-based—is a critical problem for U.S. operational planning. The United States needs overseas airbases to project power to distant theaters on a large scale, but these bases are large, difficult to conceal and, at least in the case of land bases, in fixed locations, which makes them easier to target. Prior to competitors and adversaries developing long-range precision-guided weapons, attacking U.S. airbases required long-range raids that were highly risky against U.S. defensive fighter patrols.¹⁰⁷ However, defending U.S. airbases against sustained large salvos of

In many cases, these systemic impacts may have greater influence on combat outcomes than differences in the quality or quantity of platforms, sensors, munitions, or personnel.

ballistic and cruise missiles is expensive, and it cannot be sustained over time given the imbalance between adversary offensive missiles and U.S. defenses. Defending airbases against emerging hypersonic missiles will be extremely difficult. This issue is particularly problematic in the Pacific, where the United States has a relative dearth of good basing options, and the PLA possesses large inventories of long-range ballistic and cruise missiles designed to attack airbases and aircraft carriers and is developing hypersonic weapons that can evade U.S. defenses. Through a combination of attrition on the ground and suppressed sortie generation, airbase attacks can radically alter the ability of the Joint Force to generate airpower when and where it's needed.¹⁰⁸ There is no silver-bullet solution to this problem, and each potential remedy has fiscal or operational costs.

The United States cannot project and sustain power overseas without functioning logistics networks. While American discussions of military strategy and operations often overlook this fact, Chinese and Russian strategy are well aware of it. Just as attacks on C4ISR and airbases can create systemic disruption, so too can attacks on logistics. For example, why should the PLAN attack a U.S. surface action group, when it much more easily

can attack the Combat Logistics Force ships that U.S. surface combatants rely on for underway replenishment? A similar problem exists in the air domain, given the dependence of U.S. aircraft on vulnerable aerial refueling tankers. To make this problem worse, after decades spent operating in sanctuary, U.S. logistics forces are woefully unprepared for operating against adversary attacks or in contested environments.

A lack of time.

Both China and Russia are well aware that, while the relative gap may be closing, the United States and its allies and partners maintain an absolute advantage in combat power, provided they have the time to bring it to bear. From their perspectives, victory therefore requires preventing an effective and timely U.S.-led response. China and Russia can accomplish this by exploiting time to their advantage and presenting the United States with a *fait accompli* before it is able to respond.

China and Russia thus far have achieved temporal advantages by operating in areas where U.S. strategy and policy are unclear, or by exploiting techniques that confound U.S. decisionmaking and responses. These gray-zone techniques exploit time in unique ways. China's land reclamations in the South China Sea, for example, were a slow-motion crisis that succeeded in "boiling the frog," although it remains to be seen whether China's geologic aggression has been a net strategic gain.¹⁰⁹ Russian actions in Crimea were radically different. Using legal and covert troop movements, as well as the cover of a snap exercise, Russia seized Crimea militarily faster than Ukraine could respond—and arguably before Moscow was ready to exert political control.¹¹⁰ China slowed time down to make territorial aggrandizement seem less aggressive, thereby preventing a coherent U.S. or regional response. Russia sped up time to move faster than the United States or its allies and partners could fashion a response. In both cases, China and Russia used time to achieve a *fait accompli*.

While these two scenarios were *sui generis*, U.S. military strategy and operational planning should assume that China and Russia will seek again to use time to their advantage so they can present the United States with a *fait accompli*. Slow burn or salami-slicing techniques such as China's activities in the South China Sea exploit U.S. indications and warnings systems and a national security decisionmaking apparatus that is more focused on unambiguous actions like Hussein's invasion of Kuwait. A rapid coup de main like Russia's seizure of Crimea simply moves faster than the United States or its allies and partners can respond.

Both approaches use time in different ways, but they exploit a common weakness in U.S. military strategy: an expeditionary posture that requires weeks or months to respond to crises. Since the end of the Cold War, U.S. forces generally have shifted away from forward stationing and toward basing forces in the United States.¹¹¹ The reasons behind this shift are myriad: declining threat perceptions, a desire on the part of some host

You can ask me for anything you like, except time.

—Napoleon Bonaparte

nations to reduce the presence of U.S. forces, a belief that forces based in the United States are more flexible and responsive to unpredictable threats than those stationed overseas, and political pressure to relocate military forces (and therefore jobs) to the United States. The end result, as an Army staffer once put it: “the United States has a Western Hemisphere military for Eastern Hemisphere problems.”

These reasons behind this choice may have been justifiable during the post–Cold War era, when the United States faced negligible time-sensitive threats and economic considerations trumped military concerns. However, the strategic environment has changed. The emergence of great-power competition hasn’t reduced the number of potential threats to U.S. national security, but it has helped to clarify and prioritize them. China and Russia present unique military challenges to U.S. security interests in terms of scope, scale, and speed, hence their centrality in the NDS.

The misalignment of U.S. force posture with the security environment means that responding to threats in the theaters where U.S. interests are most challenged requires weeks or months to build up combat power. This delay is part of what makes a fait accompli strategy viable for China and Russia. As illustrated throughout this paper, the challenges posed by China and Russia are particularly problematic for expeditionary power projection. Put simply, China and Russia may be able to strike vulnerable points in the U.S. security perimeter faster than expeditionary forces can respond, and with sufficient force to overwhelm or bypass allied, partner, and U.S. tripwire forces. Absent changes to posture, the United States is at risk of possessing an absolute advantage in military forces globally that it cannot bring to bear to achieve strategic outcomes regionally.

End of all-domain dominance.

U.S. forces have become accustomed to possessing virtually unchallenged dominance over every operating domain since the end of the Cold War. This dominance has given U.S. commanders and operational planners nearly unfettered freedom of maneuver and allowed them to reduce operational risks—and particularly risks to the force itself—to historically low levels in wartime. In addition, all-domain dominance and freedom of maneuver have enabled different parts of the Joint Force to work synergistically to achieve greater combat effects with fewer forces. For instance, the dominance of Air Force, Navy, and Marine Corps aviation has provided the Joint Force with freedom from air attack, incredible situational awareness and targeting, close air support, and battlefield interdiction. As a result, the Army and the ground component of the Marine Corps have been able to maneuver more aggressively and spend relatively less on air defenses and long-range fires.

The loss of all-domain dominance threatens this synergy and could make the Joint Force less than the sum of its constituent parts. Without air dominance, for example, U.S. ground forces may remain in more static defenses or maneuver much more conservatively. Without aggressive maneuver, adversary ground forces will not be forced to concentrate or counter-maneuver, making them less susceptible to detection and less vulnerable to offensive strikes. With air dominance threatened, the Air Force is likely to husband its ISR and tanker aircraft, which could leave them unavailable to support Navy aviation operations, which in turn might constrain the effectiveness of the carrier air wing, and so forth. The potential effects are myriad. The broader point is that, in a warfighting regime that likely demands greater cross-domain collaboration, the loss of dominance in multiple domains could undercut collaboration as each military service and component seeks to mitigate the effects of operating within contested domains and seeks to reestablish superiority in its domain.

