

JANUARY 2021

Inflicting Surprise

*Gaining Competitive Advantage
in Great Power Conflicts*

AUTHOR

Mark F. Cancian



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Contents

Executive Summary	VI
1 Setting the Stage—Why Inflicting Surprise Matters	1
2 Surprise Today—An Overlooked Tool	10
3 Historical Experiences with Inflicting Surprise	18
4 Components of a Successful Surprise	40
5 Adversary Vulnerabilities—China and Russia	48
6 Revitalizing an Old Tool	54
Appendix A: Vignettes on Inflicting Surprise	71
Appendix B: Chinese Vulnerabilities	91
Appendix C: Russian Vulnerabilities	101
About the Author	113

Executive Summary

Why Think about Inflicting Surprise Now?

The answer is simple: great power competition has returned after a generation of absence, and the U.S. military edge over prospective opponents is eroding. Whereas the United States previously could overwhelm adversaries with sheer force, if necessary, it now needs every advantage it can get.

Surprise is one aspect of a broader discussion in the national security literature: developing innovative operational concepts to gain advantage in future conflicts. New operational concepts seek to use forces in ways substantially different from previous uses. Such new concepts, including surprise, can thus be thought of as force multipliers whereby the United States can get more out of existing capabilities.

Surprise is a coin with two sides. The side that gets the most attention is when an adversary uses surprise and the victim must cope. Thus, there is a vast literature on warning, decisionmaking, and “intelligence failures.” But there is another often overlooked side: the deliberate use of surprise to gain competitive advantage.

This project looks at the less viewed side—surprise as a tool to gain advantage. The study incorporates a number of vignettes to illustrate how the United States might take advantage of these vulnerabilities. It is a follow-on to CSIS’s highly successful 2018 study, *Coping with Surprise in Great Power Conflicts*, which looked at how the United States might cope as the victim of surprise.

What Is Surprise?

The report *Coping with Surprise in Great Power Conflicts* developed a definition for surprise: “when events occur that so contravene the victim’s expectations that opponents gain a major advantage.” The definition has several useful aspects that make it appropriate for this project also.

First, the definition recognizes that surprise is rarely absolute. Historically, victims have often had at least some inkling of what was about to happen but could not come to a decision in time or acted too late to take effective countermeasures.

The definition also focuses at the strategic level, on gaining “major advantage,” where surprise can affect the course and outcome of a conflict and which, therefore, is where policymakers should focus.

Finally, the definition recognizes the wide variety of surprises. Surprise attacks get the most attention. This is understandable since these surprises are highly visible and dramatic. However, there are other kinds of surprise—technological, doctrinal, and political/diplomatic—that are just as important.

An Overlooked Tool

Academic and governmental literature overwhelmingly frames surprise as something to be countered or predicted, rather than an opportunity to be used against adversaries. This arises because the shock of being surprised engenders an intellectual scramble to understand what happened and prevent its recurrence.

The key U.S. national defense planning and strategy documents in the last decade rarely mention surprise at all, and the offensive use of surprise is almost never discussed. When surprise is mentioned offensively, it is at the tactical level or outside the context of great power competition, such as regarding terrorist attacks. Surprise does occasionally enter strategy through the “back door” of technological progress and operational innovation.

One exception to the literature’s lack of attention to surprise was a 2008 Defense Science Board (DSB) report which analyzed surprise systematically, noting U.S. vulnerabilities and recommending actions to strengthen analysis and decisionmaking.

STRATEGIC SURPRISE

Strategic surprise—often called “surprise attack”—is when conflict occurs at an unexpected time or place.

Although authoritarian regimes frequently launch iconic “bolt-out-of-the-blue” attacks, democracies are constrained by international law and domestic politics from doing so against great powers. Nevertheless, the tool of strategic surprise is still available to democracies. Democracies can achieve surprise in regional conflicts even with all the diplomatic preliminaries because adversaries often misread signals and discount a democracy’s determination. Thus, the United States achieved surprise in its attack on Iraq in 2003 and on Grenada in 1983. Great Britain and France surprised Egypt when they attacked the Suez Canal in 1956.

Further, surprise is not just in the occurrence of an attack but also in its timing and location. Thus, the D-Day invasion of Europe in 1944 surprised the Germans about the location, even though the Germans were expecting an invasion. The coalition counteroffensive against Iraq in 1991 similarly achieved surprise by striking far out on the western flank.

Russian vignette #3 gets at this by hypothesizing an unexpected strike against the Russian Far East during a European conflict.

TECHNOLOGICAL SURPRISE

Technological surprise occurs when the performance of new tools of warfare contravenes expectations and produces strategic effects.

Unlike with strategic surprise, the United States has frequently used technological surprise and is comfortable with it because technological prowess has been a long-standing U.S. tradition. A few technological surprises, such as the Manhattan Project and code decryption such as Ultra, involved massive establishments to develop the capability. Most, such as stealth aircraft, involve powerful but niche new capabilities that are easier to hide.

China vignette #7 raises such a possibility through the covert installation of an advanced U.S. underwater array in the South China Sea that neutralizes Chinese submarines in a conflict.

DOCTRINAL SURPRISE

Doctrinal surprise is the use of known capabilities or technologies in unexpected ways that produces powerful new effects.

The iconic historical example is the German blitzkrieg, which combined existing technologies for tanks, motor transport, communications, and aircraft into a new and powerful tool that overwhelmed defenders by moving faster than they could react. A more recent U.S. example is the special operations forces kill chain, which melded elements of intelligence and operations to speed up the tempo of operations, exploiting one set of targets to identify the next set and thus moving faster than the adversary could adjust.

Other examples include attacks on “safe spaces” and breaking of taboos. For example, drone strikes outside of combat zones surprised adversaries who thought they were in sanctuary. However, because these taboos are often in place for a reason, liberal democracies such as the United States must be cautious about endangering non-combatants.

China vignette #1 illustrates doctrinal surprise by having the United States commission privateers to hunt down Chinese merchant fleets during a conflict.

POLITICAL/DIPLOMATIC SURPRISE

Political or diplomatic surprise is an unexpected realignment of countries or internal political factions that has a major effect on the balance of power or provides a strategic advantage. This can particularly happen at the beginning of a conflict when countries are forced to decide the degree of commitment to an alliance or relationship.

The United States achieved such a surprise at the beginning of the Korean War when it put together a UN coalition to oppose the North Korean invasion. Neither North Korea, nor its sponsor, the Soviet Union, expected such a reaction. Similarly, it achieved surprise with President Nixon’s 1972 rapprochement with China.

Russia vignette #1 illustrates such a possible future instance, where the United States and the North Atlantic Treaty Organization (NATO) persuade Belarus to declare neutrality in a prospective Russia-NATO conflict.

Components to Successfully Inflicting Surprise

Seven themes emerged from the literature and historical experience:

1. Intelligence and technology can create opportunities. Intelligence helps identify adversary vulnerabilities, and technology generates new systems that can produce unexpected effects.
2. Secrecy is vital. Although in peacetime democracies frequently leak military information with a political dimension, the historical experience shows that democracies can safeguard wartime operational secrets.
3. Deception is real. It does not need to fool an adversary completely, just induce enough uncertainty that an adversary's actions are delayed or muted. It does require planning, effort, and secrecy.
4. Doing the unexpected or non-standard is often the most powerful generator of surprise. This is one mechanism that allows surprise to occur in the modern era when transparency from public media and enhanced reconnaissance capabilities make so much information known.
5. Generating surprise is often uncomfortable for the perpetrator. It often requires doing the unorthodox and changing customary practices. Hence, generating surprise clashes with the bureaucratic routines and norms of individuals and organizations. It is an aggressive and transgressive act.
6. Effects are temporary. Victims immediately begin to develop countermeasures. Attackers, therefore, need to maximize effects within a narrow window of opportunity. For example, new weapons should not have limited battlefield tests to see how they work. That sacrifices surprise. Testing should be done in secret, even if that testing is imperfect. First-time use on the battlefield should be massive to maximize effect. Initial success needs to be exploited to achieve longer-lasting strategic results.
7. Successful surprise rarely wins wars alone. Many of the iconic examples of successful surprise—Germany's attack on the Soviet Union in 1941, Japan's attack on Pearl Harbor, the U.S. invasion of Iraq in 2003—ended in defeat. Thinking about “what comes next,” which often includes a diplomatic initiative, is vital to ultimate success. This requires the strategic self-discipline to compromise. However, “victory fever”—the belief that even more is achievable—and the desire for vengeance often lead to expanded objectives and overreach, which undermines diplomatic solutions.

Democracies Versus Authoritarian Regimes

There is a common perception that surprise is a tool of authoritarian regimes, not democracies. It is true that authoritarian regimes have centralized power and less accountability and are better able to suppress information, thus seeming to have a major advantage. However, the demand for conformity and tight social and bureaucratic controls discourage imaginative actions. Further, a culture of distrust and a lack of independent voices to warn about danger make authoritarian regimes susceptible to surprise. Democracies have unappreciated advantages, such as being inherently unpredictable, sustaining an open system that identifies opportunities, and presenting a cacophony of voices that can obscure sensitive information. Thus, surprise is a tool available to all regimes, though not necessarily in the same way.

Adversary Vulnerabilities—China and Russia

Inflicting surprise does not occur in a vacuum but is a tool used against specific adversaries. In discussing potential great power conflicts, those adversaries would be China and Russia. Both have great strengths but also great vulnerabilities. These vulnerabilities provide opportunities for the United States

For China, the project identified four political/economic vulnerabilities and seven areas of military/diplomatic vulnerability: (1) the need for domestic stability to ensure legitimacy, (2) China's Han-centric orientation, which serves to marginalizes minorities, (3) a social compact that trades political freedom for economic progress, (4) anti-corruption campaigns that produce disaffected elites, (5) a lack of allies because of threatening and abusive behavior, (6) a lack of recent combat experience in the People's Liberation Army (PLA), (7) a weak maritime situation, (8) reliance on energy imports and sea lines of communication, (9) limited long-range capabilities to project force beyond the first island chain, (10) weaknesses in the enlisted personnel system, and (11) the centralization of decisionmaking.

Russia has eight broad areas of vulnerability, five political/economic and three military/diplomatic: (1) the Russian people's dissatisfaction with the regime, (2) weak governance stemming from cronyism, (3) economic dependence on fossil fuels, (4) instability on the periphery, (5) a lack of population east of the Urals, (6) weak alliances, (7) weak cyber defenses, and (8) narrow military modernization.

The vignettes at the end of this report illustrate how the United States might take advantage of these vulnerabilities.

Revitalizing an Old but Overlooked Tool

Generating surprise is often hard to envision because the acts transgress normal behavior. It requires imagining what a great power conflict—with its sense of national emergency and extreme danger—might be like. The tools that the United States would be willing to use go beyond those applied during normal peacetime competition.

For military planners, this requires a creative and proactive mindset. The people who are good at it may not be the ones who follow normal bureaucratic practices. One thinks of General George Patton in World War II, an imaginative general who did the unexpected but was constantly in political trouble because of his extreme statements and harsh actions.

The transgressive nature of surprise raises ethical, normative, and legal concerns, considerations that rarely arise when thinking about how to cope with surprise inflicted on the United States. These considerations include domestic law and international treaties, avoidance of civilian casualties, and inducement of other parties to take on too much risk. Although planners might waive away these considerations in peacetime, concerns could arise in wartime when the use of these instruments is imminent. That is too late to discuss ethics. It sets up a clash between those who have been planning on the surprise, often the military, and those who have awakened to ethical considerations, often the civilians.

However, breaking convention is not the same as breaking the law. Some current unconventional acts may be legal and worth pursuing. The vignette about authorizing privateers illustrates one such act that, while legal, contravenes long-standing conventions.

The existence of potential surprise can enhance deterrence. This would appear to be a contradiction

because surprise involves secrecy, whereas deterrence generally requires making capabilities known to an adversary. The key is uncertainty. The United States has pulled off some unexpected, even astonishing, actions in the past, and prospective adversaries can never be sure whether the United States might do something similar in the future. That uncertainty can deter.

The Department of Defense (DOD) can take some steps to enhance the possibility of generating surprise. These steps can also encourage the development of new operational concepts:

- Recognize that some secrecy is needed, although the demands for confidentiality must be balanced with the rules of democratic, open societies and government accountability;
- Explore many different technologies to identify opportunities for technological surprise;
- Strengthen engagement with allies and partners to open up possibilities for diplomatic surprise (in conjunction with the Department of State);
- Protect professional debates to allow the candid exploration and assessment of new ideas;
- Develop and promote leaders who have imagination and may be somewhat nonconforming; and
- Use wargames, experiments, and exercises (to a lesser extent) to identify, explore, and assess new operational concepts and technologies.

In developing opportunities for surprise, the United States must be clear to great power adversaries that it is not planning a surprise attack. That would produce instability, especially if both sides perceive that there is a first-mover advantage. The United States needs to be particularly clear that it is not planning any surprise nuclear attacks.

Finally, lawyers need to be involved when potential surprises are considered to ensure that the actions comply with domestic and international law.

Vignettes

The project uses vignettes—short narratives—to illustrate possible future instances of inflicting surprise. Although some might look imprudent and highly risky, the nature of surprise is that it often appears unreasonable. Nations may take greater risks and undertake unconventional actions when facing extreme threats. Each of the vignettes has a historical analog to help make them concrete, and each vignette takes advantage of an adversary’s vulnerability or a U.S. strength.

The previous discussion has already noted some of the vignettes. Below is the full list; the vignettes themselves appear in Appendix A.

CHINA

1. Privateers unleashed on Chinese global shipping
2. Cruise missile strike on Chinese homeland
3. Covert arming of Uighur insurgency
4. Swarm strike on Chinese naval bases
5. “Quarantine” of China during a confrontation over Taiwan

6. Chinese Belt and Road assets shut down
7. Clandestine underwater acoustic array set up in the South China Sea
8. Chinese bases outside the homeland captured or neutralized
9. Attack on a “command and control node”

RUSSIA

1. NATO cuts Russian exports of fossil fuels to cripple the Russian economy
2. Belarus declares neutrality in Russian clash with NATO
3. U.S. forces raid Russian territory in the Far East when conflict breaks out in Eastern Europe
4. Western-trained agitators induce instability in Siberia
5. Unmanned underwater vehicles devastate Russian northern fleet
6. Cyberattack on Russian naval missile systems

Setting the Stage

Why Inflicting Surprise Matters

Surprise is a coin with two sides. The side that gets the most attention is when an adversary uses surprise and the victim must cope. Thus, there is a vast literature on warning, analysis, intelligence, and resilience. But surprise has another side: its deliberate use to gain advantage. This project looked at the less viewed side, surprise as a tool to gain advantage.

The project is a follow-on to CSIS's highly successful 2018 study, *Coping with Surprise in Great Power Conflicts* (hereafter, *Coping with Surprise*), which looked at how surprise might be inflicted on the United States.¹ Although this study can be read as a standalone work, reading the previous study will elaborate on some of the concepts and historical examples.

After laying out the study's scope and methodology, this report:

- Analyzes the recent literature on inflicting surprise and its references in strategy documents;
- Looks at historical experiences in the four categories of surprise—strategic, technological, doctrinal, and political/diplomatic;
- Develops themes that arise from the literature and historical experience;
- Identifies vulnerabilities of the two great power competitors, China and Russia; and
- Lays out actions that policymakers can implement now to use surprise as a policy and military tool.

The appendices then present vignettes that illustrate how the United States might use surprise in the future and describe China and Russia's vulnerabilities in detail.

¹ Mark Cancian, *Coping with Surprise in Great Power Conflicts* (Washington, DC: CSIS, February 2018), <https://www.csis.org/analysis/coping-surprise-great-power-conflicts>.

Why Think about Inflicting Surprise Now?

The answer is simple: great power competition has returned after a generation of absence, and the U.S. military edge over prospective opponents is eroding. Whereas the United States previously could overwhelm adversaries with sheer force, if necessary, it now needs every advantage it can get. Surprise is one tool for gaining advantage. The challenge is to develop ways whereby a democracy, with its transparency, numerous media outlets, and social media platforms, can achieve surprise and do so in an environment where surveillance tools are widespread and without compromising democratic values.²

Who, then, is a great power competitor? In the near and medium term, there are two, Russia and China. Only they can compete with the United States in multiple warfighting domains—land, sea, air, space, and cyber—at least close to their shores, endanger fundamental U.S. national security goals, and threaten devastation to the U.S. homeland and way of life. Whereas the United States may have overwhelming force against regional adversaries, should it desire to employ that force, this is not the case with great power adversaries. Against these adversaries, even bringing all available U.S. forces to bear may not be enough.

Focusing on great power competitors also gives insight into regional threats. Many of the opportunities in great power competition are also present in regional conflicts, so the insights of the study apply broadly.

Great power competition is here for the long term. As this report is being written, the United States is undergoing a presidential transition. Although the Biden administration will change some elements in the Trump administration's *National Defense Strategy* (NDS), great power competition will almost certainly remain a centerpiece.