The tendency of U.S. operational and force planning thus far has been a strange mixture of seeking to regain a level of all-domain dominance commensurate with post–Cold War experience, and attempting to avoid the problem through wishful thinking and invoking strategies of horizontal escalation (which, in many potential scenarios, are one and the same). U.S. operational and force-planners need to accept that the virtually unchallenged dominance that the Joint Force enjoyed in the air, sea, space, and information domains was a historical anomaly of a period without serious military competitors. Trying to regain that level of dominance,

particularly at the outset of a conflict, is a fool's errand that will waste time, money, and lives. Horizontal escalation has its place as an adjunct to a strategy of defending U.S. vital interests, but it is not a substitute. What's needed instead are concepts and capabilities to defeat an adversary's theory of victory by attacking operational centers of gravity in contested environments from the outset of a conflict—i.e., without a long campaign to achieve domain superiority or dominance.¹¹²

The Kenny Rogers problem.

In, "The Gambler," Kenny Rogers sang, "You've got know when to hold 'em, know when to fold 'em, know when to walk away, and know when to run." Much like a gambler in the song, U.S. military strategists and force-planners have to make informed bets about the future of warfare. The challenges posed by China and Russia require major changes to how the Joint Force fights and how the military services are trained, organized, and equipped. However, this does not mean that every aspect of U.S. military strategy and operations needs revolutionary change.

While the current paradigm shift will touch almost every aspect of U.S. warfighting, not every change will be radical. Some military systems, such as the M2 .50-caliber machine gun, have stood the test of time because of their simplicity and fitness for purpose. While they may see different uses in a new way of war, they may not need substantial physical changes. Other systems, such as the B-52 bomber, have been flexible enough to be constantly reinvented to meet new threats, and may



A B-52H Stratofortress, loaded with an X-51 experimental hypersonic weapon, epitomizes the ability of some weapons systems to adapt to new challenges. (U.S. Air Force)

Trying to regain dominance, particularly at the outset of a conflict, is a fool's errand that will waste time, money, and lives.

see yet another role in 21st-century great-power competition. Devising a new American way of war requires taking a close look at the current defense portfolio and the demands of the future, then differentiating between what can be made to work, what needs an overhaul, and what can be discarded.

Concluding Thoughts

The challenges outlined above are real, they are difficult, and the DoD and its subordinate components must solve them urgently to implement the *National Defense Strategy* and defend U.S. interests. However, these problems are solvable. The U.S. military establishment has solved problems of similar magnitude in the past, and there are initiatives and organizations working on solving them today. The Third Offset and the NDS have provided an intellectual foundation, a call to action, and strategic prioritization to solve them. The defense budgets for FY2019 and FY2020, while far from perfect, represent steps in the right direction.

At the same time, China and Russia face real, substantial challenges in conducting operations against the United States, its allies, and partners. Their forces are superior to those of Iraq or Yugoslavia, and they possess myriad strategic advantages that previous U.S. competitors have lacked, but their strategic and operational approaches have vulnerabilities and uncertainties that U.S. forces can exploit. For example, striking mobile targets at range, which is central to both Chinese and Russian operations in a potential conflict with the United States, requires accurate targeting information and the ability to transfer that information to the weapon in a timely manner. U.S. forces have spent several decades practicing and refining their ability to do this, including extensive combat experience, and yet these strikes are still complex and difficult operations. As this paper has illustrated, the links in these kill chains are vulnerable to all manner of disruptions, and Chinese and Russian kill chains are no exception to the rule.¹¹³

U.S. armed forces do not need to be invincible to achieve the objectives of the NDS. They simply need capabilities and operational concepts sufficient to sow enough doubt in the mind of Chinese and Russian

military planners that they eschew armed coercion and aggression against U.S. interests, our allies, and partners as a means of achieving their political objectives. During the post-Cold War era, the American way of war was so effective that victory was simply a matter of reducing

U.S. armed forces do not need to be invincible to achieve the objectives of the NDS. They simply need capabilities and operational concepts sufficient to sow enough doubt in the mind of Chinese and Russian military planners.

risk in execution, regardless of the problem.¹¹⁴ This perspective carried over into the DoD's assessments of risk to its ability to conduct operations. These often take the form of "stoplight charts," because they use red, yellow, and green to represent high, moderate, and low risk, respectively. Generally speaking, the response to these assessments is to focus on areas of red and yellow to reduce risk.

This was a reasonable approach when the way of war was assumed to work, and the risks were limited in scope. It works less well when the way of war itself is in question and the risks are getting higher and more widespread. Moreover, it represents a flawed understanding of deterrence. For contingencies in which important national interests are at stake, credible deterrence is less a function of the risk to U.S. forces than it is of the risk to the adversary's overall operation. For the Joint Force to deter an adversary, it does not need U.S. risk to be low; it needs the adversary's risk to be high. In the parlance of the stoplight chart, the Joint Force doesn't need to be green or yellow across the board, so long as the adversary sees enough red in their assessment of their own abilities that they choose not to act.

Instead of seeking to reduce risk, a new American way of war must seek to induce doubt in potential adversaries by attacking their theories of victory and introducing risk into their operational concepts. Executing this shift in strategic mindset is difficult, but achievable. It does not require enormous investments or the arrival of game-changing new technologies. The hard work of grappling with the problems described above can begin today, and changes to concepts and capabilities that could alter the deterrence calculi of China and Russia are feasible within one or two budget cycles.

There should be no doubt about whether the United States has the wherewithal to execute the NDS. The question is whether it will. This strategy will require focus and discipline in the DoD, Congress, and presidential administrations. It will require consistent funding directed at the right priorities, and a willingness to make unpopular cuts to previously sacrosanct programs. It will require the military services to rethink their strategic concepts, roles, and missions, and build on the NDS to develop viable theories of victory that will confound U.S. adversaries. It will require new operational concepts that explain how current and planned forces can be employed to achieve campaign objectives. It will require deeper engagement with allies, key partners, and potential allies and partners. It will require the DoD and the broader defense community to confront difficult challenges, solve them in a way that is consistent with U.S. strategic objectives given budget constraints, and make a clear argument to the American people for why these hard choices are necessary.

In the face of increasing pressure from China and Russia, the NDS seeks to uphold a security order and a constellation of alliances and partnerships that have made the United States secure, prosperous, and powerful for over 70 years. Sustaining this advantageous position for the next 70 years and beyond, given the paradigm shift under way in the security environment, will require a willingness to fundamentally rethink how the U.S. armed forces fight wars. If we want everything to stay as it is, everything will have to change.

There should be no doubt about whether the United States has the wherewithal to execute the NDS. The question is whether it will.

Next Steps Toward a New American Way of War

The current American way of war will not work in a strategy focused on deterring Chinese and Russian aggression. To continue investing money in flawed concepts is a waste of resources and, given constrained resources, an enormous lost opportunity to make better investments. This project will rigorously examine and debate the key aspects of U.S. military strategy and operational thinking with an eye toward developing new strategies and operational concepts better suited to long-term military competitions—and potential conflicts—with China and Russia.

This project will advance research and debate on developing a new American way of war in several ways. First, it will convene regular meetings of military strategists, operational planners, analysts, and force planners to discuss the problems identified in this paper. Second, it will create a network of like-minded military thinkers who will work to advance the art and science of American military strategy and operational thinking. Finally, it will regularly publish products that bring this research and debate into the public.

Endnotes

1. Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge* (2018), 1, <https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>.
2. Giuseppe Tomasi de Lampedusa, *The Leopard: a Novel* (Il Gattopardo) (Pantheon: New York, 1960), 28. The original Italian uses the phrase “Se vogliamo che tutto rimanga comè, bisogna che tutto cambi,” which literally translates to “If we want everything to remain how it is, it’s necessary that everything changes.” The English version translates this as “If we want things to stay as they are, things will have to change,” which is much less evocative.
3. White House, *National Security Strategy of the United States of America* (December 2017), <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>; “Remarks by Secretary Mattis on the National Defense Strategy,” Department of Defense, press release, January 19, 2018, <https://dod.defense.gov/News/Transcripts/Transcript-View/Article/1420042/remarks-by-secretary-mattis-on-the-national-defense-strategy/>. I am indebted to Dr. Mara Karlin for the idea that the end of the post-Cold War era marks a paradigm shift. For more on paradigm shifts, see Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962).
4. “Despite all the growing challenges to longstanding U.S. approaches to overseas power projection posed by a maturing precision-strike regime, the American military has shown little inclination to embrace fundamentally new operational concepts or organizational arrangements to deal with the looming obstacles. Instead, the military services have largely taken evolving American capabilities for reconnaissance strike and layered them onto existing operational concepts and organizations.” See Barry D. Watts, “The Evolution of Precision Strike” (Center for Strategic and Budgetary Assessments, 2013), 33, <https://csbaonline.org/research/publications/the-evolution-of-precision-strike>.
5. See David Ochmanek, “Sustaining U.S. Leadership in the Asia-Pacific Region: Why a Strategy of Direct Defense Against Antiaccess and Area Denial Threats Is Desirable and Feasible” (RAND Corporation, 2015), 3-7, <https://www.rand.org/pubs/perspectives/PE142.html>; David Ochmanek, “Restoring U.S. Power Projection Capabilities: Responding to the 2018 National Defense Strategy” (RAND Corporation, 2018), 3-7, <https://www.rand.org/pubs/perspectives/PE260.html>; and Eric Heginbotham and Jacob L. Heim, “Deterring without Dominance: Discouraging Chinese Adventurism under Austerity,” *The Washington Quarterly*, 38 no. 1 (2015), 186-188, https://politicalscience.nd.edu/assets/262944/deterring-without-dominance_heginbotham_heim.pdf.
6. Several measures of national power place the U.S. well ahead of its closest peer competitor, China, especially the GDP composite metric in Michael Beckley, “The Power of Nations: Measuring What Matters,” *International Security*, 43 no. 2 (Fall 2018), 7-44. Nevertheless, U.S. forces fail in simulations of strategically significant scenarios. Sydney J. Freedberg Jr., “US Gets Its Ass Handed to it’ in Wargames: Here’s a \$24 Billion Fix,” *Breaking Defense*, March 7, 2019, <https://breakingdefense.com/2019/03/us-gets-its-ass-handed-to-it-in-wargames-heres-a-24-billion-fix/>.
7. Elbridge Colby, “America Must Prepare for Limited War,” *The National Interest*, no. 140 (Nov/Dec 2015) 11-22, <https://nationalinterest.org/feature/america-must-prepare-limited-war-14104>; Elbridge Colby, “Against the Great Powers: Reflections on Balancing Nuclear and Conventional Power,” *Texas National Security Review*, 2 no. 1, November 2018, 145-152, <http://dx.doi.org/10.26153/tsw/864>.
8. Dwayne Spradlin, “Are You Solving the Right Problem?” *Harvard Business Review*, September 2012, <https://hbr.org/2012/09/are-you-solving-the-right-problem>.
9. Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (Bloomington, IN: Indiana University Press, 1973).
10. Antulio J Echevarria, *Reconsidering the American Way of War* (Washington: Georgetown University Press, 2014), 9-27.
11. Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (RAND Corporation, 1989), 115.
12. For example, “More individuals are needed in the J-7 [the Joint Staff] who understand the difference between training, for which check-the-block lists and metrics exist and can be executed, and education, which often has longer time horizons and for which efforts to mirror training measurement precision are folly.” Tammy S. Schultz, “The Road Less Traveled: Both Sides Are Right About Professional Military Education,” *War on the Rocks*, July 30, 2018, <https://warontherocks.com/2018/07/the-road-less-travelled-both-sides-are-right-about-professional-military-education/>. The NDS also endorses this critique. *Summary of the 2018 National Defense Strategy of the United States of America*, 8.
13. See comments of then-Deputy Assistant Secretary of Defense for Strategy and Force Development Elbridge A. Colby. “DoD Official: National Defense Strategy Will Enhance Deterrence”, Department of Defense, press release, January 19, 2018, <https://dod.defense.gov/News/Article/Article/1419045/dod-official-national-defense-strategy-will-rebuild-dominance-enhance-deterrence/>.
14. Alan J. Vick, *Air Base Attacks and Defensive Counters: Historical Lessons and Future Challenges* (RAND Corporation, 2015), 12, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a620337.pdf>.