The first reason for this continuity is that thinking about great power competition began in the Obama administration, which identified Russia and China as the most significant national security challenges to the United States. As Secretary of Defense Ash Carter warned in 2016, “two of these [future] challenges [Russia and China] reflect a return to great power competition.”³ This was a conscious shift in strategy resulting from several events in 2014, notably the Russian invasion of Crimea and continuing Chinese assertiveness in the South China Sea, including the building of artificial islands. A

2 This study uses “great power” rather than “peer” because, as the cited quotations indicate, that is the usage that the national security community has adopted. “Great power” is also more flexible, not making a judgment about whether Russia and China, the current other great powers, have achieved parity with the United States but only that they operate at a high level internationally. Sometimes Russia and China are called “near-peer” competitors, implying that they have not yet reached the level of the United States in all warfighting domains. While this is true, Russia and China have nevertheless reached a high degree of capability in all of them and matched the United States in some of them, especially near their homelands. Further, “near-peer” implies a continuing U.S. military dominance that is unjustified and can induce complacency. The unclassified version of the *National Defense Strategy*, adopting a unique terminology, uses “long-term strategic competition” and “major powers,” but secretaries of defense, including former Secretary Mattis, have used “great power” in their public statements. Many scholars note that China and Russia have different strengths and weaknesses, with China much stronger economically, so lumping them together as “great powers” obscures important differences. See, for example, Zach Cooper, “Bad Ideas: ‘Great Power Competition’ Terminology,” CSIS, December 1, 2020, <https://defense360.csis.org/bad-idea-great-power-competition-terminology/>. This report acknowledges that point by treating should China and Russia separately.

3 Secretary of Defense Ash Carter, “Remarks Previewing the FY 2017 Defense Budget,” (speech, U.S. Department of Defense, February 2, 2016), <https://www.defense.gov/News/Speeches/Speech-View/Article/648466/remarks-previewing-the-fy-2017-defense-budget/>.

Biden administration will have many of the same officials who developed the strategy and outlook of the latter years of the Obama administration.

The Trump administration's 2017 *National Security Strategy* continued this theme: "after being dismissed as a phenomenon of an earlier century, great power competition has returned."⁴ The NDS made a similar argument: "The central challenge to U.S. prosperity and security is the reemergence of long-term, strategic competition by what the National Security Strategy classifies as revisionist powers. It is increasingly clear that China and Russia want to shape a world consistent with their authoritarian model—gaining veto authority over other nations' economic, diplomatic, and security decisions."⁵

The second reason for this continuity is that concern about Chinese and Russian military power and the resulting great power competition permeates the writings of the think tank and academic community. It is bipartisan and will, therefore, be of continuing interest. For a few examples:

- Thomas Mahnken, Travis Sharp, and Grace B. Kim, Center for Strategic and Budgetary Assessments: "In an era of renewed great power competition, one of the most significant challenges the United States and its allies face is the need to deny China or Russia the ability to launch opportunistic acts of aggression against an ally or partner in the Western Pacific or Eastern Europe."⁶
- Mackenzie Eaglen, American Enterprise Institute: "New technologies are a major component of the defense strategy's emphasis on great power competition with China and Russia. But they are just one piece of one part of competing."⁷
- John W. Blocher, Atlantic Council: "The first victories in great-power competition have largely been won by Russia and China."⁸
- Hal Brands and Eric Edelman, School for Advanced International Studies and Center for Strategic and Budgetary Analyses: "The core characteristics of the emerging international era . . . are the gradual but unmistakable erosion of U.S. and Western primacy, the return of sharp great-power competition across all three key regions of Eurasia and beyond, the revival of global ideological struggle, and the empowerment of the agents of international strife and disorder."⁹

4 The White House, *National Security Strategy of the United States* (Washington, DC: December 2017), 27, <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905-2.pdf>.

5 Jim Mattis, *Summary of the 2018 National Defense Strategy* (Washington, DC: U.S. Department of Defense, 2018), 2, <https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>.

6 Thomas Mahnken, Travis Sharp, and Grace B. Kim, *Deterrence by Detection: A Key Role for Unmanned Systems in Great Power Competition* (Washington, DC: Center for Strategic and Budgetary Assessments, 2020), [https://csbaonline.org/uploads/documents/CSBA8209_\(Deterrence_by_Detection_Report\)_FINAL.pdf](https://csbaonline.org/uploads/documents/CSBA8209_(Deterrence_by_Detection_Report)_FINAL.pdf).

7 Mackenzie Eaglen, "Winning the U.S. Military's 'Away Game'," RealClearDefense, November 27, 2019, https://www.realcleardefense.com/articles/2019/11/27/winning_the_us_militarys_away_game_114878.html.

8 John W. Blocher, *Unexpected Competition: A US Strategy to Keep its Central and Eastern European Allies as Allies in an Era of Great-Power Competition* (Washington, DC: Atlantic Council, 2020), <https://www.atlanticcouncil.org/wp-content/uploads/2020/11/Keeping-Our-Allies-Report-v5.pdf>.

9 Hal Brands and Eric Edelman, *Why Is the World So Unsettled? The End of the Post-Cold War Era and the Crisis of Global Order* (Washington, DC: Center for Strategic and Budgetary Assessments, 2017), 2, <http://csbaonline.org/research/publications/why-is-the-world-so-unsettled-the-end-of-the-post-cold-war-era-and-the-cris/publication>. There are many more. For example, Senator John McCain also weighed in about great power competition in "What America Deserves from the National Defense Strategy," War on the Rocks, December 21, 2017, <https://warontherocks.com/2017/12/america-deserves->

- Kelly Magsamen, Max Bergman, Michael Fuchs, and Trevor Sutton, Center for American Progress: “Instead, the United States must adopt bold new policies to regain the advantage in great power competition and help vulnerable democracies, including its own, resist authoritarian influence and strengthen a growing global democratic community.”¹⁰

Several published works, although vague on specifics, indicate that the Biden administration will continue the strategic focus on great power conflict that has characterized the Trump and late Obama administrations. A definitive answer, however, will not be available until publication of a new national security strategy in late 2021 or early 2022.

- In a *Foreign Affairs* article seen as indicating future policy direction, Biden takes a tough stance on Russia: “To counter Russian aggression, we must keep the alliance’s military capabilities sharp while also expanding its capacity to take on nontraditional threats, such as weaponized corruption, disinformation, and cybertheft. We must impose real costs on Russia for its violations of international norms and stand with Russian civil society, which has bravely stood up time and again against President Vladimir Putin’s kleptocratic authoritarian system.”

He acknowledges the China challenge while being open to cooperation in some areas: “The most effective way to meet that challenge is to build a united front of U.S. allies and partners to confront China’s abusive behaviors and human rights violations, even as we seek to cooperate with Beijing on issues where our interests converge.”¹¹

- Similarly, the Democratic Party platform takes a tough line on Russia, though it hedges a bit on China: “Democrats will join our European partners in standing up to a revanchist Russia . . . Democrats believe the China challenge is not primarily a military one, but we will deter and respond to aggression.”¹²

The bottom line of all these concerns is that a strategic focus on great power conflict will endure. The insights from this project will, therefore, be of continuing value.

Surprise as an Innovative Operational Concept

With the return of great power competition, interest in new operational concepts has taken off. Many experts argue that acquiring new equipment and expanding forces is not enough. Forces must fight differently.

Surprise should be viewed in this broader context of a search for innovative operational concepts. This search for new concepts grew out of dissatisfaction with the operational concept of the immediate

national-defense-strategy/.

10 Kelly Magsamen, Max Bergman, Michael Fuchs, and Trevor Sutton, *Securing a Democratic World: The Case for a Democratic-Values Based US Foreign Policy* (Washington, DC: Center for American Progress, 2018), <https://cdn.americanprogress.org/content/uploads/2018/09/05112732/ForeignPolicyDemocracy-report-FINAL1.pdf>.

11 Joseph R. Biden, Jr., “Why America Must Lead Again: Rescuing US Foreign Policy after Trump,” *Foreign Affairs*, March/April 2020, <https://www.foreignaffairs.com/articles/united-states/2020-01-23/why-america-must-lead-again>.

12 Democratic National Convention, *2020 Democratic Party Platform* (Washington, DC: July 2020), 88, 89, <https://www.demconvention.com/wp-content/uploads/2020/08/2020-07-31-Democratic-Party-Platform-For-Distribution.pdf>.

post-Cold War period. At that time, the U.S. military developed a new operational concept, first seen in Operation Desert Storm and then articulated formally in the *Bottom-Up Review*. Subsequent military strategies picked up the themes, and they became deeply ingrained in service culture.

The concept envisioned rushing a “halt” force into theater to stop an adversary’s attack, then building up forces to attain overwhelming superiority. During the buildup, the United States and its coalition partners would conduct an air campaign with the strategic objective of attacking an adversary’s society and economy and tactical objective of attriting the adversary’s military forces. Finally, there would be a massive counteroffensive to either restore the status quo or drive to an adversary’s capital and overthrow the regime. The concept required large logistical bases to support the buildup. It assumed naval monopoly and, after an initial aerial battle, air supremacy. Operations in Iraq in 1991 and 2003, in Kosovo in 1999, and Afghanistan in 2001 all, more or less, supported this approach.¹³

However, with a rising China and Russia, this approach became impossible. Both of these powers could contest air and naval spaces and would attack the giant logistics hubs that the concept required. The U.S. National Defense Strategy Commission laid the problem out in its 2018 report: “The United States needs more than just new capabilities; it urgently requires new operational concepts that expand U.S. options and constrain those of China, Russia, and other actors. Operational concepts constitute an essential link between strategic objectives and the capability and budgetary priorities needed to advance them . . . Innovative concepts are once again needed because Russia and China are challenging the United States, its allies, and its partners on a far greater scale than has any adversary since the Cold War’s end.”¹⁴

This search for new operational concepts is a major element of current national security literature.¹⁵ Although there is no need to go into these concepts in depth here, certain elements have wide support: distributed operations, warfare in all domains, long-range precision strike, unmanned systems, conflict across all five domains, and enhanced defense against missiles.

Virtually every think tank and strategist has put out concepts of their own. The Joint Staff has a *Joint Operational Access Concept*, “describing in broad terms a vision for how joint forces will operate in response to emerging anti-access and area-denial security challenges”; each service has a subordinate operating concept.¹⁶

13 For an early description of the concept, see Les Aspin, *Report of the Bottom up Review* (Washington, DC: Department of Defense, October 1993), <https://apps.dtic.mil/dtic/tr/fulltext/u2/a359953.pdf>.

14 United States Strategy Commission, *Providing for the Common Defense* (Washington, DC: U.S. Institute of Peace, 2018), viii, <https://www.usip.org/sites/default/files/2018-11/providing-for-the-common-defense.pdf>.

15 For more on major operational concepts that were adopted early in the twentieth century and have remained salient since, see Stephen Biddle’s discussion on force employment, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton, NJ: Princeton University Press, 2004), 28–51.

16 For a few examples among many: Thomas Mahnken, Grace B. Kim, Adam Lemon, *Piercing the Fog of Peace: Developing Innovative Operational Concepts for a New Era* (Washington, DC: Center for Strategic and Budgetary Assessments, April 2019), <https://csbaonline.org/research/publications/piercing-the-fog-of-peace-developing-innovative-operational-concepts-for-a->; Christopher Doherty, *The New American Way of War* (Washington, DC: Center for New American Security, June 2019), <https://s3.amazonaws.com/files.cnas.org/CNAS+Report+-+ANAWOW+-+FINAL2.pdf>; and Thomas Hamilton and David Ochmanek, *Operating Low-Cost, Reusable, Unmanned Aerial Vehicles in Contested Environments: Preliminary Evaluation of Operational Concepts* (Washington, DC: RAND, 2020), https://www.rand.org/pubs/research_reports/RR4407.html.

Surprise is one example of an innovative operational concept, driven by a more demanding security environment.

What Is Surprise?

The *Coping with Surprise* project developed a definition for surprise: “when events occur that so contravene the victim’s expectations that opponents gain a major advantage.” The definition has several useful aspects that make it appropriate for this project also.

Surprise is when events occur that so contravene the victim’s expectations that opponents gain a major advantage.

First, the definition recognizes that surprise is rarely absolute. Historically, victims have often had at least some inkling of what was about to happen but could not come to a decision in time or acted too late to take effective countermeasures. In looking back at the historical record, someone in the victim’s military, government, or broader society foresaw the surprise and warned against it. The key is that the victim did not take effective action in time.

The definition also focuses at the strategic level, generating a “major advantage,” where surprise can affect the course and outcome of the conflict and which, therefore, is where policymakers should focus their attention.

Finally, the definition accommodates a theoretical problem in discussing the infliction of surprise on an adversary: the mere discussion appears to preclude the possibility of surprise. If a study like this identifies an unexpected action, then the action will not be surprising because it has been discussed in public. The definition accommodates this problem by noting that surprise does not depend on the total lack of knowledge. Surprise exists when the victim is unwilling or unable to take effective action in time. Western openness works to advantage here. Discussions about surprise are part of the ongoing discussion of national security issues in democratic societies. Adversaries cannot be sure what is signal and what is noise.

The Four Types of Surprise

As the *Coping with Surprise* project pointed out, most literature on surprise focuses on surprise attack. Thus, for example, the Army defines surprise as “strick[ing] the enemy at a time or place or in a manner for which he is unprepared.”¹⁷ This narrow definition is understandable since these surprises are highly visible and dramatic. However, there are other kinds of surprise—technological, doctrinal, and political/diplomatic—that are just as important. This report retains those categories but modifies them as the perspective changes from coping with surprise to inflicting surprise.¹⁸

17 Department of the Army, *FM-3 Operations* (Washington, DC: Department of Defense, October 2017), <https://fas.org/irp/doddir/army/fm3-0.pdf>.

18 Scholars have categorized surprise several other ways that generally are similar to the one used in this report but tend to be narrower. For example, Michael Handel divides military surprise into “area chosen for the attack, strategy and tactics

STRATEGIC SURPRISE

Strategic surprise—often called “surprise attack”—is when a conflict occurs at an unexpected time or place. Strategic surprise is as old as warfare itself. Thucydides, Sun Tzu, Vegetius, and Machiavelli all describe surprise as an element of war. Strategic surprise is attractive because it produces shock and advantage at the beginning of a conflict, when prospects, or sometimes just hopes, for rapid success are the greatest. Advantage generally arises because victims react too slowly.

TECHNOLOGICAL SURPRISE

Technological surprise occurs when the performance of new tools of warfare contravenes expectations and produces strategic effects. In great power conflicts, few technological surprises, in themselves, win wars. Nevertheless, they can provide tactical advantages of such magnitude that perpetrators can use them to produce strategic effects.

Major technological surprises are rare because they require large investments of capital and personnel. They are deeply shrouded in secrecy. Classic examples include the Manhattan Project and the Ultra code-breaking effort.

Technological surprise is difficult, if not impossible, to fully conceal once used. Examples include poison gas in World War I, the Soviet T-34 tank, the German V-1 and V-2 missiles, and Sputnik. This kind of surprise may produce shock, even panic initially, but generally has only a narrow window of effect. Once an adversary sees the technology and understands its origins, the adversary develops countermeasures.

DOCTRINAL SURPRISE

Doctrinal surprise is the use of existing capabilities or technologies in unexpected ways that produces powerful new effects. The classic example is the blitzkrieg in World War II, where Germany took capabilities that were available to all the combatants and put them together in a new, more powerful way. A recent example, discussed later in this report, is the U.S. rapid response mechanism developed by special operations forces.

Doctrinal surprise goes beyond development of innovative combinations of existing capabilities and emerging technologies. It also includes attacks on “safe” spaces and the breaking of taboos. Attacks on “safe” spaces include loss of sensitive information (e.g., cipher decryption gave the allies a major advantage in World War II) and attacks on the homeland (e.g., the U.S. Doolittle raid on Japan in 1942, which induced the Japanese to overreact in response).

Breaking taboos, such as international agreements, long-standing practices, and mutual deterrence, can be a powerful source of surprise but is a tool more accessible to authoritarian states than to democracies. Nevertheless, some of these “taboos” are actually conventions that can be contravened without damage to treaty commitments or ethical principles. One of the vignettes, for example, hypothesizes that the United States commissions privateers to attack the Chinese merchant fleet in a conflict.

employed, use of new military doctrines, technological surprise by the use of new weapons systems, surprise in terms of timing.” Although he does not include diplomatic surprise, the discussion in the text recognizes the effect that diplomatic surprise has on the military balance of power. Michael Handel, *The Diplomacy Surprise: Hitler, Nixon, Sadat* (Cambridge, MA: Center for International Affairs, Harvard University, 1981), 15.

POLITICAL/DIPLOMATIC SURPRISE

Political or diplomatic surprise is an unexpected realignment of countries or internal political factions that has a major effect on the balance of power. Diplomatic and political shifts have not been important considerations for the military balance of power since the end of the Cold War because the United States has had overwhelming military capability and dominated international diplomacy. This is no longer the case. It needs allies and partners for basing to support operations far from its shores, for their military forces to fill gaps in U.S. capabilities, and for their political support to enhance the legitimacy of a war effort.

Political and diplomatic shifts are rarely considered in military planning because they fall outside of the military sphere. They are assumptions civilian policymakers give to planners. But the history of conflict is full of examples where diplomatic and political realignments had major military effects.

Project Scope

Projects need boundaries lest they expand beyond what can be done credibly in the time available. Hence, this project put three limits on its scope.

CONVENTIONAL CONFLICTS

The study focused on conventional conflicts because these are the most likely. It did not examine surprise in a strategic nuclear exchange because those dynamics are so different from the dynamics of conventional conflict that they require separate treatment. The project also excluded the tactical use of nuclear weapons as a tool for inflicting surprise because of the enormous inhibitions against nuclear weapons use and the uncertainty about what would happen next. Nevertheless, some of the study's insights may apply to nuclear conflicts.