15. I discuss these cases in greater length in the following pages. See for example Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (RAND Corporation), 17-66, https://www.rand.org/content/dam/rand/pubs/monograph_reports/MR1365/MR1365.ch3.pdf; Walter L. Petty et al., eds., "Operational Iraqi Freedom: Decisive War, Elusive Peace," (RAND Corporation, 2015), https://www.rand.org/pubs/research_reports/RR1214.html.
16. I thank Mark Phillips of the Institute for Defense Analyses for introducing me to this term.
17. Department of Defense, *The Bottom Up Review: Forces for a New Era*, (1993); Eric V. Larson, David T. Orletsky, Kristin J. Leuschner, "Defense Planning in a Decade of Change: Lessons from the Base Force, Bottom-Up Review, and Quadrennial Defense Review," (RAND Corporation, 2001), 41-81, https://www.rand.org/pubs/monograph_reports/MR1387.html.
18. The possible exceptions being Korea and, to a lesser degree, the Persian Gulf. In the former, substantial U.S. forward-stationed forces assisted a highly capable ally in deterring aggression. In the latter, U.S. air- and seapower, along with prepositioned equipment, kept watch on Iraq and Iran. Nevertheless, neither theater approached the amount of forward-stationed force or demand for rapid reinforcement of the European central front during the Cold War.
19. Stacie L. Pettyjohn, "U.S. Global Defense Posture," (RAND Corporation, 2012), 85-87, <https://www.rand.org/pubs/monographs/MG1244.html>.
20. See *Summary of the 2018 National Defense Strategy of the United States of America*; and Elbridge Colby, Director of the Defense Program, CNAS, "Addressing China and Russia's Emergence as Great Power Competitors and the Implementation of the National Defense Strategy," Statement to the Armed Services Committee, United States Senate, January 29, 2019, https://s3.amazonaws.com/files.cnas.org/documents/Colby-SASC-Testimony-1.29.19_open.pdf?mtime=20190128171132.
21. *Summary of the 2018 National Defense Strategy of the United States of America*, 8.
22. Elbridge Colby and Jonathon F. Solomon, "Avoiding Becoming a Paper Tiger: Presence in a Warfighting Strategy," *Joint Forces Quarterly*, 82 no. 3, 26-27, https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-82/jfq-82_24-32_Colby-Solomon.pdf.
23. Previously, this would be referred to as a conventional deterrent. Given the widespread use of non- or unconventional forces in "conventional" deterrence (e.g., cyber, spaces, and special operations forces), this may now be a misnomer. See Ochmanek, "Sustaining U.S. Leadership in the Asia-Pacific Region"; and Heginbotham and Heim, "Deterring without Dominance."
24. This term is commonly associated with B. H. Liddell Hart, see *Strategy* (New York: Plume, 1991). Modern examples of indirect approaches may be found in T. X. Hammes, "Offshore Control: A Proposed Strategy for an Unlikely Conflict," (Institute for National Security Studies: National Defense University, June 2012), <https://ndupress.ndu.edu/Portals/68/Documents/stratforum/SF-278.pdf>; and Michael O'Hanlon, *The Senkaku Paradox: Risking Great Power War Over Small Stakes* (Washington: Brookings Institution Press), 2019.
25. For detailed analysis of foreign direct investment flows between the United States, its allies, and other countries, see United Nations Conference on Trade and Development, "Country Fact Sheets 2018," <https://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Country-Fact-Sheets.aspx>.
26. Zack Cooper and Jake Douglas, "Successful Signaling at the Scarborough Shoal?" War on the Rocks, May 2, 2016, <https://warontherocks.com/2016/05/successful-signaling-at-scarborough-shoal/>; Michael Green et al., "Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence" (Center for Strategic and International Studies, May 2017), 15-16, https://csis-prod.s3.amazonaws.com/s3fs-public/publication/170505_GreenM_CounteringCoercionAsia_Web.pdf?OnoJXfWb4A5gw_n6G.8azgEd8zRIM-4wq.
27. Jim Mitre, "A Eulogy for the Two-War Construct," *The Washington Quarterly*, 41 no. 4 (Winter 2019), 7-30, https://twq.elliott.gwu.edu/sites/g/files/zaxdzs2121/f/downloads/Winter%202019_Mitre.pdf; Department of Defense, *The Bottom Up Review: Forces for a New Era*, (1993).
28. Mitre, "A Eulogy for the Two-War Construct," 21.
29. Andrew F. Krepinevich Jr., "Archipelagic Defense: The Japan-U.S. Alliance and Preserving Peace and Stability in the Western Pacific" (The Sasakawa Peace Foundation, 2017), 68-69, https://www.spf.org/jpus-j/img/investigation/SPF_20170810_03.pdf.
30. On forward base vulnerability, see Thomas Shugart and Javier Gonzales, "First Strike: China's Missile Threat to U.S. Bases in Asia" (CNAS, 2017), 13, <https://s3.amazonaws.com/files.cnas.org/documents/CNASReport-FirstStrike-Final.pdf?mtime=20170626140814>.
31. Colby and Solomon, "Avoiding Becoming a Paper Tiger;" David Ochmanek, Senior International/Defense Researcher, RAND Corporation, "Restoring the Power Projection Capabilities of the U.S. Armed Forces," Statement to the Committee on Armed Services, United States Senate, February 16, 2017.
32. Ibid.
33. The assumption that the homeland and bases outside the theater of operations have other significant strategic and operational ramifications beyond deployment will be discussed below.