CONFLICTS, NOT GRAY ZONE CHALLENGES

Gray zone challenges focus on actions below the level of conflict and involve day-to-day competition for advantage. Because these actions go on continually, they are extremely important. Surprise can be an element of that competition. However, the available tools are different, and the stakes, though important, are more limited than in a conventional conflict. Thus, gray zone competition, because it requires a different way of thinking, is outside the project's scope.

NOT A NET ASSESSMENT

Finally, this is not a net assessment. The study looks at adversary vulnerabilities that the United States could exploit. That opportunity is real. However, the United States has its own vulnerabilities, so the outcome of any conflict is uncertain even if surprise is successful. Indeed, one of the themes of the study is that surprises are rarely decisive on their own.

HELPING POLICYMAKERS

The participants in this study, from the author to the working group members, regard scholarship as a means to better national security policy, not as an end in itself. Thus, the study aims to offer concrete, policy-relevant insights.

The study recognizes that today's policy officials must make decisions about future plans, programs, and capabilities with imperfect and contradictory information. Telling policymakers that historians

will make it all clear someday is not helpful. As Margaret Thatcher acidly noted, “the wisdom of hindsight, so useful to historians and indeed to authors of memoirs, is sadly denied to practicing politicians.”¹⁹ This project acknowledges that challenge and aims to help today’s policymakers use surprise as a policy and military tool in today’s environment.

USING VIGNETTES

The *Coping with Surprise* study used vignettes to illustrate potential instances of future surprise. Somewhat surprisingly, these turned out to be the most noticed elements of the study. Thus, this study will also use vignettes.

Vignettes are short descriptions (one to two pages), not full scenarios; that is, they lack the context and end-to-end sequence of events that characterize traditional defense planning scenarios. Vignettes illustrate possibilities; they represent plausible futures, not predictions or recommendations. Each would require a thorough operational and legal review before being implemented.

Also, consistent with this study’s focus, vignettes concentrate on strategic effects—effects that bear on the course and outcome of the conflict—and look out about five years, not to the distant future.

The study tried to “open the aperture” when envisioning possible surprises. In discussing them with the study team and the working group, some surprises appeared unreasonable, prompting the response that “we would never do that.” Indeed, the objections often seemed well founded. The course of action in some vignettes looked imprudent and highly risky. Yet, the nature of surprise is that it often appears unreasonable. As discussed later, nations may take greater risks and undertake unconventional actions when facing the extreme threats that great power conflict would entail. Thus, the study retained many of these “unreasonable” vignettes.

The vignettes leverage historical events to imagine similar future events. For example, just as the Doolittle Raid of 1942 surprised the Japanese and induced them to pull forces back from the front lines to protect their homeland, a future cruise missile attack on a northern Chinese port might induce the Chinese to pull forces back from the South China Sea. All the vignettes have some historical analogs—in the history of conflict, humans have been very imaginative—but culture and technology have changed. That will change the specific way that surprise is produced.

Vignettes are the inverse of alternative history, a discipline that has become quite popular in recent years. Alternate history imagines the different paths that actual events might have taken. For example, what would have happened if the Japanese had decided to strike Singapore instead of Pearl Harbor in 1941?²⁰ Vignettes look at different paths that the *future* might take. Both recognize the contingent nature of human existence.

19 Margaret Thatcher, *The Downing Street Years* (New York: Harper Collins, 1993).

20 This particular alternative history is discussed in Dennis Showalter and Harold Deutsch, *If the Allies Had Fallen: Sixty Alternate Scenarios of World War II* (New York: Skyhorse Publishing, 2012).

Surprise Today

An Overlooked Tool

Academic and governmental literature overwhelmingly frames surprise as something to be countered or predicted rather than as an opportunity for gaining advantage. This defensive perspective recurs in the intelligence and surprise literature, regardless of school of thought. When the offensive use of surprise is mentioned, it is generally at the tactical level or outside the context of great power competition, for example, in counterterrorism campaigns.

The key national defense planning and strategy documents in the last decade rarely mention surprise and almost never mention the offensive use of surprise. However, some recent documents are starting to look at surprise as a tool to preserve advantage and flexibility in an era of great power competition.

Academic and governmental literature overwhelmingly frame surprise as something to be countered or predicted rather than as an opportunity for gaining advantage

The Defensive Frame of Surprise Literature

The reason for this focus is that the field of study was launched and sustained by traumatic failure. Roberta Wohlstetter's analysis of the U.S. failure to prevent the 1941 attack on Pearl Harbor remains

prominent even in the twenty-first century.²¹ Reinforcing the notion of “intelligence failure” have been the failures to anticipate the Soviet invasion of Czechoslovakia in 1968, the Egyptian and Syrian attack on Israel in 1973, the fall of the Shah in 1979, and the terrorist attacks of 9/11. Professor Richard Betts observes that all reforms to intelligence organizations come from the experience of traumatic surprise and not from intelligence successes.²²

As the *Coping with Surprise* report describes, there has been extensive discussion about the nature and causes of intelligence failure and resulting surprise. The shocks that the events produced engendered an intellectual scramble to understand what had happened and prevent its recurrence.²³

Within that perspective, scholars disagree about whether surprise is inevitable or preventable. Professor Or Honig described these as the “orthodox” and “revisionist” schools.²⁴ The Orthodox school of literature argues that surprise is inevitable. Reforms can mitigate some of the consequences but not eliminate them. The revisionist scholars argue that surprise is not inevitable and that comprehensive reform of the intelligence process can avoid surprise. Yet a third school of thought, the “contrarians,” argues that surprise is not inevitable, like the revisionists, but attributes the failures to a lack of intelligence collection, not a failure of analysis, dissemination, or decisionmaking.²⁵

All groups have overwhelmingly portrayed surprise in a defensive context. Erik J. Dahl speaks for most scholars in arguing that the overarching “goal is to prevent surprise.”²⁶ This underscores the theme in the literature that intelligence is associated with prevention, not action or offensive surprise, especially not on the strategic level.

Surprise Rarely Appears in U.S. National Security and Planning Documents

The project conducted a comprehensive analysis of U.S. national security and planning documents to quantify the occurrence of surprise and related language. The analysis focused on documents developed during the last 10 years to ensure current relevance. Table 1 contains the results of this analysis. Several insights emerge:

- “Surprise” and its surrogate, “unpredictable,” rarely appear. The few mentions of “surprise” occur in the context of nonstate actors, mostly surprise by terrorists.
- “Defensive vulnerability” appears extensively. This reflects the defensive mindset of the strategic debate.

21 John Hollister Hedley, “Learning from Intelligence Failures,” *International Journal of Intelligence and CounterIntelligence* 18, no. 3 (2005): 435–450, 437, doi:10.1080/08850600590945416.

22 Richard K. Betts, “Analysis, War, and Decision: Why Intelligence Failures Are Inevitable,” *World Politics* 31, no. 1 (1978): 61–89, doi:10.2307/2009967.

23 For a detailed description of the various schools of thought on surprise, see Cancian, *Coping with Surprise*, “Chapter 3: The Inevitability of Surprise.”

24 Or Honig, “Surprise attacks—Are they Inevitable? Moving Beyond the Orthodox–revisionist Dichotomy,” *Security Studies* 17, no. 1 (2008): 72, doi:10.1080/09636410801894167.

25 Dahl, *Intelligence and Surprise Attack*, 13.

26 Betts, *Surprise Attack*, 11.

- “Intelligence failure,” however, does not appear. The term is retrospective, understanding what happened in the past rather than looking into the future, and so planners apparently do not put it in documents relating to the present and future.
- “Offensive vulnerability,” the ability to take advantage of an adversary’s weakness, also appears rarely. However, “exploit” appears frequently. This may indicate a willingness to take offensive action against an adversary’s weaknesses in the right circumstances.

Because not all strategy documents have the same import, it is worth taking a deeper dive into several of the most important.

The 2014 *Quadrennial Defense Review* mentioned surprise three times; however, these limited mentions illustrate the restrictions of scope or context. For example, surprise is used to describe tactical-level operations with special forces in the Middle East (“we will increase the use of special operations capabilities to maintain security and preserve the element of surprise”) or in the context of preventing strategic surprise (“reductions in capacity and capability would significantly challenge our ability to respond to strategic surprise, particularly those requiring large numbers of modern forces”).²⁷

The 2017 NSS mentions surprise twice. The first instance is in the context of streamlining the Department of Defense’s (DOD) own research and development, as well as the acquisition process, to “regain the element of surprise” from new technologies. The other mention relates to the U.S. Intelligence Community. The NSS recommends that the intelligence agencies be empowered to “prevent tactical and operational surprise.”²⁸

The 2018 NDS indicates some openness to the offensive use of surprise or the unexpected. The strategy section calls for U.S. defense to be “strategically predictable and operationally unpredictable.”²⁹ The strategy argues that great power adversaries require new approaches to strategic thinking, different from those used for the regional conflicts of the last generation. This shift in strategic perspective will likely continue in a Biden administration. The focus on lethality and aggressive military action in the NDS reflects the particular orientation of former secretary of defense Jim Mattis, who oversaw the strategy’s development. Successors may be uncomfortable with the aggressive tone.

There is one major exception to this lack of focus on surprise. A 2008 Defense Science Board (DSB) report analyzed surprise systematically. In assessing how surprise occurred, the analysis made a distinction between “known surprises” (“those few that the United States should have known were coming but for which it did not adequately prepare”) and “surprising surprises” (“those many that the nation might have known about but which were buried among hundreds or thousands of other possibilities”).

The report made several recommendations:

- The experience of surprise in the past should be a learning tool;
- DOD should establish a Capability Assessment, Warning, and Response Office (CAWRO) to

27 Department of Defense, *2014 Quadrennial Defense Review* (Washington, DC: March 2014), xiv, 21, https://archive.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf.

28 The White House, *National Security Strategy*.

29 Mattis, *Summary of the 2018 National Defense Strategy*.

assess U.S. historical shortcomings, intelligence gaps, and capabilities of current and prospective enemies; and

- DOD should develop methodologies to think outside the box and bring in unorthodox information to create an atmosphere of “healthy paranoia.”³⁰

Although the report focused on defending against surprise, it did have one sentence implying the use of offensive surprise, stating that the “penetrators [those actors that would surprise us] should be penetrated.”³¹ Despite the report’s analysis and recommendations, surprise and its synonyms have not gained significant traction in strategic planning.

The DSB is conducting a new project on surprise, which should produce results in early 2021. Those results will likely reinforce the message of the previous report but may include some discussion of the offensive use of surprise.³²

Table 1: Analysis of Strategy Documents

Methodological Note on Terms

The first term is “surprise.” This term is not categorized by a defensive or offensive context, just any mention of surprise in the document. It is a general proxy to see which agencies thought about surprise enough to put it in their documents. “Unpredictable” can capture lower, more tactical-level recommendations and the timeliness of a certain lexicon, for example, picking up on Secretary Mattis’s idea of being operationally unpredictable, expressed in the 2018 NDS. “Vulnerability” is contextualized based on assessing the United States’ weaknesses or seizing on an enemy’s. In this table a “defensive” vulnerability is a reference to the United States limiting its own exposure. “Offensive” would indicate that vulnerability was a reference to an enemy weakness. “Intelligence failure” is meant to capture any reference to intelligence as the reason why the United States is surprised. “Exploit” is another proxy used to capture whether planners are thinking offensively about enemy weaknesses.

30 Defense Science Board, *2008 Summer Study on Capability Surprise Volume I: Main Report* (Washington, DC: Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, 2009), vii, ch. 2, ch.3, <http://www.dtic.mil/dtic/tr/fulltext/u2/a513074.pdf>.

31 Defense Science Board, *Capability Surprise*, 7.

32 Members of the CSIS project briefed the DSB about emerging results of this project and the *Coping with Surprise* report.

Title of Document	Organization	Year	Mentions of "surprise"	"unpredictable"	"vulnerability" defensive	"vulnerability" offensive	"intel failure"	"exploit"
<i>Quadrennial Defense Review</i>	DOD	2010	1	1	7	0	0	9
<i>Quadrennial Defense Review</i>	DOD	2014	3	2	4	0	0	5
<i>A Cooperative Strategy for 21st Century Seapower</i>	U.S. Navy	2015	0	0	0	1	0	7
<i>USAF Strategic Master Plan</i>	U.S. Air Force	2015	2	1	3	0	0	12
<i>USAF Future Operating Concept</i>	U.S. Air Force	2015	3	0	8	0	0	17
<i>National Security Strategy</i>	White House	2015	0	0	5	0	0	3
<i>Army Posture Statement</i>	U.S. Army	2016	0	1	1	0	0	0
<i>National Security Strategy</i>	White House	2017	2	0	13	0	0	21
<i>National Military Strategy Overview</i>	Joint Chiefs of Staff	2018	0	0	0	0	0	1
<i>National Defense Strategy</i>	DOD	2018	0	2	2	0	0	7
<i>Cyber Strategy Summary</i>	DOD	2018	0	0	3	0	0	1
<i>The Army Strategy</i>	U.S. Army	2018	0	1	1	0	0	0
<i>Competing in Space</i>	National Air and Space Intel Center	2018	0	0	2	0	0	0
<i>The Future of Space 2060 [...]</i>	Air Force Space Command	2019	0	0	0	0	0	12
<i>Army Posture Statement</i>	U.S. Army	2019	0	0	0	0	0	1
<i>Summary of DOD AI Strategy</i>	DOD	2019	0	0	0	0	0	0

Surprise Enters Strategy Through the “Back Door” of Technological Progress and Operational Innovation

While U.S. defense planning rarely uses the term “surprise,” elements of such thinking appear under different frames, including technological innovation and offset strategies. Thus, the concept of using surprise as a military tool may be present as a result of both the postwar military focus on using technology for military advantage and the strategic refocus on great power conflict.

The 2008 DSB study, discussed earlier, recommended a concept termed “capability surprise.” This stemmed from “scientific breakthrough in the laboratory, rapid fielding of a known technology, or new operational use of an existing capability or technology.”³³ Although the recommended CAWR office was not established and “capability surprise” did not show up elsewhere in the literature, some of the report’s objectives have been accomplished by other initiatives or under different terminology.

For example, the Strategic Capabilities Office (SCO) in 2014 and the Obama administration’s “Third Offset” show an openness to new technologies and operational concepts that could facilitate technological and doctrinal surprise. The SCO facilitates surprise by re-engineering certain weapons systems to accomplish a task different from the original purpose. The original intent of the office was to maintain resource advantage and save money, but by keeping projects classified, DOD has also made parts of weapon development unpredictable.³⁴ The Third Offset represented a U.S. shift toward great power competition and a willingness to think about different warfighting concepts. Even though this initiative is not explicitly about surprise, it accomplishes parallel objectives. Although the formal program was specific to the Obama administration, the Trump administration continued many of its technological efforts. A Biden administration will likely do the same.³⁵

The Limited Attention to Inflicting Surprise

Creative thinking about surprise faces obstacles at all levels, from the national level down to the individual. Hegemonic states such as the United States inherently want to preserve the status quo and balk at the instability and uncertainty that surprise entails. The system of international cooperation and law prohibits unprovoked attacks and disruptive actions. Individuals face cognitive limits in thinking about surprise. Institutional culture encourages the familiar and discourages the disruptive.

HEGEMONS DO NOT THINK ABOUT CHANGING THE STATUS QUO

Immediately after the end of the Cold War, the United States was close to being a global hegemon. Scholars observe that, because hegemons sit atop the international hierarchy, they do not want to risk that position for a short-term advantage that surprise, and the upsetting of norms, entails. Strategy

33 Defense Science Board, *Report of the Defense Science Board, 2008 Summer Study on Capability Surprise, Volume II: Supporting Papers* (Washington, DC: Office of the Undersecretary of Defense Acquisition, Technology and Logistics, Department of Defense, January 2010), vii, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a513074.pdf>.

34 Cheryl Pellerin, “DoD Strategic Capabilities Office Is Near-Term Part of Third Offset,” Department of Defense, November 13, 2016, <https://www.defense.gov/Explore/News/Article/Article/995438/dod-strategic-capabilities-office-is-near-term-part-of-third-offset/>.

35 Robert Work, “Remarks by Deputy Secretary on Third Offset Strategy,” (speech, Brussels, April 28, 2016), <https://www.defense.gov/Newsroom/Speeches/Speech/Article/753482/remarks-by-d%20eputy-secretary-work-on-third-offset-strategy/>.

analysts Lani Kass and J. Phillip London, for example, argue that hegemons lack the “natural” incentive to pursue offensive surprise. In their view, the hegemon is the most powerful state and would not want to upset the status quo. They go further, arguing that hegemons consider the components of successful offense as “weapons of the weak” that only revisionist powers would use.³⁶ They frame this argument as a cautionary tale against complacency, not a call to action.

Creative thinking about surprise faces obstacles at all levels, from the national-level down to the individual. Individuals face cognitive limits in thinking about surprise; institutional culture encourages the familiar and discourages the disruptive.

There are strong arguments why hegemonic powers prioritize stability. Professors William Wohlforth and Jennifer Lind argue that the hegemon and the global order are better off maintaining the status quo rather than wasting power and resources on direct competition with adversaries.³⁷

INTERNATIONAL LAW REGIME AND THE LIBERAL RULES-BASED ORDER

The United States set up and leads the international order to prevent international aggression, a system that works to suppress the use of surprise. Treaties prohibit or limit the use of certain technologies (e.g., deadly chemicals, antipersonnel landmines, intermediate-range missiles) or activities (e.g., torture, abuse of prisoners, nuclear weapons in space, mines in international waters, even war itself). Other treaties enforce transparency (e.g., Open Skies, Conventional Armed Forces in Europe). Finally, there are norms, rules, and international laws prohibiting the unilateral use of force and favoring multilateralism and collective security. For example, the UN Charter prohibits the threat or use of force unless authorized by the UN Security Council. Although many scholars argue that this rules-based order is weakening, this structure remains powerful, narrowing the perspectives of strategists and planners.³⁸

INDIVIDUAL PSYCHOLOGICAL LIMITS TO THINKING ABOUT SURPRISE

Intelligence analysts and, consequently, planners and decisionmakers face cognitive limitations specific to surprise. For example, Richards Heuer, in his 2005 review of the CIA’s report on its Iraq WMD misbeliefs, points to pre-existing mindsets and dismissal of accurate evidence as the main

36 Lani Kass and J. Phillip London, “Surprise, Deception, Denial and Warning: Strategic Imperatives,” *Orbis* 57, no. 1 (2013): 65, doi:10.1016/j.orbis.2012.10.005.

37 Jennifer Lind and William C. Wohlforth, “The Future of the Liberal Order is Conservative: A Strategy to Save the System,” *Foreign Affairs*, March/April 2019, 70, <https://www.foreignaffairs.com/articles/2019-02-12/future-liberal-order-conservative>; and Charles P. Kindleberger, “Money and the Coming World Order: The Creation of International Monetary Order,” Lehrman Institute, 1976, <https://lehrmaninstitute.org/economic-policy/money-and-the-coming-world-order.html>.

38 Donald C. Daniel and Katherine L. Herbig, “Propositions on Military Deception,” in *Military Deception and Strategic Surprise!*, John Gooch and Amos Perlmutter, eds. (London: Routledge, 2012), 22.

reasons for intelligence failures. He argues that the faulty mindsets were a combination of pre-existing historical narrative and inherent cognitive limitations of the human mind.³⁹

This use of narratives is natural; humans develop stories to give a sense of order to a chaotic world, then seek to incorporate new information into that narrative. It is part of a broader set of observations by behavioral economists, particularly Daniel Kahneman and Amos Tversky. Kahneman, Tversky, and their fellow economists describe how the brain takes shortcuts in processing information at the expense of objectivity. For example, human beings exhibit confirmation bias, where they select information to confirm prior opinions and disregard contradictory information. Additionally, humans form an artificial range of possibilities that inhibits thinking about the unexpected. Humans also overestimate their ability to control events and account for randomness.⁴⁰

As noted in CSIS's earlier study, these limitations make analysts vulnerable to surprise. The unexpected is rejected as unlikely and then impossible. However, these same limitations also inhibit individuals from thinking about surprise as an opportunity. What exists today is normal and thus limits the range of possibilities. The unusual and unorthodox are rejected as improper and unworkable.

INSTITUTIONAL STICKINESS AND INTERPERSONAL OBSTACLES

Just as individuals have limits in their ability to imagine the disruptive or unusual, so too do institutions, which have built processes and cultures that assume continuity and discourage the disruptive. While this is usually discussed as a problem for anticipating surprise, it also inhibits thinking about inflicting surprise.

Robert Jervis and John Gentry, long-time scholars of intelligence, offer one explanation of why intelligence is not produced that is contrary to what is expected: fear. While there are legitimate obstacles to considering every possibility, the authors argue that analysts may not present information perceived as non-conforming because of fear of reprisal from senior officials or consumers of intelligence.⁴¹ This internal culture, combined with an individual's natural desire for career advancement, can suppress actions that challenge the status quo.

Thus, just as institutions have a difficult time anticipating the unexpected and are vulnerable to surprise, so too are they inhibited from imagining surprise as an opportunity. By definition, that involves doing things that the institution does not normally do, which is uncomfortable and often contravenes long-standing rules and procedures.

39 Richards J. Heuer, "Limits of Intelligence Analysis," *Orbis* 49, no. 1 (2005): 75–94, 86, <https://www.fpri.org/article/2005/01/limits-intelligence-analysis/>.

40 Cancian, *Coping with Surprise*.

41 Robert Jervis, "Why Intelligence and Policymakers Clash," *Political Science Quarterly* 125, no. 2 (2010): 185–204, <https://www.jstor.org/stable/25698994>; and John A. Gentry, "Intelligence Failure Reframed," *Political Science Quarterly* 123, no. 2 (2008): 247–270, <https://www.jstor.org/stable/20203011>.

Historical Experiences with Inflicting Surprise

Some targeted historical examples help illuminate how surprise has played out in history. These examples are targeted in the sense that they analyze specific questions regarding surprise and how that has played out in the real world. Chapter 4 will draw themes from across the examples.

A Long History

Inflicting surprise on adversaries is not a recent phenomenon. States have used surprise to shape outcomes in warfare since the beginning of recorded history. All the forms of surprise discussed in this report—strategic attacks, technological developments, doctrinal innovation, and diplomatic realignments—have deep roots in history. A quick look at ancient history provides several illustrative examples.

King David's war with the Amalekites illustrates the use of surprise attack. While the Amalekites were celebrating their conquest of Ziklag, David surprised them by attacking at night during the feast. The surprise attack killed all enemy combatants and allowed Israel to retake lost territory.⁴²

The Punic Wars, between Rome and Carthage, illustrate technological surprise. Faced with Carthage's long-standing naval superiority, the Romans developed the *corvus*, a boarding ramp with a large holding spike on the end, for their ships. The *corvus* allowed Roman soldiers to storm enemy ships and make naval battles function like land battles, at which the Romans excelled. This overturned Carthage's dominance in traditional naval warfare, allowing Rome to dominate both land and sea and eventually win the war against Carthage.⁴³

42 1 Samuel 14-18.

43 Polybius of Megalopolis, *The Histories* (Cambridge: Loeb Classical Library, 1922), Chapters 22-23.

A classic example of doctrinal surprise is Parthian cavalry tactics used against the Romans during the Battle of Carrhae. The Parthians possessed excellent cavalry, whereas the Romans had superb infantry. During the Battle of Carrhae, instead of meeting the Roman legions head-on, the Parthians used their cavalry archers to fire volleys at the Roman infantry and then pretended to flee. When the Roman troops charged in, they met the heavily armed Parthian cataphracts (cavalry) and were decisively defeated.⁴⁴

Ancient states frequently made use of improbable alliances to achieve diplomatic surprise. In 478 BC the Greek city-states unexpectedly formed an alliance known as the Delian League to liberate eastern Greek cities from the Persians. Previously, the often-fractious relations among Greek cities had prevented unified action. The Delian League surprised the Persians by confronting them with a stronger force than they were expecting and enabled the Greek city-states to achieve victories at the siege of Eion (475 BC) and the Battle of Eurymedon (466 BC). Hostilities between Persia and Greece ended on Greek terms soon after the victories.⁴⁵

These ancient examples illustrate that inflicting surprise is not new. But has surprise in warfare changed because of the sociological, political, economic, and technological changes of the twentieth and twenty-first centuries? The rise of liberal democracies as major military powers and the proliferation of technology in the information age have changed international relations. Democratic powers such as the United States must conduct military operations while still accommodating free speech and accountability.

Therefore, this chapter examines strategic, technological, doctrinal, and diplomatic/political surprise to understand how these could be used as tools by a democratic power such as the United States. Each section contains examples where democracies successfully executed surprises on their adversaries (plus some failures—history is not all successes). Examples focus on the relatively recent past, from World War II to the present, to better represent the current national security environment. These examples do not comprise a data set. They are illustrations to show how concepts play out in the real world.

Strategic Surprise

Discussions about strategic surprise and democracies lack the iconic examples of surprise attacks inflicted by authoritarian regimes: Hitler's invasion of the Soviet Union in 1941, the Japanese attack on Pearl Harbor also in 1941, Saddam Hussein's invasions of Iran in 1980 and Kuwait in 1990, North Korea's invasion of South Korea in 1950, and Egypt and Syria's attack on Israel in 1973, to list just a few examples.

All these shared the “bolt-out-of-the-blue” characteristic that observers expect when discussing surprise attacks. Although the victim typically had some notion that attack was possible (the Soviet Union had as many as 80 separate indicators of a pending attack), there was an abrupt shift from a peacetime posture to open conflict.⁴⁶ There were few diplomatic preliminaries. Further, the deep secrecy that authoritarian regimes can impose prevented the victim from acquiring unambiguous warning, or at least warning that was unambiguous to the victim state's leadership.

44 Plutarch, *Parallel Lives: Crassus* (Cambridge: Loeb Classical Library, 1916), Chapter 25.

45 Thucydides, *History of the Peloponnesian War*, vol. 1, trans. C.F. Smith (Cambridge: Harvard University Press, 1920), 98–101.

46 For a full discussion of all the indicators that Stalin received, see David E. Murphy, *What Stalin Knew: The Enigma of Barbarossa* (New Haven, CT: Yale University Press, 2005).

These examples are highly relevant when thinking about how democratic regimes might cope with surprise that is imposed on them. The examples are not very helpful for thinking about how democracies might inflict surprise on others because of the constraints under which democracies operate.

Nevertheless, strategic surprise is a tool available to democracies. As the historical examples show, democracies can achieve surprise even with all the diplomatic preliminaries because adversaries often discount a democracy's determination. Further, surprise is not just in the occurrence of an attack but also in its time and location.

The discussion below shows how democracies have achieved surprise in the past.

Surprise is a tool available to democracies. Democracies can achieve surprise because adversaries often discount a democracy's determination. Further, surprise is not just in the occurrence of an attack but also in its time and location.

SURPRISE DESPITE WARNING—A LONG HISTORY

Although history lacks the iconic examples where democracies launch a “bolt-out-of-the-blue” surprise attack against another major power, there are many examples where democracies have achieved surprise against regional adversaries. Indeed, Sebastian Rosato, in his study of surprise attacks, concludes that “democracies do not appear to be less likely than non-democracies to launch surprise attacks.”⁴⁷

The examples of such attacks are instructive both because regional conflicts are likely to be common in the future and because some of the characteristics may apply to a future great power conflict.

Democracies sometimes achieve surprise because adversaries do not believe that democratic states will actually attack. Even when democratic states have gone through all the diplomatic preliminaries of gaining authorization and giving an ultimatum, authoritarian regimes do not always believe that democracies will carry through with the threat. Authoritarian regimes mistake democratic debate for paralysis. Further, because authoritarian regimes have few mechanisms and strong disincentives for giving unwanted information to the leader, a bubble develops, preventing the leadership from seeing the developing threat.

Jeff Ethel's description about the outbreak of war in the Falklands in 1982 resonates for future conflicts: “During the three weeks following the Argentine landings, each side [the United Kingdom and Argentina] stood its ground while moving ahead with military preparations, fully expecting the other to back down at any moment. Neither believed that two civilized nations would go to war over an issue so minor but ended up in that position.”⁴⁸

47 Sebastian Rosato, “The Flawed Logic of Democratic Peace Theory,” *American Political Science Review* 97, no. 4 (2003): 598, <https://www.jstor.org/stable/3593025>.

48 Jeff Ethel and Alfred Price, *Air War South Atlantic* (New York: Scribner, 1984), 227.

1956 Suez Crisis

In 1956, Egyptian President Gamal Abdel Nasser seized control of the Suez Canal from Great Britain and France, which had controlled it since its construction in the nineteenth century. Great Britain and France were concerned that Nasser's action would cut off the flow of petroleum to Europe and sought to retake the canal by force, even though unilateral military action would be unpopular. To justify an eventual Anglo-French intervention, the leaders of Great Britain and France met with Israeli prime minister David Ben-Gurion and agreed that Israel would launch an invasion of the Sinai. Great Britain and France would then issue an ultimatum demanding that both Israel and Egypt withdraw from the canal zone, under threat of an Anglo-French intervention.

To maintain surprise, the Israelis waited until the last minute, October 26, to mobilize their reserve units before invading Egypt. On October 29, Israeli air forces attacked Egyptian troops and communications in the Sinai. The same day, 10 Israeli brigades pushed across the border and quickly advanced toward the canal. Great Britain and France then demanded that both Egypt and Israel withdraw their forces from the canal zone, or British and French forces would intervene to enforce a ceasefire. Nasser rejected this ultimatum, believing it was a ruse to help Israel achieve victory in the Sinai Peninsula by drawing Egyptian forces away from the Sinai. Nasser moved many of his Eastern Command units into the Sinai, leaving the Egyptian military unprepared to defend the canal zone. Despite receiving the ultimatum, Nasser could not believe that British prime minister Anthony Eden and French Premier Guy Mollet were about to launch a war against Egypt in collusion with Israel. It was not until British Canberra bombers began attacking Egyptian airfields on October 31 that Nasser recognized that the ultimatum meant what it said. Thus, Britain and France achieved surprise during the 1956 Suez Crisis despite issuing an ultimatum beforehand.⁴⁹

1982 Recapture of the Falklands

Citing long-standing claims of sovereignty, Argentina launched an invasion of the British-controlled Falkland Islands in April 1982. Argentine troops soon occupied all of the sparsely populated islands. The invasion prompted British prime minister Margaret Thatcher to assemble a naval task force and declare a war zone for 200 miles around the islands. Thatcher warned the Argentinian navy not to test the blockade, threatening to take "necessary action" if the zone were challenged.⁵⁰ However, despite Britain's warnings, the Argentine military was unprepared for the arrival of British forces. After a Royal Navy submarine sank an Argentine cruiser, the remainder of Argentina's ships remained in port. Additionally, British Vulcan fighter jets, "achieving total surprise . . . dropped 21 separate 1,000-pound bombs" on an airfield used by the Argentine military, grounding its air force.⁵¹

49 Moshe Dayan, *Diary of the Sinai Campaign* (New York: Schocken Books, 1965); Anthony Nutting, *Nasser* (London: Constable, 1972), 168, 169, <http://id.lib.harvard.edu/alma/990008399870203941/catalog>; and Eric Hammel, "How the Suez Crisis Was a Win for Israel (And a Major Defeat for Britain and France)," *National Interest*, October 13, 2018, <https://nationalinterest.org/blog/buzz/how-suez-crisis-was-win-israel-and-major-defeat-britain-and-france-33316>. Note: This report's section on ethical considerations (in chapter 6) discusses the adverse international diplomatic reaction to the Suez attack.

50 R.W. Apple, Jr., "Argentina is Given Blunt Warning by Mrs. Thatcher," *New York Times*, April 15, 1982, <https://www.nytimes.com/1982/04/15/world/argentina-is-given-a-blunt-warning-by-mrs-thatcher.html>.

51 Adam J. Heber, "The Wars of Eighty-Two," *Air Force Magazine*, April 1, 2007, <https://www.airforcemag.com/article/0407eightytwo/>.

The Argentines knew that an invasion was coming but did not know where. On May 21, a British landing force debarked on the Western side of the main island, a location the Argentines did not expect. Thus, the British established themselves ashore and pushed across the island, eventually forcing Argentinian forces to surrender.⁵²

1983 Grenada Invasion

The U.S. invasion of Grenada in October 1983, Operation Urgent Fury, was a response to increasing political turmoil and violence on the island. The United States had warned the government of Grenada about its links with the Cubans and building facilities on the island with possible military application. Prime Minister Maurice Bishop had been imprisoned and murdered on October 19. A Revolutionary Military Council headed by General Hudson Austin replaced Bishop. Both Bishop and Austin were Marxist leaders, and the United States feared that Grenada would fall under Soviet and Cuban influence. The Organization of the Eastern Caribbean States (OECS) appealed for help, and the British governor-general secretly signaled his support.

Following the death of Bishop, the United States quickly put together plans for a military intervention. On October 25, President Reagan briefed the press on the formal request for intervention from the OECS and the need to restore order and protect the 1,000 U.S. citizens in Grenada. He then launched Operation Urgent Fury. Despite the formal invitation for intervention, the attack seems to have achieved surprise.⁵³

The initial force consisted of just under 2,000 Marines and Army rangers along with some 300 soldiers from other Caribbean states. Due to initial resistance, this force was bolstered by some 4,000 additional U.S. troops, leading to 8,000 troops eventually occupying the island. The Revolutionary Military Council was replaced by one headed by UK Governor-General Paul Scoon to stabilize the country until elections were held in 1984. The whole operation was completed in six days.⁵⁴

1989 Panama Invasion

The U.S. invasion of Panama came as a surprise to the Panamanian government despite months of increasing tensions.

The attack was the culmination of escalating tensions between Panama and the United States. Panama's president, General Manuel Noriega, once a former CIA cooperative, lost favor with the United States due to his role in trafficking narcotics into the United States. Noriega was indicted in U.S. courts on drug trafficking and money laundering charges in 1988. He was also suspected of fraud in the 1989

52 Sunday Times of London Insight Team, *War in the Falklands: The Full Story* (New York: Harper & Row, 1982).

53 "Remarks of the President and Prime Minister Eugenia Charles of Dominica Announcing the Deployment of United States Forces in Grenada," Ronald Reagan Presidential Library, October 25, 1983, <https://www.reaganlibrary.gov/archives/speech/remarks-president-and-prime-minister-eugenia-charles-dominica-announcing-deployment>; and Ronald H. Cole, *Operation Urgent Fury: the Planning and Execution of Joint Operations in Grenada* (Washington, DC: Joint History Office, Chairman of the Joint Chiefs of Staff, 1997), https://www.jcs.mil/Portals/36/Documents/History/Monographs/Urgent_Fury.pdf.