34. Although North Korea recently has been developing longer-range ballistic missiles, its ability to strike the U.S. homeland or U.S. bases overseas still pales in comparison to China or Russia. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2019*, E-1F4B924, (May 2, 2019), 44-48, https://media.defense.gov/2019/May/02/2002127082/-1/-1/1/2019_CHINA_MILITARY_POWER_REPORT.pdf; Defense Intelligence Agency, *China Military Power: Modernizing a Force to Fight and Win*, DIA-02-1706-085 (January 3, 2019), 91-95, https://www.dia.mil/Portals/27/Documents/News/Military%20Power%20Publications/China_Military_Power_FINAL_5MB_20190103.pdf; and *Defense Intelligence Agency, Russia Military Power: Building a Military to Support Great Power Aspirations*, DIA-11-1704-161 (2017), 47-49, <https://www.dia.mil/portals/27/documents/news/military%20power%20publications/russia%20military%20power%20report%202017.pdf>.
35. Dave Johnson, "Russia's Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds," (Lawrence Livermore National Laboratory: Center for Global Security Research, 2018), 86-87, <https://cgsr.llnl.gov/content/assets/docs/Precision-Strike-Capabilities-report-v3-7.pdf>.
36. Krepinevich, "Archipelagic Defense," 13; Andrew F. Krepinevich, "The Terrorist Threat Beneath the Waves," *The Wall Street Journal*, November 2, 2011, <https://www.wsj.com/articles/SB10001424052970203687504577005811739173268>; and Robert Martinage, "Under the Sea: The Vulnerability of the Commons," *Foreign Affairs*, 94 no. 1 (January/February 2015), 117-126, <https://www.foreignaffairs.com/articles/global-commons/under-sea>.
37. David A. Schlapak and Michael Johnson, "Reinforcing Deterrence on NATO's Eastern Flank: Wargaming in Defense of the Baltics," (RAND Corporation, 2016), 9-10, https://www.rand.org/pubs/research_reports/RR1253.html.
38. See *War in the Persian Gulf: Operations Desert Shield and Desert Storm August 1990-March 1991* (Washington: Center of Military History, United States Army, 2010), 3-28, https://history.army.mil/html/books/070/70-117-1/CMH_70-117-1.pdf; James K. Mathew and Cora J. Holt, *So Many, So Much, So Far: United States Transportation Command and Strategic Deployment for Operation Desert Shield/Storm* (Washington: Joint History Office, Office of the Chairman of the Joint Chiefs of Staff and Research Center United States Transportation Command, 1992, xviii-xx, Table II-2, <https://www.jcs.mil/Portals/36/Documents/History/Monographs/Transcom.pdf>.
39. *War in the Persian Gulf*, 3.
40. *Mathew and Holt, So Many, So Much, So Far*, 20.
41. There were some notable exceptions, such as the crash of a C-5A Galaxy airlifter in Germany, and the breakdown of a fast sealift ship carrying part of the 24th Infantry Division.
42. Task Force Hawk during Operation Allied Force in the Balkans in 1999 was the exception that proves the rule. The difficulty the Army had deploying a force of AH-64 Apache attack helicopters to the theater caused a crisis among U.S. military strategists. See "The Future of War: Analyses of Task Force Hawk," PBS Frontline, <https://www.pbs.org/wgbh/pages/frontline/shows/future/experts/taskforce.html>; and John Gordon IV, Bruce Nardulli, and Walter L. Perry, "The Operational Challenges of Task Force Hawk," *Joint Forces Quarterly* (Autumn/Winter 2001-2002), 52-57, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a403513.pdf>.
43. In the parlance of operational planning, China and Russia would seek to push I-day (indications), W-day (warning), and C-day (decision to deploy) as far to the "right" (i.e., later) as possible.
44. John Stillion and Bryan Clark, "What it Takes to Win: Succeeding in 21st Century Battle Network Competitions," (Center for Strategic and Budgetary Assessments, 2015), 3, <https://csbaonline.org/uploads/documents/What-it-Takes-to-Win.pdf>.
45. This is not to say that conveying is unnecessary or harmful, but it illustrates the tradeoffs between time lines (i.e., risk to the mission) and attrition (i.e., risk to the force).
46. Eliot Cohen, "Gulf War Air Power Survey," (1993); Eliot A. Cohen, "The Mystique of U.S. Air Power," *Foreign Affairs*, 73 no. 1 (January/February 1994); Michael R. Gordon and Bernard E. Trainor, *The Generals' War* (Boston: Little Brown and Company, 1995); Max Boot, "The New American Way of War," *Foreign Affairs*, 82 No. 4 (July/August 2003), 41-58, <https://www.foreignaffairs.com/articles/untied-states/2003-07-01/new-american-way-war>; and Anthony H. Cordesman, working paper, "The Intelligence Lessons of the Iraq War(s)," (Center for Strategic and International Studies, August 6, 2004), https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/media/csis/pubs/iraq_intelligenceiraqiwar.pdf.
47. For more on terrain and weather offsetting U.S. airpower see Lambeth, *NATO's Air War for Kosovo*, 17.
48. For analysis on Chinese and Russian anti-satellite systems see Todd Harrison, Kaitlyn Johnson, and Thomas G. Roberts, "Space Threat Assessment 2019," (Center for Strategic and International Studies, 2019), 8-24. For analysis on Chinese air defenses see Eric Heginbotham et al., "The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996-2017" (RAND Corporation, 2015), 130-132, https://www.rand.org/content/dam/rand/pubs/research_reports/RR300/RR392/RAND_RR392.pdf; and for analysis on Russia air defenses see Scott Boston et al., "Assessing the Conventional Force Imbalance in Europe: Implications for Countering Russian Local Superiority" (RAND Corporation, 2018).
49. Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2017*, C-B066B88 (May 2017), 40; and Defense Intelligence Agency, *Russia Military Power*, 37-41.