54 Michael Poznansky, *In the Shadow of International Law: Secrecy and Regime Change in the Postwar World* (New York: Oxford University Press, 2020), 179–202; Gary Williams, "Prelude to an Intervention: Grenada 1983," *Journal of Latin American Studies* 29, no. 1 (February 1997): 131–169, <https://www.jstor.org/stable/158074>; and Michael Rubner, "The Reagan Administration, the 1973 War Powers Resolution, and the Invasion of Grenada," *Political Science Quarterly* 100, no. 4 (Winter 1985–1986): 627–647, doi:10.2307/2151544.

Panamanian election. The United States refused to recognize the new government in Panama and applied sanctions, for example, not allowing Panamanian registered ships to dock at U.S. ports.

In response, Panama's National Assembly declared that a state of war existed between them and the United States on December 15. A pattern of harassment of U.S. personnel in Panama followed. Two days later, a U.S. military servicemember was shot and killed in Panama City. A U.S. invasion force of over 20,000 responded in the early morning of December 20 under the justification of protecting U.S. citizens and bringing Noriega to justice. Noriega, after briefly taking refuge in a Vatican diplomatic mission, was arrested by U.S. authorities and brought to Miami for trial. With Noriega out of power, the United States helped install Guillermo Endara as interim president in Panama.⁵⁵

Despite the publicly escalating tensions between the United States and Panama, Noriega appeared to be surprised by the U.S. invasion.⁵⁶ The United States had been gradually and quietly building up its forces in Panama in the months before the attack and increasing training exercises. These gradual efforts desensitized Panamanian forces to U.S. troop movements. Noriega and the Panamanian military command saw the heightened military activity as intimidation rather than preparations for an actual attack.⁵⁷

2003 Iraq Invasion

The U.S. invasion of Iraq in 2003 came as a surprise to Iraqi president Saddam Hussein despite being given numerous warnings. As early as 2002, President George W. Bush had warned that military action would be inevitable if Iraq did not comply with UN resolutions on the disarmament of its weapons of mass destruction (WMDs).⁵⁸ The UN Security Council subsequently passed a unanimous resolution warning Iraq of "serious consequences" if it did not comply with its disarmament obligations and allow inspections of suspected WMD-associated facilities.⁵⁹ Congress voted to "use any means necessary" against Iraq. Secretary of State Colin Powell made the case for replacing Saddam to the United Nations and received some support. U.S. forces began flowing into Kuwait in January 2003.

On the eve of the U.S. invasion, President Bush demanded that Hussein and his sons leave Iraq within 48 hours or face military action.⁶⁰ However, despite these numerous warnings, Hussein was surprised by the full-on invasion, expecting the United States to retaliate with a limited aerial attack.

55 John Quigley, "The Legality of the United States Invasion of Panama," *Yale Journal of International Law* 14, no. 276 (1990): 276–315, <https://digitalcommons.law.yale.edu/cgi/viewcontent.cgi?article=1561&context=yjil>.

56 Eytan Gilboa, "The Panama Invasion Revisited: Lessons for the use of Force in the Post Cold War Era," *Political Science Quarterly* 110, no. 4 (Winter 1995-1996): 539–562, doi:10.2307/2151883.

57 Shannon Schwaller, "Operation Just Cause: The Invasion of Panama, December 1989," Army Heritage and Education Center, November 17, 2008, https://www.army.mil/article/14302/operation_just_cause_the_invasion_of_panama_december_1989; and Ronald H. Cole, *Operation Just Cause: The Planning and Execution of Joint Operations in Panama* (Washington, DC: Joint History Office, Chairman of the Joint Chiefs of Staff, 1995), https://www.jcs.mil/Portals/36/Documents/History/Monographs/Just_Cause.pdf.

58 "Bush's UN Speech: Full Text," BBC News, September 13, 2002, http://news.bbc.co.uk/2/hi/middle_east/2254712.stm.

59 UN Security Council, *Security Council Resolution 1441* [concerning Iraq], November 8, 2002, S/RES/1441 (2002), <https://www.refworld.org/docid/3dda0f634.html>.

60 Julian Borger, "Bush Gives Saddam and His Sons 48 Hours to Leave Iraq," *The Guardian*, March 17, 2003, <https://www.theguardian.com/world/2003/mar/18/iraq.usa1>.

Saddam fell victim to a weakness that plagues authoritarian regimes: the lack of independent reporting. Thus, as several military historians concluded after reviewing captured Iraqi documents, “Throughout the years of relative external peace for Iraq after Operation Desert Storm in 1991, Saddam Hussein continued to receive and give credence to optimistic assessments of his regime’s prospects that the United States would not dare to attack Iraq and that if it did, it would be defeated . . . [He had] faith that France and Russia would prevent and invasion by the United States.”⁶¹

THE UNEXPECTED TIME OR LOCATION

Democracies can use secrecy and deception, enabled by excellent intelligence, to disguise the timing or location of an attack. The examples of D-Day in 1944 and the Inchon landing in 1950 demonstrate this phenomenon. Although the adversaries knew that a counterstroke was coming, they were surprised about the timing and location.

Both examples show three further characteristics:

- Secrecy is vital and achievable.
- Secrecy does not just happen. It requires great effort to implement.
- The effect of deception need not be total to be useful. Having an adversary hesitate or hedge may give enough of an edge at the critical time and place.

1944 D-Day—The Unexpected Location

While the German High Command knew that an invasion was coming and approximately when, the allies used tight security, German preconceptions, and deception to keep the Germans uncertain of the invasion’s exact location until forces were already established ashore.

Secrecy was tight, as might be expected, and enforced through draconian measures. For example, Major General Henry J.F. Miller, chief of the United States Ninth Air Force Service Command, made public statements about the date of the upcoming invasion. General Miller’s indiscretion was reported to General Dwight D. Eisenhower, who demoted Miller to lieutenant colonel and sent him home.⁶²

Superb intelligence—from British spies on the ground and decryptions of German communications (Ultra)—allowed the Allies to play upon German expectations of invasion. Reports found that many high-ranking German officials believed that the Allies would land at Pas de Calais, France, the shortest passage across the English Channel. British intelligence took advantage of these expectations by using a network of double agents (turned German spies) that fed the Germans false information to confirm their erroneous expectations.⁶³

The Allies also orchestrated a massive deception campaign to disguise the location of the invasion, labeled Operation Fortitude North (a fake invasion of Norway) and Fortitude South (a fake invasion

61 Kevin Woods, James Lacey, and Williamson Murray, “Saddam’s Delusions: The View From the Inside,” *Foreign Affairs*, May/June 2006, doi:10.2307/20031964; and Claudia Parsons, “Saddam Admitted he Miscalculated, FBI Agent Says,” Reuters, January 24, 2008, <https://uk.reuters.com/article/idUSN24277030>.

62 “Army & Navy: Silence is Golden,” *TIME*, June 19, 1944, <http://content.time.com/time/magazine/article/0,9171,711844,00.html>.

63 Stephen E. Ambrose, “Eisenhower, the Intelligence Community, and the D-Day Invasion,” *Wisconsin Magazine of History* 64, no. 4 (1981) 2, 8–9, [jstor.org/stable/4635547](http://www.jstor.org/stable/4635547).

of Pas de Calais).⁶⁴ For example, the Allies filled the air around Norway with radio signals that normally accompany an army. A dozen signal units disseminated the radio messages. Messages were intentionally transmitted on a low-level and easily breakable cipher.

Most famously, the Allies created false armies at Dover and Scotland to further the illusion that the Allies would invade either Pas de Calais or Norway. The “Ghost Armies,” consisting of 1,100 men in all, were equipped with inflatable airplanes, tanks, and sound recordings. They staged more than 20 battle deceptions. These deceptions took place starting early 1944 and continued until September, three months after the landing.⁶⁵ To further the deception, General George S. Patton, considered by the Germans to be the most dangerous allied commander, was assigned to lead the decoy army.

Surprise was not absolute. The Germans strongly defended Normandy despite all the allied efforts. However, the deception was effective enough to slow some German reinforcements, as the German leadership took several weeks to fully appreciate that Normandy was the actual invasion and not some sort of deception or auxiliary landing.

1950 Inchon Landings—The Unexpected Counter Stroke

The North Korean army’s invasion of South Korea in June 1950 drove the Republic of Korea (ROK)/U.S./UN coalition forces back to the tip of the Korean peninsula, into what became known as the Pusan Perimeter. There, the United States (and eventually other UN allies) brought in reinforcements, and the UN coalition was able to hold the perimeter.

The North Koreans knew that the coalition forces would launch a counterstroke. General Douglas MacArthur was determined to do something decisive. Drawing on his World War II experience in the Southwest Pacific theater, he decided on an amphibious landing far behind North Korean lines. Although MacArthur briefly considered other landing spots, he chose Inchon because of its proximity to Seoul, the heart of the North Korean army’s logistics system.⁶⁶

With a tidal range of 32 feet, a narrow entrance, and a lack of beaches, Inchon’s physical geography made it a tough landing spot. General Edward Almond, MacArthur’s chief of staff, even said Inchon was “the worst possible place we could bring in an amphibious assault.”⁶⁷ However, MacArthur argued that a landing at Inchon would surprise the North Korean army precisely because of its hostile hydrography. To achieve surprise, MacArthur staged a deception campaign to encourage the North Korean army into believing that the landing would take place at Kunsan, about 105 miles south of Inchon. Aircraft attacked roadways and bridges leading to the port of Kunsan, while ROK navy boats raided enemy positions along the west coast.⁶⁸ Additionally, a British frigate landed U.S. Army special

64 Major Richard Ricklefs, “Fortitude South,” *Military Intelligence Professional Bulletin*, <https://fas.org/irp/agency/army/mipb/1996-2/meeks.htm>.

65 Megan Garber, “Ghost Army: The Inflatable Tanks That Fooled Hitler,” *The Atlantic*, May 22, 2013, <https://www.theatlantic.com/technology/archive/2013/05/ghost-army-the-inflatable-tanks-that-fooled-hitler/276137/>.

66 Carl H. Builder, Steven C. Bankes, and Richard Nordin, “The Visionary: Macarthur at Inchon,” in *Command Concepts: A Theory Derived from the Practice of Command and Control* (Santa Monica, CA: RAND Corporation, 1999), 77, https://www.rand.org/pubs/monograph_reports/MR775.html.

67 Robert D. Heinl, “The Inchon Landing: A Case Study in Amphibious Planning,” *Naval War College Review* 20, no. 5 (1967), 58, <https://digital-commons.usnwc.edu/nwc-review/vol20/iss5/4>.

68 Curtis A. Utz, *Assault from the Sea: The Amphibious Landing at Inchon* (Washington, DC: Naval Historical Center, Dept. of the

operations troops and Royal Marine Commandos on the Kunsan docks, making sure North Korean troops were aware of their presence. Disinformation was also an element of the deception, as Marine officers “briefed their men about the landing beaches at Kunsan, despite the numerous [North] Koreans within earshot.”⁶⁹

The landings at Inchon on September 15, 1950, completely surprised the North Korean army, which collapsed in the face of threats from front and rear. This reversal marked a turning point in the Korean War. The landing’s success allowed the coalition forces to retake Seoul and cripple the North Korean army’s communications and supply system. This smashing success did not win the war, which went on for another two and a half years, but it did mean that the issue at stake was not the survival of South Korea.

1945 Planned Invasion of the Japanese Home Islands

After securing the island of Okinawa in June 1945, the Allies planned the invasion of the Japanese main islands, only 400 miles away. Attack of the southern island, Kyushu, codenamed Operation Olympic, was scheduled for October 1945. Attack of the main island of Honshu, Operation Coronet, was scheduled for the spring of 1946.

Planning took the standard form. Beaches had to be within range of ground-based fighters to provide maximum support. On the main island, planners selected the Kantō Plain as the landing site because it offered good terrain for armored operations. On both islands, planners chose the widest beaches with the best hydrography.

Unfortunately, the Japanese, having watched U.S. island landings for several years, had deduced the criteria that planners used. Therefore, the Japanese guessed where the Americans would land and prepared accordingly. As one historian put it, “to put it bluntly, they had figured us out.”⁷⁰

In the end, neither plan was needed, as the combination of the dropping of the atomic bombs and the Soviet invasion of China convinced the Japanese government to surrender. Nevertheless, it was clear that using standard criteria for the “best” plan produced the expected result and sacrificed surprise.

ACKNOWLEDGING THE LIMITS—TEMPORARY EFFECTS AND ADVERSARY REACTIONS

The effects of a successful surprise attack are not magical. Indeed, a recurring theme about surprise is that the effects are temporary and do not, in themselves, generally lead to a decisive outcome. British strategist Lawrence Freeman argues that states launch surprise attacks because they see it as a way to achieve a quick victory without the pain and suffering associated with long, drawn-out conflicts. However, history generally shows that initial surprise, while it may produce a major tactical advantage, does not deliver a lasting strategic victory.

Adversaries always react, so tactical success may not lead to strategic success. Professor Scott Helfstein, in an analysis of surprise attacks from 1950 to 1990, finds no instance where surprise was able to deter the recipient from reacting. Given his findings that the target will respond forcefully, Helfstein

Navy), 21, <https://web.archive.org/web/20041017232054/http://history.navy.mil/wars/assault.html>.

69 Ibid., 21, 22.

70 D.M. Giangreco, *Hell to Pay: Operation Downfall in the Invasion of Japan, 1945-1946* (Annapolis, Maryland: Naval Institute Press, 2009), 45.

argues that the best way to use surprise is to follow the attack with an aggressive diplomatic action to deter response and secure gains.⁷¹ Many of the iconic cases of surprise attack show the same dynamic: surprise, early success, adversary reaction, and ultimate failure. Painful to the United States is the experience of the 2001 invasion of Afghanistan, which has followed that pattern.

The effects of successful surprise attack are not magical. A recurring theme about surprise is that effects are temporary and do not, in themselves, generally lead to a decisive outcome.

1990 Saddam Hussein's Invasion of Kuwait

Saddam's invasion of Kuwait in 1990 provides the iconic example of such failure. Iraq claimed that Kuwait was infringing on its oil fields and, therefore, owed Iraq financial compensation. When this complaint was not taken seriously, Iraq invaded. This invasion took Kuwait and, indeed, the whole world by surprise and was a complete tactical success. Iraqi forces occupied all of Kuwait in 48 hours. Iraq did not anticipate the international response to its aggression and, therefore, did not try to negotiate terms that might have been acceptable to the coalition. Eventually, it suffered a staggering military defeat and achieved none of its goals.

2014 Russian Annexation of the Crimea

However, the history of surprise attacks is not one uniformly of failure. Sometimes surprise attacks work, in that the attacker keeps some or all of the gains.

The Russian annexation of Crimea surprised the world. Although some experts consider it a “gray zone” event, the fact that territory changed sovereignty puts it in the interstate conflict category.

The attack occurred because of Crimea's shifting governmental alignment. At the breakup of the Soviet Union, Crimea came under Ukraine's government because that is how the regional governments aligned at that time. However, Crimea had previously been part of Russia and has a large ethnic Russian population. President Putin was determined to bring Crimea back to Russia. On February 23, 2014, pro-Russian demonstrations occurred in the Crimean city of Sevastopol. On February 27, masked Russian troops without insignia (called “little green men” because of their uniforms) appeared at key points and took over the parliament building. Russian special forces and regular forces also moved into Crimea. This led to the installation of the pro-Russian Aksyonov government, a Crimean status referendum, and declaration of Crimea's independence on March 16, 2014. Russia formally incorporated Crimea into the Russian Federation on March 18, 2014. The move was immensely popular within Russia, and Crimea remains a part of the Russian Federation. However, Russia did pay a diplomatic price, being forced out of the G8.

71 Scott Helfstein, “Backfire: Behavioral Decision Making and the Strategic Risks of Successful Surprise,” *Foreign Policy Analysis* 8, no. 3 (July 2012), 279, 283, doi:10.1111/j.1743-8594.2011.00165.x.

1973 Egypt's Attack on Israel

In the years after Israel's establishment, Egypt and Israel fought a series of wars, in 1948, 1956, and 1967. The 1967 war left Israel in possession of the Sinai Peninsula up to the Suez Canal. After diplomacy stalled, President Anwar Sadat decided to use a military attack in 1973 to break the political and diplomatic stalemate. On October 6 (Yom Kippur), Egyptian forces attacked across the Suez Canal while Syrian forces attacked in the north. The Egyptians and Syrians achieved surprise in what has become a textbook example of secrecy, deception, and an adversary's unwillingness to believe that an attack is imminent. Although the Israelis did mobilize just before the attack, it was too late, and the Egyptians were able to establish themselves across the canal. The Israelis reacted quickly and powerfully, eventually driving both the Syrians and Egyptians back. Indeed, the Israelis were able to cross to the west bank of the Suez Canal and threaten the encirclement of Egyptian forces. Nevertheless, after an armistice, Sadat was able to leverage his partial military success into a diplomatic solution that returned the Suez to Egyptian control through the 1978 Camp David Accords.

Technological Surprise

The United States has frequently used technology to achieve surprise and is comfortable with it. Technological prowess has been a long-standing U.S. tradition. During the Cold War, the United States relied on advanced technologies to offset quantitative advantages by adversaries, particularly the Soviet Union. Since the end of the Cold War, the United States has relied on these technologies to achieve swift victories and reduce coalition casualties.