50. See Ian W. Toll, *Pacific Crucible: War at the Sea in the Pacific, 1941–1942* (New York: W. W. Norton & Company), 2011.
51. See Paul Scharre, “American Strategy and the Six Phases of Grief,” *War on the Rocks*, October 6, 2016, <https://warontherocks.com/2016/10/american-strategy-and-the-six-phases-of-grief/>; Lauren Fish, “Painting by Numbers: A History of the U.S. Military’s Phasing Construct,” *War on the Rocks*, November 1, 2016, <https://warontherocks.com/2016/11/painting-by-numbers-a-history-of-the-u-s-militarys-phasing-construct/>; and Joint Chiefs of Staff, *Joint Operations*, Joint Publication 3-0 (22 October 2018), https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_0ch1.pdf?ver=2018-11-27-160457-910.
52. See, for example: Albin Krebs, “James Doolittle, 96, Pioneer Aviator Who Led First Raid on Japan, Dies,” *The New York Times*, September 28, 1993, <https://www.nytimes.com/1993/09/28/obituaries/james-doolittle-96-pioneer-aviator-who-led-first-raid-on-japan-dies.html>.
53. Jeff Hagen et al., “The Foundations of Operational Resilience – Assessing the Ability to Operate in an Anti-Access/Area Denial (A2/AD) Environment: The Analytical Framework, Lexicon, and Characteristics of the Operational Resilience Analysis Model (ORAM)” (RAND Corporation, 2016), https://www.rand.org/content/dam/rand/pubs/research_reports/RR1200/RR1265/RAND_RR1265.pdf.
54. For example, “The intent of [Desert Storm air campaign concept plan] Instant Thunder was not signaling, but massive rapid, precisely delivered attacks against Iraq’s center of gravity . . . it was a gamble that one could defeat the enemy by a successful attack on his head and nervous system.” James A. Winnefeld, Preston Niblack, and Dana J. Johnson, “A League of Airmen: U.S. Air Power in the Gulf War” (RAND Corporation, 1994), 68-70, https://www.rand.org/pubs/monograph_reports/MR343.html; Lambeth, *NATO’s Air War for Kosovo*, 29-32; and Walter L. Petty et al., eds., “Operational Iraqi Freedom: Decisive War, Elusive Peace” (RAND Corporation, 2015), 58-60, https://www.rand.org/pubs/research_reports/RR1214.html.
55. John Boyd and John Warden, *Air Power’s Quest for Strategic Paralysis* (Maxwell AFB, AL: Air University Press, February 1995), https://media.defense.gov/2017/Dec/27/2001861508/-1/-1/0/T_0029_FADOK_BOYD_AND_WARDEN.PDF.
56. Jan van Tol et al., “AirSea Battle: A Point-of Departure Operational Concept” (Center for Strategic and Budgetary Assessments, 2010), 56-65, <https://csbaonline.org/research/publications/airsea-battle-concept>; Johnson, “Russia’s Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds,” 53-54; and Jeffery Engstrom, “Systems Confrontation and System Destruction Warfare: How the Chinese Liberation Army Seeks to Wage Modern Warfare” (RAND Corporation, 2018), https://www.rand.org/pubs/research_reports/RR1708.html.
57. On the Iraq war, see Michael R. Gordon and General Bernard E. Trainor, *Cobra II: The Inside Story of the Invasion and Occupation of Iraq* (New York: Pantheon Books, 2006); Walter L. Petty et al., eds., “Operational Iraqi Freedom: Decisive War, Elusive Peace” (RAND Corporation, 2015), 58-60, https://www.rand.org/pubs/research_reports/RR1214.html; and Bob Woodward, “U.S. Aimed for Hussein As War Began,” *The Washington Post*, April 22, 2004, https://www.washingtonpost.com/archive/politics/2004/04/22/us-aimed-for-hussein-as-war-began/27a5a03b-1ce7-422d-9dba-fae392b31f74/?noredirect=on&utm_term=.12c0d7a22936. On Kosovo, see Lambeth, *NATO’s Air War for Kosovo*, 17-65.
58. For an example of this assumption, see Krepinevich, “Archipelagic Defense,” 65-66.
59. See, for example, Richard G. Davis, *On Target: Organizing and Executing the Strategic Air Campaign Against Iraq* (Air Force History and Museums Program, 2002), 171-177, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a440396.pdf>.
60. Engstrom, “Systems Confrontation and System Destruction Warfare;” Jeffrey Engstrom, “China Has Big Plans to Win the Next War It Fights,” *The National Interest*, February 9, 2018, <https://nationalinterest.org/blog/the-buzz/china-has-big-plans-win-the-next-war-it-fights-24449>.
61. On the gorilla package, see Lambeth, *NATO’s Air War for Kosovo*, 115-141; Mike Pietrucha, “The Need for SEAD Part I: The Nature of SEAD,” *War on the Rocks*, May 17, 2016, <https://warontherocks.com/2016/05/the-need-for-sead-part-i-the-nature-of-sead/>; Mike Pietrucha, “The Need for SEAD Part II: The Evolving Threat,” *War on the Rocks*, June 7, 2016, <https://warontherocks.com/2016/06/the-need-for-sead-part-ii-the-evolving-threat/>; and Bryan Clark, Mark Gunzinger, and Jesse Sloman, “Winning in the Gray Zone: Using Electromagnetic Warfare to Regain Escalation Dominance” (Center for Strategic and Budgetary Assessments, 2017), 1-19, <https://csbaonline.org/research/publications/winning-in-the-gray-zone-using-electromagnetic-warfare-to-regain-escalation/publication>. On standoff capability, see Defense Science Board, Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, *2017 Summer Study on Long Range Effects* (June 2018), https://www.acq.osd.mil/dsb/reports/2010s/LRE%20Executive%20Summary_Final.pdf; and Jordan Rozsa, “Improving Standoff Bombing Capacity in the Face of Anti-Access Area Denial Threats” (RAND Corporation, 2015), https://www.rand.org/pubs/rgs_dissertations/RGSD363.html.
62. Bryan Clark et al., “Regaining the High Ground at Sea: Transforming the U.S. Navy’s Carrier Air Wing For Great Power Competition” (Center for Strategic and Budgetary Assessments, 2018), 14-21, https://csbaonline.org/uploads/documents/CVW_Report_Web_1.pdf; Mark Gunzinger and Bryan Clark, “Winning the Salvo Competition: Rebalancing America’s Air and Missile Defenses” (Center for Strategic and Budgetary Assessments, 2016), 11-20, https://csbaonline.org/uploads/documents/CSBA6173-PGM2_Report_WEB_2.pdf.

63. David A. Schlapak and Michael W. Johnson, "Reinforcing Deterrence on NATO's Eastern Flank," 6.
64. Van Tol et al., "AirSea Battle;" Krepinevich, "Why AirSea Battle?" and Michael E. Hutchens et al., "Joint Concept for Access and Maneuver in the Global Commons: A New Joint Operational Concept," *Joint Forces Quarterly*, 84 no. 1 (2017), 134-139, <https://ndupress.ndu.edu/Media/News/Article/1038867/joint-concept-for-access-and-maneuver-in-the-global-commons-a-new-joint-operati/>.
65. Van Tol et al., "AirSea Battle;" Krepinevich, "Why AirSea Battle?"
66. William Rosenau, *Special Operations Forces and Elusive Enemy Ground Targets: Lessons from Vietnam and the Persian Gulf War* (RAND Corporation, 2001), 29-44, https://www.rand.org/content/dam/rand/pubs/monograph_reports/MR1408/MR1408.ch3.pdf.
67. "Panel Discussion: A New American Way of War," CNAS, March 7, 2019, <https://www.cnas.org/events/panel-discussion-a-new-american-way-of-war>; Freedberg, Jr., "'US Gets Its Ass Handed to it' in Wargames: Here's a \$24 Billion Fix."
68. As then-Undersecretary of Defense for Policy Paul Wolfowitz observed, Saddam Hussein had concluded from Vietnam and Beirut that the United States lacked staying power. Richard M. Swain, *"Lucky War" Third Army in Desert Storm* (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College Press), 1994, xxvi, https://history.army.mil/html/bookshelves/resmat/dshield_dstorm/LuckyWar.pdf.
69. Davis, *On Target*, 2.
70. Lambeth, *NATO's Air War for Kosovo*, 29.
71. *Ibid.*, xv.
72. *Ibid.*; General Wesley K. Clark, *Waging Modern War: Bosnia, Kosovo, and the Future of Combat* (New York: Public Affairs, 2002).
73. Lambeth, *NATO's Air War for Kosovo*, 71.
74. John Stillion and Bryan Clark, "What it Takes to Win," 3. On the historic importance of technology and force ratios, see Barry Watts, "Six Decades of Guided Munitions and Battle Networks: Progress and Prospects" (Center for Strategic and Budgetary Assessments, 2007), 38-64, <https://csbaonline.org/research/publications/six-decades-of-guided-munitions-and-battle-networks-progress-and-prospects>. On limitation of U.S. advanced munitions stocks, see, for example, Aaron Mehta, "The US is running out of bombs – and it may soon struggle to make more," *Defense News*, May 22, 2018, <https://www.defensenews.com/pentagon/2018/05/22/the-us-is-running-out-of-bombs-and-it-may-soon-struggle-to-make-more/>.
75. "Panel Discussion: A New American Way of War," CNAS, March 7, 2019, <https://www.cnas.org/events/panel-discussion-a-new-american-way-of-war>; Freedberg, "'US Gets Its Ass Handed to it' in Wargames: Here's a \$24 Billion Fix."
76. David A. Schlapak and Michael W. Johnson, "Reinforcing Deterrence on NATO's Eastern Flank," 1; Billy Fabian et al., "Strengthening the Defense of NATO's Eastern Frontier" (Center for Strategic and Budgetary Assessments, 2019), ii, <https://csbaonline.org/research/publications/strengthening-the-defense-of-natos-eastern-frontier/publication>.
77. Defense Intelligence Agency, *Russian Military Power*, 46. While China has made PLA readiness a modernization priority, the PLA's lack of combat experience obscures peacetime assessments of combat readiness. See Timothy R. Heath, "China's Military Has No Combat Experience: Does it Matter?" RAND Corporation blog, November 27, 2018, <https://www.rand.org/blog/2018/11/chinas-military-has-no-combat-experience-does-it-matter.html>.
78. "The Future of War: Analyses of Task Force Hawk," PBS Frontline, <https://www.pbs.org/wgbh/pages/frontline/shows/future/experts/taskforce.html>.
79. Witness the difference between Operation Urgent Fury and Operation Desert Shield/Storm.
80. Ochmanek, "Sustaining U.S. Leadership in the Asia-Pacific Region," 3.
81. Christopher F. Chyba and Karthika Sasikumar, "A World of Risk: The Current Environment For U.S. Nuclear Weapons Policy," in George Bunn and Christopher F. Chyba, eds., *U.S. Nuclear Weapons Policy: Confronting Today's Threats* (Washington: Brookings Institution Press and CISAC, 2006), 9, https://www.brookings.edu/wp-content/uploads/2016/07/usnuclearweaponspolicy_chapter.pdf. For discussion of Iran's Mosaic defense, see Mark Gunzinger and Chris Dougherty, "Outside-In: Operating from Range to Defeat Iran's Anti-Access and Area-Denial Threats" (Center for Strategic and Budgetary Assessments, 2011), 23, https://csbaonline.org/uploads/documents/CSBA_SWA_FNL-WEB.pdf; Frederic Wehrey et al., *Dangerous But Not Omnipotent: Exploring the Reach and Limitations of Iranian Power in the Middle East* (RAND Corporation, 2009), 53, <https://www.rand.org/content/dam/rand/pubs/monographs/2009/RAND-MG781.pdf>.
82. Watts, "The Evolution of Precision Strike," 9; Andrew F. Krepinevich, "Maritime Competition in a Mature Precision-Strike Regime" (Center for Strategic and Budgetary Assessments, 2014), 12, <https://csbaonline.org/uploads/documents/MMPSR-Web.pdf>.
83. Tyler Rogoway, "Air Force's Secretive XQ-58A Valkyrie Experimental Combat Drone Emerges After First Flight," *The Drive*, March 6, 2019, <https://www.thedrive.com/>