Generally, new technologies are fielded openly, and their capabilities become widely known. For example, when the United States fields a new tank, its major characteristics—size, armor, and speed—are publicized as part of the acquisition advocacy process. Although some details may be obscured, the major elements are not.

However, opportunities arise to hide specialty capabilities so that their first use constitutes a surprise. A few, such as the Manhattan Project and code decryption examples further described below, involve massive establishments to develop the capability. Most, such as the stealth aircraft example, involve powerful but niche new capabilities that are easier to hide.

Here, as elsewhere, the effects of surprise are temporary. Adversaries always and immediately begin to develop countermeasures. Sometimes these take only days to implement, as with the first crude British countermeasures to poison gas in World War I. In other situations, countermeasures might take many years, as with adversary reactions to nuclear weapons. The inevitable rise of countermeasures means that the first use needs to be considered carefully to maximize the benefit of surprise.

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THE POWER OF SECRECY

A recurring question is whether Western democracies can maintain secrecy in light of their openness and regard for individual rights. The Manhattan Project shows that this is indeed possible, even on a massive scale. It is true that this occurred during an existential crisis which gave the government

massive powers. It also occurred before social media, which increases the number of ways for information to leak out. Nevertheless, it provides an insight into what is possible.

The Manhattan Project

The Manhattan Project achieved surprise despite the massive scale of the project and the fact that all the major powers knew that such a weapon might be possible. The key was an elaborate structure of secrecy.⁷²

Entire towns, such as Richland and Hanford, were depopulated to make room for nuclear production facilities. To ensure the security and secrecy of the facilities, the government set up numerous security measures:

- The FBI investigated new workers to ensure they had no criminal backgrounds or connections with the Axis.
- Multiple security checkpoints limited access to research sites.
- Barbwire fences surrounded each facility's perimeter, with military police on guard 24 hours a day. This prevented outside intruders from gaining access and deterred employees from sneaking out with classified information.
- Mail coming in and going out of the sites was heavily censored. Security officials would inspect letters, ensuring that the site's location and work activity was blocked out.

During the research process, only a small circle of people had full knowledge of the project. Most people only knew about their limited activity, for example:

- Chemists, although deeply involved in developing the science and technology that underpinned the bomb's functioning, received no explanation about the project's objective.
- Civilian women, recruited out of high school to monitor meters on Calutron machines at chemical facilities, received no information on the meters' purpose.
- All employees were required to wear badges showing their picture, job title, and security clearance. Job titles were directly correlated with the level of clearance.

As a result of all these precautions, even the test of the first atomic bomb in July 1945 was successfully kept secret. When the United States dropped atomic bombs on Nagasaki and Hiroshima, the surprise was total.⁷³

SECRECY COUPLED WITH DECEPTION

Secrecy alone is passive—it is merely the denial of information to the public and adversaries. However, secrecy is frequently linked with active measures to mislead. These can be actual misstatements (lies) to throw experts and analysts off track. Democracies need to be careful about this approach, however, because it undermines the credibility of governments when the “misstatements” become known, as they inevitably will.

72 Examples from “The Manhattan Project,” U.S. Department of Energy, May 16, 2017, <https://www.energy.gov/podcasts/direct-current-energygov-podcast/s2-e2-manhattan-project-part-1>; and “Security and Secrecy,” Atomic Heritage Foundation, June 4, 2014, <https://www.atomicheritage.org/history/security-and-secrecy>.

73 Except to the Soviets, whose spies had thoroughly penetrated the U.S. defense establishment, including the nuclear program.

Deception can involve cover stories that, while consisting of lies, typically involve misdirection rather than straight-up denials. Deception can also involve what is not revealed, such as the careful use of technology, ensuring that its use remains in the background.

Protecting the Ultra Secret

Ultra, the codename for the Allied intelligence project that intercepted and decrypted German communications during World War II, achieved surprise through a combination of massive resources, a whole-of-government effort, tight secrecy, and active deception.

Once the British became convinced that cracking the Enigma code was possible, they set up a massive operation with virtually unlimited resources. Bletchley Park, the project headquarters, employed hundreds of personnel and built over 200 computing units (British “bombes”).⁷⁴ The effort involved not just the intelligence community but all elements of government. For example, the U.S. Navy and the Royal Navy contributed by capturing submarines, U-505 and U-559, respectively, at great risk. These captures provided Enigma machines (the encryption device that generated the code) and signal books detailing how the German codes worked.⁷⁵

Tight secrecy allowed Bletchley Park to function without detection through the entire war. F.W. Winterbotham, a senior official of the project, screened all prospective operatives. New personnel had to sign the Official Secrets Act of 1939. A 1942 security warning also demanded that employees avoid talking about operations at meals, public transport, the living quarters, or even at home. The penalty for potential leakers was imprisonment and an unlimited fine. To ensure secrecy when disseminating decrypted messages, all radio transmissions were on a one-time pad cipher, the strongest form of encryption during World War II.⁷⁶

Active deception prevented the Germans from suspecting a security leak. The British were cautious with how they used the intelligence obtained from decoded intercepts. No actions were taken that could solely be attributed to Ultra. Whenever Ultra detected an enemy convoy or target vessel, the British sent spotter aircraft to intentionally be detected before attacking. When Ultra acquired advance warning of an aircraft raid on the city of Coventry, Winston Churchill ordered that no defensive measures be taken, out of fear the Germans would suspect an intelligence leak.

The British leaked information to the Germans that spy rings were providing the sensitive information. Even after the war, Ultra’s successes were attributed to the insights of operations research. Such precautions maintained secrecy but at the cost of some lost opportunities and, in the case of the Coventry raid, acceptance of casualties.

These deception efforts succeeded because they played to German preconceptions. The Germans believed that the Enigma coding device had so many potential combinations that it was unbreakable. This confidence, indeed hubris, meant that the Germans continued to use their codes despite indications that information had been compromised.

74 Patrick J. Chaisson, “Beating Nazi Germany’s Enigma Code Won the Allies World War II,” *National Interest*, November 15, 2019, <https://nationalinterest.org/blog/buzz/beating-nazi-germanys-enigma-code-won-allies-world-war-ii-97181>.

75 “The heroes of U-559: an Enigma mystery,” National Museum of Scotland, n.d., <https://www.nms.ac.uk/explore-our-collections/stories/science-and-technology/the-heroes-of-u-559/>.

76 F.W. Winterbotham, *The Ultra Secret* (New York: Harper & Row, 1974), 19–21; and F.H. Hinsley and Alan Stripp, eds., *Codebreakers: The inside story of Bletchley Park* (Oxford: Oxford University Press, 1993), 128–129.

SECRECY AND THE SPECIALIZED ORGANIZATION

Secrecy is not just a collection of procedures and compartments. Secrecy is a way of life. Thus, it is hard for regular organizations to impose the level of protection needed to ensure deep and long-term secrecy. Easier is designing specialty organizations for which secrecy is embedded in the day-to-day culture and where members are not moving back and forth between an open and a closed world.

Stealth Technology

The development of stealth technology in the 1970s and early-1980s allowed aircraft to penetrate deep into adversary airspace without being detected or, if detected, intercepted, giving the United States a technological surprise in combat. This technological advance was developed largely in secret, helped by organizations especially designed for the purpose.

The stealth initiative arose because, by the 1970s, aircraft were increasingly vulnerable to radar-controlled air defenses. In 1974, the Defense Advanced Research Projects Agency and the Air Force began a program, Have Blue, to develop combat aircraft with low radar signatures. A stealth fighter prototype—which eventually became the famous F-117 Nighthawk—flew successfully in 1977. A stealth bomber prototype, the future B-2 Spirit, was also in development.

Tight secrecy was achieved through several mechanisms, such as the use of dedicated and isolated facilities. Lockheed Martin’s “Skunk Works,” a pseudonym for the Advanced Development Projects, was the best known, although there were others. Clarence “Kelly” Johnson, the chief research engineer at the Skunk Works, prioritized external secrecy while maintaining transparency with government clients, thus achieving both surprise and accountability. The main design facility at the time was a nondescript building at the Burbank airport. To test secret designs, Lockheed Martin set up a facility at Groom Lake in a remote area of Nevada. Groom Lake appealed to Lockheed Martin because the desolate and isolated location restricted access and viewing.⁷⁷ To keep its role secret, Lockheed Martin created a false company to do the actual contracting. Thus, in 1955, contractors began building the facilities on Groom Lake for testing new technologies, all the while not understanding what the facilities were for. Although the “Skunk Works” facilities were most famous for development of stealth technology, they supported a variety of secret aircraft designs, including the U-2 and SR-71 as well as missile and naval technologies.⁷⁸

Secrecy was not absolute, as stories about stealth aircraft swirled around the aviation press. However, much of the speculation was wrong, and there was no way for outsiders to distinguish the correct from the incorrect. Nothing about stealth was released publicly until Secretary of Defense Harold Brown acknowledged the technology’s existence in 1980. Even then, specifics about the aircraft were not made public until 1988.⁷⁹

77 Ben Rich and Leo Janos, *Skunk Works* (New York: Little, Brown and Company, 1994); Sebastien Roblin, “Meet the Classified Spy and Stealth Planes at Area 51 That Everyone Thought Were UFOs,” *National Interest*, March 17, 2020, <https://nationalinterest.org/blog/buzz/meet-classified-spy-and-stealth-planes-area-51-everyone-thought-were-ufos-133807>.

78 Sebastien Roblin, “Skunk Works: They Helped Create the F-22, F-35, U-2 Spyplane and F-117 Stealth Fighter,” *National Interest*, May 4, 2020, <https://nationalinterest.org/blog/buzz/skunk-works-they-helped-create-f-22-f-35-u-2-spyplane-and-f-117-stealth-fighter-55892>.

79 John T. Correll, “History of Stealth: From Out of the Shadows,” *Air Force Magazine*, September 2019, <https://www.airforcemag.com/article/history-of-stealth-from-out-of-the-shadows/>.

SECURITY IN TESTING—MAXIMIZING OPERATIONAL IMPACT

The military's instinct is to test new technology on the battlefield in a limited way to see how it works. Frequently, new technologies need modification or even radical redesign to be fully effective. Militaries also need to develop doctrine and tactics so troops and commanders can use the technology to maximum effectiveness. In peacetime, this is called operational testing. In the United States, operational testing is mandated by law because of instances of weapons performance failures in the 1980s. Operational tests must be done with production systems, not prototypes, and with regular servicemembers, not specially trained personnel. All this makes sense, at least in peacetime with overt systems.

The problem for secret technologies is that they generally only get one surprise use and expending that moment for an operational test squanders the opportunity. The first use alerts the adversary to the existence of the new technology and drives the adversary to develop countermeasures. Thus, the moment of greatest effectiveness for new technology will be wasted if the technology is employed for a limited operational test before full fielding.

The solution is to test in private. Thus, the United States tested the atomic bomb to be sure that it worked (the Trinity test on July 10, 1945) but did so in a remote location beyond the observation of not just the adversary but of the public as well. This was *not* as good as an operational test.

The device was put on a tower and detonated on command. An operational test would have had the device drop from an aircraft and detonate using the operational fuse. Each of those elements was tested separately, but there was never an end-to-end test. That engendered risk, but it was worthwhile given the shock value of the wartime use.

Similarly, stealth aircraft were tested in remote locations, such as Groom Lake, far from the prying eyes of the public and adversaries. The Navy, faced with a similar problem but for which remote locations were not available or practical, hid a new ship hull design, "Sea Shadow," in a specially constructed facility and tested only at night.

Concealed and limited testing will not fully capture all the lessons that might be learned from a full operational test. Thus, there is a trade-off between surprise and more effective operational use. The key recognition is that a trade-off exists and must be made consciously.

1915 German Use of Gas at Ypres

By the spring of 1915, combat on the Western Front had settled into an uneasy and costly stalemate. Although both sides had tried to break through the other's lines with massed infantry assaults, those had failed with high casualties. Both sides, therefore, looked for new ways to overcome the trench system and move into "the green fields beyond." The Germans hit on the idea of using chlorine, a commercially available gas. At 5 PM on April 22, 1915, the Germans opened 5,300 gas cylinders, and the greenish-yellow gas rolled across no man's land into the allied trenches. The result was devastating. Hundreds of French and Canadian troops fell victim, coughing, choking, and dying. Thousands fled in panic. For several hours, a 4-mile-wide gap existed in the line. The Germans moved forward two miles but then stopped. This attack had been viewed as an experiment, not a full-out offensive. After a few hours, the British and French scrounged up reserves and rebuilt the line. The great opportunity that the gas attack presented was lost.

The Allied troops devised crude protective devices within days, and within a short time, the Allies manufactured purpose-built gas masks. Although the Germans used chlorine gas again, the countermeasures made such attacks much less effective.

In December, the Germans attacked with a new and more deadly gas, phosgene, again in a limited way. Phosgene had some effect on even prepared British troops, but the Germans did not take advantage of the surprise. Instead, this had been another experiment. The Allies quickly developed better gas masks, protective clothing, and alarms that provided substantial protection so that gas attacks became just another risk on the battlefield.⁸⁰

The Germans would have been much better off testing poison gas in secret, away from the battlefield. For this, they might have chosen a remote location, either an island off the coast or a restricted military training area. They could have used livestock as test subjects. This would have illuminated issues about wind and allowed the development of tactics and procedures. It also would have given information on lethality. Such testing would not have given as much information as the actual use on the front, but it nevertheless would have provided a lot of information. Armed with this information, the Germans could have planned a massive use of poison gas coupled with a major offensive to gain strategic advantage from the first use of the technology.

1917 British Use of Tanks at Cambrai

The British developed tanks for the same reason that the Germans developed poison gas, to break the stalemate of the trenches. Like the Germans with poison gas, the British developed and produced the technology in secret. In fact, the term “tank” was a cover, used to imply something benign and logistical. Instead of fielding small numbers, however, the British used a massive number, 324, in the attack at Cambrai on November 20, 1917. The British had been lucky that the Germans did not react to a small use of tanks the previous year at the Somme. Thus, with good luck and some good planning, the British capitalized on the surprise that these mobile monsters produced. The resulting attack created panic among the Germans because most units had not yet developed countermeasures. The British penetrated four miles into German territory and captured 7,500 Germans for the loss of 4,000 troops. By Western front standards, it was a great success. At the Somme in 1916, the British had taken 400,000 casualties (and the French another 200,000) to move forward six miles.⁸¹

Doctrinal Surprise

Doctrinal surprise is the use of existing capabilities or technologies in unexpected ways that produce powerful new effects. It is different from technological surprise, which arises from a single new weapon or platform. “Doctrine” is used here in a generic sense, that is, a military’s concept for employing people and weapons in a conflict, not in the formal sense of approved publications, manuals, and schools.

80 For description of both gas attacks, see Winston Groom, *A Storm in Flanders: the Ypres Salient, 1914–1918*, (New York: Atlantic Monthly Press, 2002), 98–105, 137–138.

81 John Keegan, *The First World War* (New York: Vintage Books, 1998), 369–371. Keegan points out that surprise was not total. Some German units developed countermeasures by using artillery as antitank weapons, and some British commanders did not use appropriate tactics to capitalize on the surprise.

There is considerable academic literature about how militaries develop new doctrines and capabilities.⁸² Broadly speaking, nations with large, tradition-bound, and bureaucratic militaries are likely to be slow to adopt doctrinal changes that cut against established patterns of behavior and organizational culture. Thus, special forces and operational intelligence agencies tend to lead doctrinal innovation because of their simpler organizations and lack of large investments in structure and systems.

In examining the many ways that doctrinal surprise can occur, the *Coping with Surprise* study identified five categories, four of which are relevant here: (1) developing innovative combinations of existing capabilities and emerging technologies; (2) attacks on “safe spaces”; (3) breaking taboos; and (4) blurring the line between peace and war.⁸³

The JSOC kill cycle, described below, illustrates the development of innovative combinations of existing capabilities and technologies. The use of drones illustrates the attack on safe spaces and breaking taboos. Several vignettes, for example, the mining of the Taiwan Straits, explore blurring the line between peace and war.

JSOC Kill Cycle—Breaking Down Bureaucratic Walls

The problem facing Joint Special Operations Command (JSOC) during the rise of Al Qaeda and its affiliates, globally and in Iraq, was the terrorist group’s nonconventional structure. Rather than organizing fighters hierarchically by rank, Al Qaeda organized its forces in cells, based on personal relationships and reputation. General Stanley McChrystal believed that to attack this unorthodox adversary structure, he needed an adaptable and rapidly responsive force. This required a new structure. As McChrystal wrote in his memoir, “the challenge, then, was to retain our inherent strengths of competence and precision, yet regain the innovation, adaptability, and focus of a small team.”⁸⁴

JSOC worked around bureaucratic walls by building a working group that included all elements of the military and the intelligence community. To gain intelligence on terrorist cells from the CIA (which distrusted other agencies), McChrystal personally visited CIA headquarters. After McChrystal gave assurances that JSOC would not jeopardize the CIA operation in Pakistan, the CIA provided the intelligence. McChrystal then recruited regional experts from the State Department and satellite analysts from the National Geospatial Intelligence Agency. Building cross-agency cooperation allowed McChrystal to combine existing capabilities in a novel way that allowed rapid battlefield response and greatly increased the effectiveness of JSOC’s counterterrorism campaign. By fusing data and using information gained on one raid to set up the next raid, this new structure could match the challenging pace and adaptability of the terrorist cells.⁸⁵

This surprised the Al Qaeda cells and kept them off-balance. In an interview with Foreign Affairs, McChrystal noted, “Inside Iraq, we were in 20 and 30 places simultaneously—all connected using

82 For example, Barry Posen, *The Sources of Military Doctrine: France, Britain, and Germany between the World Wars* (Ithaca, NY: Cornell University Press, 1986); and Stephen Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca, NY: Cornell University Press, 1991).

83 Cancian, *Coping with Surprise*, ch. 6. The fifth category, the failure of U.S. doctrine, is not relevant to this discussion.

84 Stanley McChrystal, *My Share of the Task* (New York: Portfolio/Penguin, 2014), xii.

85 Spencer Ackerman, “How Special Ops Copied Al Qaeda to Kill It,” *Wired*, February 2, 2020, <https://www.wired.com/2011/09/mcchrystal-network/>.

modern technology but also personal relationships. This gave us the ability to learn about the constantly evolving challenge.”⁸⁶ JSOC had some highly notable successes, including killing Iraqi insurgent leader Abu Musab al-Zarqawi on June 16, 2006 and Osama Bin Laden in 2011.

No Sanctuary from Drones

The United States developed a few drones during World War II and more during the Vietnam War, but drones started making a mark on the battlefield in the regional wars of the 1990s and the early twenty-first century. As technology improved for propulsion, avionics, and especially command links, drones could do more. However, their use focused on traditional missions. As unmanned aircraft, they did what aircraft had done traditionally but picked up the “dirty, dull, and dangerous” missions that manned aircraft wanted to avoid.

But drones could do more. Cued by human and electronic intelligence, drones could find enemy combatants far from a battlefield, particularly terrorist leaders, and strike them. These adversary personnel might be living in countries that were not at war, living in quiet suburbs, or believe themselves to be in sanctuary. However, drones could loiter, spot, and then track targets until the opportunity arose for a clean shot with minimal collateral damage. Thus, the United States conducted hundreds of strikes in Pakistan, Yemen, and Somalia, in addition to battlefield strikes in Iraq, Afghanistan, and Syria. Shocked terrorist leaders found they had no place to hide. Although the campaign was criticized as “targeted assassination,” it was so successful that both Republican and Democratic administrations sustained it.

Diplomatic/Political Surprise

Diplomatic/political surprise is the unexpected realignment of countries or political factions that has a major effect on the balance of power and, ultimately, military operations. Scholars point out that unexpected realignments can happen at any time, in war or peace. This study focuses on realignments during conflict, when they have an immediate military effect, and at the beginning of a conflict, when realignments are most common.⁸⁷

The *Coping with Surprise* study made several points about these actions:⁸⁸

- Diplomatic and political shifts have not been critical considerations in the post-Cold War era because the United States has had such overwhelming military and diplomatic power. Allies and partners have been important contributors to military capability and political legitimacy but have not been central to the outcome of a conflict.
- Historically, however, alliances and wartime changes have had great influence on military operations.
- Now, as during the Cold War, the United States, powerful though it is, needs allies and coalition partners because it faces challenges from other great powers.

86 “Generation Kill: A Conversation with Stanley McChrystal,” *Foreign Affairs*, March/April 2013, <https://www.foreignaffairs.com/interviews/2013-02-11/generation-kill>.

87 Examples of diplomatic surprise during peacetime include the 1935 German rearmament and the Sadat peace initiative of 1977. These are also important but beyond the scope of this study. Handel discusses both kinds in *The Diplomacy Surprise*.

88 *Coping with Surprise*, ch. 7, “Political/Diplomatic Surprise.”

- In the past, countries applied nakedly realist calculations to alliance actions during wartime and will continue doing so in the future. Thus, alliance strength is uncertain until conflict begins. Then countries must decide whether peacetime commitments turn into wartime actions.
- Political and diplomatic shifts are rarely considered in military planning because they fall outside of the military sphere.

Coping with Surprise described three examples where alliances shifted just as conflict was breaking out. In 1914, at the outbreak of war, Italy left the Triple Alliance with Germany and Austria-Hungary and declared neutrality. The following year it entered the war on the side of the Allies. In 1967, France and Russia abandoned Israel in the run-up to the war, opting not to alienate the Arab coalition. In 1939, the Soviet Union, which had been in discussions with France and Britain about stopping Nazi Germany's expansion, made a deal with Nazi Germany to divide Poland and Eastern Europe.

These examples share the characteristic that they shifted the balance of power abruptly at the beginning of a conflict. That was the moment when countries had to take concrete action one way or another. Such shifts tend to be surprises because countries do not want to publicize a major diplomatic change until they are sure that it will happen. There is no point in weakening the relationship and taking criticism for considering a shift and then not implementing it. Thus, all three of the instances cited above came as surprises on the world stage.

These shifts brought real benefits to the perpetrators. The Soviet Union received eastern Poland and the Baltic states. Italy received border territory. France ingratiated itself with the oil-producing Arab states.

However, the shifts were not costless to the instigators. The Soviet Union disrupted and nearly destroyed the anti-Nazi movement that it had been building for years. Italy fought a long and bloody war before it got its reward. France took domestic criticism for abandoning Israel, a state which it had been instrumental in creating, and received a few concessions from the Arab states.

As the United States looks forward, diplomatic and political surprises could be a valuable tool. Vignette Russia #1—"Belarus declares neutrality in a Russian clash with NATO"—illustrates such a possibility. As the histories and vignettes also demonstrate, however, there is always a price to be paid. Sometimes that price is diplomatic, sometimes political, sometimes moral. (See the discussion about the moral aspects of surprise in Chapter 6.)

The illustrations below show two examples where the United States has applied this sort of surprise in the past, one a diplomatic surprise, the other a diplomatic/military surprise. The first used intelligence to identify a diplomatic opportunity, operated through secret diplomatic channels, and made deals, both overt and covert. The second shows the value of agile diplomacy when an opportunity arises.

Nixon's Outreach to China

In 1971, the United States was still heavily engaged in the Vietnam War, which drained political capital both at home and abroad. At the same time, the Soviet Union was conducting a massive military buildup, strengthening its grip on Eastern Europe and building a global network of client states. President Nixon and National Security Advisor Henry Kissinger were looking for ways to mitigate both challenges.

The diplomatic surprise began with the emergence of new intelligence insights. The long-standing consensus was that the USSR and China were communist allies. However, intelligence analysts noted

conflicting messages in Soviet and Chinese propaganda as early as 1952. Then, in 1961, the CIA clandestinely acquired documents showing tension between Chinese and Soviet leadership on ideology, coexistence with the West, and, most importantly, territory. Border skirmishes in 1969 gave visible evidence of these tensions, thus strengthening the intelligence hypothesis about a Sino-Soviet split.

Using diplomatic channels with Pakistan for preliminary contacts, Kissinger took a secret trip to China in 1971. To gain Chinese cooperation, he made concessions regarding Taiwan and tilted U.S. policy toward Pakistan and against India. Kissinger's 1971 trip laid the groundwork for President Nixon's public trip in 1972. While the U.S. public witnessed broadcasts of Nixon arriving to great jubilee, secret diplomatic deals were taking place. President Nixon briefed the Chinese on classified information about the Soviets and confirmed Kissinger's concessions. The U.S. public knew nothing of this.⁸⁹

This gained China's trust, leading to cooperation on trade, immigration, and education, among other matters. The rapprochement with China allowed the United States to leave the Vietnam War without abruptly abandoning its South Vietnamese ally. Most importantly, it helped check Soviet expansionism.⁹⁰ In the words of Kissinger, "We opened up to China, with which we had no relations to speak of at that time, in order to introduce an added element of calculation for the Soviets. And also, to give our own people hope that in the period of the Vietnam War and domestic divisions, their government had a peaceful vision that included elements that had been excluded."⁹¹

The UN Coalition during the Korean War

When North Korea invaded South Korea in June 1950, the United States responded by sending forces to the Korean Peninsula to defend the South Korean government. The United States also began a diplomatic effort, which the North Koreans and their Soviet backers had not expected. The United States obtained UN resolutions condemning the invasion ("the armed attack upon the Republic of Korea by forces from North Korea constitutes a breach of the peace") and authorizing the use of force ("the Security Council recommends that the members of the United Nations furnish such assistance to the Republic of Korea as may be necessary to repel the armed attack and to restore international peace and security in the area"), and to do so under the UN flag ("authorizes the unified command at its discretion to use the United Nations flag in the course of operations against North Korean forces").⁹² At that time, the Soviet Union was boycotting the UN Security Council because the Chinese government of Chiang Kai-shek continued to occupy a seat on the council, even after the Chinese communist victory on the mainland. The Soviets were thus unable to block the resolutions.

These UN resolutions had two major effects. The first was political. The existence of a UN coalition brought legitimacy to the conflict in the eyes of the American people. This was not just a U.S. military

89 William Burr, "Nixon's Trip to China: Records now Completely Declassified," National Security Archive Electronic Briefing Book No. 106, <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB106/>.

90 "The Opening of China," Richard Nixon Foundation, November 7, 2019, <https://www.nixonfoundation.org/exhibit/the-opening-of-china/>.

91 "'The Key Problem of Our Time': A Conversation with Henry Kissinger on Sino-U.S. Relations," Kissinger Institute on China and the United States, (conversation, Wilson Center, Washington, DC, September 20, 2018), <https://www.wilsoncenter.org/article/the-key-problem-our-time-conversation-henry-kissinger-sino-us-relations>.

92 UN Security Council, *Security Council Resolution 83 [on assistance to the Republic of Korea]*, S/RES/83(1950), June 27, 1950, <https://digitallibrary.un.org/record/112026?ln=en>; and UN Security Council, *Security Council Resolution 84 [complaint of aggression upon the Republic of north Korea]*, S/RES/84(1950), July 7, 1950, <http://unscr.com/en/resolutions/doc/84>.

action; it was another grand alliance whereby the United States was aligned with countries around the world to fight aggression.

The second effect was military. Coalition partners contributed substantially to the military effort. Britain sent a division equivalent, plus substantial naval forces; Canada, Turkey, Australia, Thailand, and the Philippines sent brigades; France, Greece, Netherlands, Colombia, Belgium, and Ethiopia sent battalions; and New Zealand, South Africa, and Luxembourg sent smaller contingents. In all, coalition partners provided about 85,000 troops.⁹³

Both effects surprised the North Koreans and their Soviet backers, who anticipated none of this diplomatic action. Neither had many made any diplomatic preparations. The Soviets had been so confident that the attack would be an isolated event that they were not even physically present at the United Nations when the critical vote occurred.

The Anbar Awakening in Iraq: Partnering with Former Insurgents

In the summer of 2006, the Marine Corps' counterinsurgency campaign in Anbar province was going badly. Attempts to create a viable provisional government had collapsed the previous winter, with some members assassinated and others driven into exile. The provincial council did not even meet in Anbar province but had to convene in secure areas in Baghdad. In August, an intelligence report attributed to the Marine Corps' head of intelligence in Anbar described the situation as hopeless: "The social and political situation has deteriorated to a point that U.S. and Iraqi troops are no longer capable of militarily defeating the insurgency in al-Anbar."

However, fissures were opening among the insurgents, which consisted of two separate groups uncomfortably united in their opposition to the U.S. occupation. One group, the nationalists, wanted an independent Iraq free of foreign occupation. This group consisted entirely of Iraqis. The other group, the jihadists, wanted Iraq to become part of a greater, pan-Islamic movement and one element of the new global caliphate. This group included many foreigners and was visibly led by foreigners, initially Musab al-Zarqawi (a Jordanian) and later Ayyub al-Masri (an Egyptian).

The jihadists started killing some of the Anbar sheiks who refused to step aside. In the jihadists' view, there was no room in the caliphate for local leaders who maintained tribal and client relationships with the local population. These leaders were illegitimate and non-Islamic.

At first, one minor sheik, Sattar of the Albu Risha tribe, broke and sided with the Americans. The Americans jumped on the opportunity, providing security, arming the tribal militia, and sending many men from the tribe to police training. When these men returned, they provided local security against insurgents.

The jihadi groups were unprepared for this change in allegiances, being unable to imagine alliances with infidels. They reacted by attacking the tribes. On November 25, they attacked the Albu Soda tribe, which was in contact with the Americans. The tribe drove the attack off with help from Marine firepower. The jihadis then began to attack the local Sunni population, an unprecedented step, with car bombings, attempted poison gas attacks, and more assassinations of leaders. This served only to alienate the local population, on whom the jihadis depended for security. Dead jihadis start turning up, killed by Sunni nationalist groups. More and more tribes sided with the Americans in a move

93 T.R. Fehrenbach, *This Kind of War* (Virginia: Potomac Books, 1963, 2008), 204–205.

that became known as the “Anbar awakening.” Eventually, the jihadi groups fled the region, and the insurgency died down.⁹⁴

94 Many analysts have described the Anbar Awakening, for example, Richard H. Schulz, Jr., *The Marines Take Anbar: The Four-Year Fight against Al Qaeda* (Annapolis, MA: Naval Institute Press, 2013); Bill Ardolino, *Falluja Awakens: Marines, Sheiks, and the Battle against Al Qaeda* (Annapolis, MA: Naval Institute Press, 2013); and Timothy Williams and Kurtis Wheeler, *Al-Anbar Awakening Volume I American Perspectives U.S. Marines and Counterinsurgency in Iraq, 2004-2009* (Quantico, VA: Marine Corps University, 2009).

Components of a Successful Surprise

The *Coping with Surprise* report concluded, consistent with much of the literature, that surprise is inevitable.⁹⁵ The intelligence process and decisionmakers reactions to intelligence will be imperfect. Human biases and cognitive limitations constrain what institutions and decisionmakers will do, even when provided with the best information. It is important, therefore, to analyze how democracies can capitalize on this phenomenon.

To do this, it is worthwhile pulling together some themes that have arisen across the different categories of surprise. One set involves the mechanisms for inflicting surprise and the limitations of those mechanisms; the other addresses whether democracies are at a disadvantage compared with authoritarian regimes.

Observations from History

Seven themes emerge from the historical experience:

- Intelligence and technology create opportunities.
- Secrecy is vital and achievable.
- Deception is real.
- Doing the unexpected uses an adversary's beliefs against them.
- Generating surprise is often uncomfortable for the perpetrator.

95 For an extended discussion, see Cancian, *Coping with Surprise*, ch. 3, "The Inevitability of Surprise."

- Adversaries react, so effects are temporary.
- Successful surprise rarely wins wars alone. Thinking about “what next” is vital to ultimate success.

Intelligence and Technology

Opportunities for surprise do not just happen; they must be created. Intelligence identifies adversary weaknesses and opportunities for exploitation. Policymakers can then seize the opportunities presented. Good intelligence also allows decisionmakers to target successful deception by playing to the adversary’s expectations.

Technology creates opportunities by developing new systems or modifying existing systems to generate unforeseen new capabilities. These new technologies create opportunities for battlefield surprise. However, this requires a robust technology base so that it is never clear which technology will be the one that will generate the critical capability.

Opportunities for surprise do not just happen; they must be created.

Secrecy

Secrecy is fundamental to inflicting surprise because an unexpected attack, technological invention, doctrinal innovation, or diplomatic realignment that becomes known is not a surprise. Democracies can achieve secrecy. Although they leak profusely in peacetime for military information with a political element, the historical experience shows that operational aspects can be safeguarded.

Sebastian Rosato, in his critique of democratic peace theory, argues that democratic governments have historically demonstrated that they can maintain secrecy within their own societies and among their fellow democracies. The United Kingdom and France in the Suez Crisis, the United States and stealth technology, and the success of Israel in 1956 and 1967 demonstrate that democracies will sacrifice openness for military success when necessary. The inherent political legitimacy, official accountability, and flexible structures of democracies allow democratic leaders to withhold information in the name of national interests.⁹⁶

Deception

Deception is real. While it goes hand in hand with secrecy, deception is a separate concept. Secrecy conceals information to create a lack of awareness. Deception selectively discloses or conceals information to change an adversary’s view of reality. By manipulating a target’s view of reality, it creates uncertainty.

⁹⁶ Sebastian Rosato, “The Flawed Logic of Democratic Peace Theory,” *American Political Science Review* 97, no. 4 (2003): 597–599, <https://www.jstor.org/stable/3593025>.

DOD has doctrine on military deception.⁹⁷ Though the publication is long on procedures and short on illustrations (there is only a single example, the amphibious deception in Operation Desert Storm), the publication does make several points that the examples in this report illustrate.

The DOD publication defines the goal of military deception as “intended to deter hostile actions, increase the success of friendly defensive actions, or to improve the success of any potential friendly offensive action.” This can happen in a variety of ways, such as the adversary misallocating resources, revealing strengths and intentions, becoming conditioned to particular patterns of friendly behavior, or wasting combat power in low-value activities.

It makes the point that “the joint force commander must have accurate information,” but the D-Day example shows that while the commanders at the highest echelons need to have a clear picture, that need does not extend to all elements of the command. It does not matter if the deception fools many friendly forces, just as it fools an adversary. Indeed, that can enhance the effect. However, strict secrecy is required to ensure that adversaries do not form a correct picture.