- the-war-zone/26825/air-forces-secretive-xq-58a-valkyrie-experimental-combat-drone-emerges-after-first-flight/; Colin Clark, "US 'Loyal Wingman' Takes Flight: AFRL & Kratos XQ-58A Valkyrie," *Breaking Defense*, March 7, 2019, <https://breakingdefense.com/2019/03/us-loyal-wingman-takes-flight-afrl-kratos-xq-58a-valkyrie/>.
84. See Paul Scharre (paul_scharre), "The newly revealed XQ-58 Valkyrie drone is the future of American air power. Here's why . . . [a THREAD]," March 8, 2019, 11:10 a.m. Twitter, https://twitter.com/paul_scharre/status/1104097118615162880.
 85. As an example, the U.S. Navy entered World War II with seven operational aircraft carriers. Of these, four (*Lexington*, *Yorktown*, *Wasp*, and *Hornet*) sank as a result of enemy action.
 86. I am deeply indebted to my colleagues Neil Bhatiya, Ashley Feng, and Sam Dorshimer for their expertise and contributions in this section.
 87. See Francisco Parra, *Oil Politics: A Modern History of Petroleum* (London: I. B. Tauris, 2004), 305–306, as cited in Caitlin Talmage, "Closing Time: Assessing the Iranian Threat to the Strait of Hormuz," *International Security*, 33 no. 1 (Summer 2008), 83.
 88. See Talmage, "Closing Time;" Mark Gunzinger and Christopher Dougherty, "Outside-In: Operating from Range to Defeat Iran's Anti-Access and Area-Denial Threats" (Center for Strategic and Budgetary Assessments, 2011).
 89. Given Iran's dependence on energy exports for trade and foreign currency, a move to close the Strait would be akin to cutting off its head to spite its face. Oil rents comprise 13.6 percent of Iran's GDP; natural gas rents comprise 2 per cent. *Iran, Islamic Republic*, (World Bank, 2016), <https://data.worldbank.org/country/iran-islamic-rep>.
 90. See George A. Lopez and David Cortright, "Containing Iraq: Sanctions Worked," *Foreign Affairs*, 83 no. 4, (July/August 2004), 90-103, <https://www.foreignaffairs.com/articles/iraq/2004-07-01/containing-iraq-sanctions-worked>.
 91. Lambeth, *NATO's Air War for Kosovo*, 71.
 92. Eurostat, "China-EU – International Trade in Goods Statistics," European Union Statistical Office, April 2019, https://ec.europa.eu/eurostat/statistics-explained/index.php/China-EU_-_international_trade_in_goods_statistics#Overview.
 93. European Commission, "Countries and Regions" Russia," European Commission, April 2018, <http://ec.europa.eu/trade/policy/countries-and-regions/countries/russia/>; International Monetary Fund, "GDP, Current Prices" (2018), <https://wits.worldbank.org/CountryProfile/en/RUS>; <https://www.imf.org/external/datamapper/NGDP@WEO/OEMDC/ADVEC/WEOWORLD/RUS>; and World Integrated Trade Solution, "Russian Federation Trade Statistics: Exports, Imports, Products, Tariffs, GDP, and related Development Indicator," World Bank Group.
 94. Observatory of Economic Complexity, "China," MIT Media Lab, <https://atlas.media.mit.edu/en/profile/country/chn/>; World Economic Brief, "China's Economic Ties with Southeast Asia" (Korean Institute for International Economic Policy, September 2017), 1-8.
 95. Russia is the main EU supplier of crude oil, natural gas, and solid fuels, which provides Russia with leverage. For more on this, see *Shedding Light on the Energy in the EU, "2.3 From Where do we Import Energy and how Dependent are We?"* Statistical Office of the European Union, 2018, <https://ec.europa.eu/eurostat/cache/infographs/energy/bloc-2c.html>; NATO Parliamentary Assembly, "European Reliance on Russian Energy Under the Spotlight at NATO PA Session," News on NATO-pa.int, November 2018, <https://www.nato-pa.int/news/european-reliance-russian-energy-under-spotlight-nato-pa-session>.
 96. The effect of reporting on the Vietnam War, and particularly of Cronkite's work, remains a topic of debate more than 50 years later. See Joel Achenbach, "Did the news media, led by Walter Cronkite, lose the war in Vietnam?" *The Washington Post*, May 25, 2018, https://www.washingtonpost.com/national/did-the-news-media-led-by-walter-cronkite-lose-the-war-in-vietnam/2018/05/25/a5b3e098-495e-11e8-827e-190efaf1flee_story.html?utm_term=.e2d33ee42796.
 97. See, for example, "Iraqi official: U.S. lying about progress," CNN.com, April 2, 2003, <http://www.cnn.com/2003/WORLD/meast/04/02/sprj.irq.sahaf/>.
 98. Defense Intelligence Agency, *Russia Military Power*, 37-41.
 99. I am indebted to my colleague Ashley Feng for this observation.
 100. See Williamson R. Murray, "Armored Warfare," in Williamson R. Murray and Allan R. Millett, eds., *Military Innovation in the Inter-War Period* (Cambridge, UK: Cambridge University Press, 1996), 44; and MacGregor Knox and Williamson Murray, eds., *The Dynamics of Military Revolutions 1300-2050* (Cambridge, UK: Cambridge University Press), 154.
 101. See Watts, "Six Decades of Guided Munitions and Battle Networks," xiii-xiv; and Krepinevich, "Maritime Competition in a Mature Precision-Strike Regime," 5.
 102. A kill chain comprises both the technical means and the procedures of gathering, transmitting, processing, and using information to strike a target. The technical means include sensors and sensor platforms, communication networks, computers, information/intelligence fusion capabilities, weapons delivery platforms, munitions, terminal guidance sensors, and methods for battle damage assessment. The joint process is called Find, Fix,

- Track, Target, Engage, Assess, or F2T2EA. The special operations community developed a more rapid, cyclical variation of this process for counterterrorism that they call Find, Fix, Finish, Engage, Assess, Disseminate, or F3EAD. For more on this topic see: For more on F2T2EA, see United States Air Force, Curtis E. LeMay Center for Doctrine Development and Education, Dynamic Targeting and the Tasking Process, Annex 3-60 Targeting (15 March 2019), https://www.doctrine.af.mil/Portals/61/documents/Annex_3-60/3-60-D17-Target-Dynamic-Task.pdf; Adm. Jonathan Greenert and Gen. Mark Welsh, “Breaking the Kill Chain: How to keep America in the game when our enemies are trying to shut us out,” *Foreign Policy*, May 17, 2013, <https://foreignpolicy.com/2013/05/17/breaking-the-kill-chain/>; and Mike Benitez, “It’s about Time: The Pressing Need to Evolve the Kill Chain,” *War on the Rocks*, May 17, 2019, <https://warontherocks.com/2017/05/its-about-time-the-pressing-need-to-evolve-the-kill-chain/>. For F3EAD, see Christopher J. Lamb and Evan Munsing, “Secret Weapon: High-value Target Teams as an Organizational Innovation” (Center for Strategic Research, Institute for National Security Studies, National Defense University, March 2011), <https://inss.ndu.edu/Portals/68/Documents/stratperspective/inss/Strategic-Perspectives-4.pdf>.
103. In the Cold War, Navy concepts for countering Soviet air threats to the aircraft carrier focused on “shooting the archer, not the arrow,” given that destroying one Backfire bomber would destroy several missiles, whereas attacking each incoming antiship cruise missile might have been infeasible. The maturation of the precision-strike regime has enabled militaries to strike further upstream – e.g., by attacking the base the archers come from – to achieve greater systemic disruption. See Krepinevich, “Maritime Competition in a Mature Precision-Strike Regime,” 50-51.
 104. Krepinevich, “Maritime Competition in a Mature Precision-Strike Regime,” 93; Andrew F. Krepinevich Jr., “The Military-Technical Revolution: A Preliminary Assessment” (Center for Strategic and Budgetary Assessments, 2002), 14, <https://csbaonline.org/uploads/documents/2002.10.02-Military-Technical-Revolution.pdf>.
 105. CAPT Wayne P. Hughes Jr., USN (Ret.) and RADM Robert P. Girrier, USN (Ret.), *Fleet Tactics and Naval Operations, Third Edition* (Annapolis, Maryland: Naval Institute Press, 2018), 3.
 106. For more on resilience, see Jeff Hagen et al, “The Foundations of Operational Resilience – Assessing the Ability to Operate in an Anti-Access/Area Denial (A2/AD) Environment: The Analytical Framework, Lexicon, and Characteristics of the Operational Resilience Analysis Model (ORAM),” (RAND Corporation, 2016), https://www.rand.org/content/dam/rand/pubs/research_reports/RR1200/RR1265/RAND_RR1265.pdf.
 107. Alan J. Vick, *Air Base Attacks and Defensive Counters: Historical Lessons and Future Challenges* (RAND Corporation, 2015), 4-5, https://www.rand.org/content/dam/rand/pubs/research_reports/RR900/RR968/RAND_RR968.pdf.
 108. Vick, *Air Base Attacks and Defensive Counters*, 12.
 109. Cooper and Douglas, “Successful Signaling at the Scarborough Shoal?” Michael Green et al., “Countering Coercion in Maritime Asia,” 16.
 110. See Michael Kofman et al., “Lessons from Russia’s Operations in Crimea and Eastern Ukraine” (RAND Corporation, 2017, xi-xii, https://www.rand.org/pubs/research_reports/RR1498.html.
 111. Pettyjohn, “U.S. Global Defense Posture,” 85-87.
 112. See Ochmanek, “Sustaining U.S. Leadership in the Asia-Pacific Region,” 3; and Heginbotham and Heim, “Detering without Dominance.”
 113. See Heginbotham, “The U.S.-China Military Scorecard,” xxv, 154-169.
 114. At least at the operational level of conventional warfare; strategically, counterterrorism and counterinsurgency operations required new “playbooks.”

About the Center for a New American Security

The mission of the Center for a New American Security (CNAS) is to develop strong, pragmatic and principled national security and defense policies. Building on the expertise and experience of its staff and advisors, CNAS engages policymakers, experts and the public with innovative, fact-based research, ideas and analysis to shape and elevate the national security debate. A key part of our mission is to inform and prepare the national security leaders of today and tomorrow.

CNAS is located in Washington, and was established in February 2007 by co-founders Kurt M. Campbell and Michèle A. Flournoy.

CNAS is a 501(c)3 tax-exempt nonprofit organization. Its research is independent and non-partisan. CNAS does not take institutional positions on policy issues. Accordingly, all views, positions, and conclusions expressed in this publication should be understood to be solely those of the authors.

© 2019 Center for a New American Security.

All rights reserved.



Bold. Innovative. Bipartisan.