The central element is the “deception story,” which is aimed at an adversary decisionmaker. The D-Day example is an excellent illustration of both the story (threatened invasions of Norway or Pas de Calais) and the target (the senior German leadership). The publication points out that it is not enough to make the target believe something. The target must act or not act in a way that is advantageous for the deceiver. The D-Day deception story also illustrates a point that Cass and London make: “Confirming an opponent’s expectations is always easier than trying to change his perceptions. Therefore, a good deceiver ‘helps’ the adversary build a false picture of reality by providing consistent, reinforcing clues, through multiple channels.”⁹⁸

Donald Daniel and Katherine Herbig, in their study of strategic deception, argued that the likelihood of the use of deception is based on two groups of factors: (1) the situation confronting an actor and (2) the historical view of deception within an organization or individual. In a great power competition, the hegemon is more likely to deceive when it has less confidence in its ability to hold off revisionist powers. On the other hand, the authors contend that “nations having no such [deception] apparatus or doctrine, or which allow them to atrophy, must overcome the inertia involved in creating or revivifying them.”⁹⁹

Stories about deception armies and elaborate ruses obscure that some deceptions can be quite simple. For example, the execution of a new maneuver will induce alarm in an adversary the first time. The level of alarm will decline as the maneuver is repeated. Eventually, the adversary becomes inured to the threat that the maneuver constitutes. At that point, the adversary is vulnerable to surprise.

Deception is also highly cost-effective, and the payoff, if the deception is successful, greatly exceeds the resources invested. The D-Day deception, for example, may have required more than 1,000 allied troops, but the result affected the actions of hundreds of thousands of Germans.

97 Joint Chiefs of Staff, *Joint Staff Publication 3-13.4, Military Deception* (Washington, DC: January 2012), vii, 1-5, 1-6, 1-7, https://jpsc.ndu.edu/Portals/72/Documents/JC2IOS/Additional_Reading/1C3-JP_3-13-4_MILDEC.pdf. Service specific publications on deception contain more detail, such as *Army Support to Military Deception* FM 3-13.4. There were also several classified references.

98 Kass and London, “Surprise, Deception, Denial and Warning,” 76.

99 Daniel and Herbig, “Propositions on Military Deception,” 2, 18.

Doing the Unexpected

Military historian Jon Hoffman observed that “surprise is achieved not so much by secrecy as by doing the unexpected.”¹⁰⁰ The experience of D-Day and the Inchon landings illustrate this point. Even if the adversary expects an attack, doing the unexpected—or what is non-standard for the organization—will still produce surprise. Conversely, as Allied planning for the invasion of the Japanese home islands shows, following standard procedures can sacrifice surprise even if secrecy is perfect.

Secrecy is still needed, since an unexpected action, if known, loses its power. Good intelligence and deception can enhance the impact of doing the unexpected by reinforcing an adversary’s belief that action will follow the conventional path. Finally, secrecy, deception, and doing the unexpected show how surprise can still occur in the modern era when transparency from public media and enhanced reconnaissance capabilities make so much information known. The problem, as the next section discusses, is that implementing such unorthodox activities is often hard for individuals and institutions.

“Surprise is achieved not so much by secrecy as by doing the unexpected.”

– Jon Hoffman

The Discomfort of the Unorthodox

The inertia described by Daniel and Herbig occurs because surprise is inherently transgressive. It achieves its effect by doing something different, unexpected, and often aggressive. Thus, inflicting surprise can be uncomfortable for the perpetrator, who must do things out of the normal routine and processes. As noted in the discussion about why inflicting surprise has received such little attention in the literature, strong forces work to keep institutions and individuals operating in conventional ways. What is unconventional is then regarded as unethical. What is unethical can be dismissed. Therefore, inflicting surprise often runs into the objection: “that is not the way we fight wars.”

It is not an empty concern. The United States fights its wars in specific ways for long-standing reasons that elected officials and the public have debated and settled upon. Contravening these requires due consideration. The vignette on instituting privateers during a future conflict (China vignette #1) illustrates this ethical choice—privateering would be militarily helpful and likely legal, but a break with two centuries of naval practice. Nevertheless, as this project has argued throughout, conflict against other great powers would be a desperate contest where the notion of comfort has little role.

100 Jon Hoffman, “The Legacy and Lessons of Operation DOWNFALL,” *Marine Corps Gazette*, August 1995.

Adversary Reaction and Temporary Effects

Surprise can produce a powerful advantage, but as many examples have illustrated, those effects are temporary. That does not mean that the tool is unusable or ineffective. However, instigators must have a plan for turning temporary effect into strategic advantage.

Surprise can debilitate the parties being surprised. This occurs in part through the physical advantage that arises from unexpected actions. If these were the only effects, the advantages would be real but not as powerful as they are in the real world. Surprise also produces shock, the psychological disorientation that results from the upsetting of plans and expectations. On the battlefield, this creates panic. Panic is not just fear that drives soldiers to get out of the way. It is the blind, unreasoning emotion that produces flight far beyond what is needed for actual safety.

At higher headquarters, shock appears as confusion and a slow reaction to events on the battlefield. Marc Bloch, a French veteran of World War I and staff officer in World War II, described the shock and paralysis of the French high command as the blitzkrieg rolled over it in 1940: “I stress the effects of surprise . . . The worst cases of mental paralysis were the result of that mood of outraged amazement, which laid hold of men who were faced by a rhythm of events entirely different from what they had been led to expect . . . They thought that everything was lost, and, therefore, acquiesced in the loss.”¹⁰¹

Even before the shock wears off, the victim begins to develop countermeasures. This comes under the rubric “the enemy gets a vote,” which reminds military planners that adversaries are not passive actors but react creatively and forcefully to threats. Thus, the advantage gained, while real, will be temporary. In surprise attacks, adversaries will alert their forces and reposition them to meet an attack. For technological surprise, adversaries will devise protective devices to negate or mitigate effects. For doctrinal surprise, adversaries will revise their doctrine and operating procedures to be less vulnerable. For diplomatic and political surprise, adversaries will offer their own inducements and incentives to get the targeted parties to remain aligned.

Thinking about “What Next”

Surprise can, in rare cases, be decisive. Examples include the use of atomic weapons against Japan in 1945 and the Israeli attack on Egypt in 1956.¹⁰²

Nevertheless, the temporary nature of the advantage means that surprise is usually not decisive on its own. It produces an advantage that must be combined with other actions to lead to ultimate success. Many of the iconic examples of surprise—from the German invasion of the Soviet Union in 1941 to the German use of gas in 1915 to the British and French invasion of the Suez Canal in 1956—ended in failure. As Friedman argues, planners need to look at a series of actions that lead to success rather than a single step.¹⁰³

101 Marc Bloch, *Strange Defeat: A Statement of Evidence Written in 1940* (New York: W. W. Norton & Company, 1968), 85, 91.

102 Debate continues about whether the decisive action in convincing the Japanese to surrender was the Soviet attack on Manchuria or the destruction of the atomic bombs. Regardless, even if atomic weapons were not decisive alone, they played an important role in Japanese decisionmaking to end the war.

103 Lawrence Freedman, “Beyond Surprise Attack,” *Parameters* 47, no. 2 (2017): 7–13; for a detailed discussion of this point regarding initial success and ultimate failure, see *Coping with Surprise*, x, 44–45.

These actions could include phases of a long military campaign. That implies planning for the forces and sustainment needed for an extended conflict. Planning for a protracted conflict contravenes a long history of militaries expecting short, decisive, and victorious campaigns.

The temporary nature of the advantage means that surprise is usually not decisive on its own. It produces an advantage that must be combined with other actions to lead to ultimate success.

Helfstein, as noted earlier, recommends a diplomatic initiative to end the conflict before the victim can fully muster a reaction. Diplomacy, in this case, would not be a dictated settlement or unconditional surrender. Rather it would be a negotiation to lock in gains. To be acceptable to the other side, the settlement would need to give them something, perhaps a partial withdrawal of occupied territory. There is a whole literature about how this might be accomplished.

Diplomatic action is often hard because it seems to compromise military gains that have been achieved. One thinks of the Japanese after their attack on Pearl Harbor and other successful surprise attacks conducted shortly afterward. The Japanese should have tried to negotiate a settlement at that point, locking in the critical elements for which they went to war: access to oil and a free hand in China. Instead, “victory fever” prevented them from accepting anything less than a much-expanded set of goals, which included occupying Burma, Malaysia, French Indochina, the Philippines, and many islands in the Western Pacific. Similarly, the Germans, after the failure of the Schlieffen plan in 1914, should have negotiated some settlement that gave up gains in the West to lock in gains in the East. Instead, they allowed themselves to be trapped in a two-front war that they ultimately lost.¹⁰⁴

Diplomatic compromise only gets harder as the conflict goes on because each side needs to justify the sacrifices made and to exact vengeance.¹⁰⁵

Similar criticisms arose about the United States in the wake of its invasion of Afghanistan in 2001. The United States and its local allies surprised the Taliban through the combination of local ground forces and U.S. firepower. This combination rapidly drove the Taliban out of the cities and, indeed, over the mountains into Pakistan. The United States set up a political conference to establish the future of Afghanistan. It might have included the remnants of the Taliban but felt no need to do that. Then, U.S. goals expanded. Initially, these had been limited to preventing Afghanistan from becoming a platform for future attacks against the United States. Later, the goals expanded to making Afghanistan a country in the Western image, with rule of law, representative government, a free economy, and protections for women and girls. As a result, the

104 For a discussion of victory fever, see Paul S. Dull, *A Battle History of the Imperial Japanese Navy (1941–1945)* (Annapolis, MA: Naval Institute Press, 1978), 340.

105 Kass and London, “Surprise, Deception, Denial and Warning,” 65.

United States was unable to turn its initial surprise into strategic success.¹⁰⁶

The bottom line: It is better to negotiate from strength immediately after successful surprise than from later weakness, after the initial advantage has worn off. Turning advantage into a positive outcome requires strategic self-discipline. Combatants cannot always get what they want, but they can get what they need.¹⁰⁷

Do Authoritarian Regimes Have an Advantage over Democracies?

There is a common perception that democracies face hurdles to inflicting surprise that autocracies do not. However, democracies have unappreciated advantages and authoritarian regimes have disadvantages, which on balance may even out.

Authoritarian regimes have the obvious advantage of centralized power and less accountability and are, therefore, better able to suppress information. Such regimes are notoriously secretive and can enforce secrecy with tools unavailable to democracies, such as secret police. They are also less accountable to the international community and its strictures. Therefore, authoritarian regimes can initiate surprise attacks and use weapons that are denied to democratic regimes, such as poison gas.

Yet, authoritarian regimes have some severe disadvantages. One disadvantage is that leaders rarely hear contrary opinions. Because they demand personal loyalty to ensure regime stability, officials around them quickly learn to suppress contrary views. Indeed, sycophancy flourishes as those who cater to the leader's desires get rewarded. As a result, such regimes will ignore warning signs of impending attack, as Stalin infamously did in 1941.

Democracies do have real disadvantages for inflicting surprise. The openness of information means that enterprising journalists and observers can ferret out information that the government would rather keep secret. Although there are penalties available against those who disclose such information, these are rarely imposed. The government itself leaks information profusely, with many "whistleblowers" disclosing information when they disagree with policy.

Democracies are bound more tightly to international norms and treaties, as their populations expect their government to be law-abiding. Thus, they are much more likely to seek approval from international bodies and their own legislatures.

Yet, democracies have unappreciated advantages. Although many secrets get exposed, the cacophony of voices can obscure sensitive information. Democracies are, in effect, white noise machines. Foreign audiences, and indeed domestic ones, often cannot distinguish between the signal and the noise. Some media speculation will be accurate, but a lot will be extrapolation, guesses, and pure bloviating. Authoritarian regimes often lack the tools to separate those. This applies to all the different kinds of surprise: strategic, technological, doctrinal, and diplomatic/political.

106 For an expanded discussion on the expansion of conflict goals, see Mark Cancian, *Tell Me How This Ends: Military Advice, Strategic Goals, and "Forever Wars" in Afghanistan* (Washington, DC: CSIS, July 2019), <https://www.csis.org/analysis/tell-me-how-ends-military-advice-strategic-goals-and-forever-war-afghanistan>.

107 With apologies to the Rolling Stones.

Democracies' open system better identifies opportunities and risks for the senior leadership. Both internally and externally, there is a tradition of a loyal opposition and speaking truth to power. This helps identify opportunities for inflicting surprise because, as noted earlier, such opportunities are often uncomfortable for institutions and individuals. While impediments exist even in democratic systems, the many channels for developing ideas make identifying opportunities easier.

Democracies are also inherently unpredictable, given that the cast of characters is always changing. New alignments of personalities can produce different policies, including the willingness to take unexpected actions.

Finally, despite all the leaks and openness, secrecy is possible. As seen in the examples about the Manhattan Project and stealth technology, democracies can limit knowledge about specific capabilities.

The bottom line is that while democracies may have different approaches to surprise, eschewing, for example, bolt-out-of-the-blue attacks against other great powers, democracies can nevertheless use surprise as an effective tool for gaining military advantage.

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Adversary Vulnerabilities

China and Russia

Using surprise as a military and political tool does not occur in a vacuum. It is a tool used against specific adversaries. Therefore, a discussion about gaining advantage through surprise requires some discussion about the vulnerability of adversaries.

This project has argued that the military advantage the United States has enjoyed since the end of the Cold War is disappearing when confronted by great power adversaries, especially in conflicts close to their homeland. This chapter, therefore, analyzes the vulnerabilities of U.S. great power adversaries, namely China and Russia. Both adversaries have great strengths, and these strengths receive much attention, as they should. However, both also have great vulnerabilities. These vulnerabilities provide an opportunity for the United States, as illustrated in the vignettes.

Both [China and Russia] have great vulnerabilities, and these vulnerabilities provide an opportunity for the United States.

Chinese Vulnerabilities

[Note: This is a summary of the discussion in Appendix B.]

Chinese military and economic growth has been impressive. China now has the second-largest economy in the world, or largest, depending on how one counts. Its military has dramatically expanded its capabilities, shifting from a mass homeland defense force to a regional power with global aspirations.

With its increasing economic and military strength, China has become more assertive. This is particularly evident in the South China Sea, where China has built a series of artificial islands and uses them to assert maritime and territorial rights in the region. It publicizes the infamous nine-dash line, which makes maritime and airspace claims far beyond what is recognized by other nations and international institutions. Its economic reach extends globally with the Belt and Road Initiative.

Eleven broad areas of vulnerability, divided into political/economic and military/diplomatic, stand out: (1) the need for domestic stability to ensure legitimacy, (2) China's Han-centric orientation, which serves to marginalizes minorities, (3) a social compact that trades political freedom for economic progress, (4) anti-corruption campaigns that produce disaffected elites, (5) a lack of allies because of threatening and abusive behavior, (6) a lack of recent combat experience in the People's Liberation Army (PLA), (7) a weak maritime situation, (8) reliance on energy imports and sea lines of communication, (9) limited long-range capabilities to project force beyond the first island chain, (10) weaknesses in the enlisted personnel system, and (11) the centralization of decisionmaking.

POLITICAL/ECONOMIC VULNERABILITIES

Obsession with Domestic Stability

During the long sweep of Chinese history, Chinese leaders ("the sons of heaven") were expected to maintain domestic order and prosperity as a measure of regime legitimacy. Therefore, the Chinese Communist Party (CCP) values stability and unity above all and is vulnerable to perceived threats to both its physical domestic security and ontological security. For China, stability and unity are not just desirable state attributes but indicators of ruler legitimacy. Any instability or dissent, therefore, threatens the regime itself.

Minorities Are Viewed as a Threat to Stability

The CCP's particular brand of nationalism relies on Han ethnocentrism. This marginalizes non-Han Chinese. Diverse ethnic groups, religious movements, and social movements are, therefore, considered threats to domestic stability and, hence, to the Chinese regime's legitimacy. China has over 100 ethnic groups that are distinctly different from the Han-Chinese majority, with the largest being the Uighurs, Mongols, and Tibetans. Chinese Uighur Muslims face particular discrimination. The CCP associates their practice of Islam with violent extremism and ideological threats to domestic stability. Heavy-handed policies against minorities create a vulnerability. Disaffected individuals can act against the state through individual actions or collectively in an insurgency.

Economic Growth Underpins Political Stability

Chinese political stability is built on economic prosperity. In effect, the CCP has told its people that although they will not have democratic institutions, an expanding economy will make the trade-off worthwhile. This social contract has so far been successful for both sides.

However, a conflict would disrupt this economic prosperity. The Chinese population might show resilience as many previous wartime populations did. On the other hand, a dramatic break of the social contract might spur domestic political instability. Thus, a severe economic downturn caused by, for example, a naval blockade does not just create individual discontent but potentially undermines the CCP's rationale for governing.

Rooting Out Corruption Creates Disaffected Elites

Rampant corruption exists within the ranks of China's government and party officials. The CCP's aggressive anti-corruption campaign threatens important party, state, military, and commercial actors, who might become open to outside enticements.

MILITARY/DIPLOMATIC VULNERABILITIES

China: The Lonely Power

China has many clients—countries that it does business with or that receive its investments—but few friends that will stand with it in a conflict. Thus, it is a lonely power. China's resulting inability to form a defensive alliance network is its greatest military weakness. This loneliness arises for three reasons.

- China's cultural and political uniqueness makes its structure unappealing to other states. This contrasts with the Maoist ideology of the past, which resonated with some elements of the global community.
- Perceived predatory investment practices from its Belt and Road initiative (BRI) make other countries wary of Chinese motives.
- Finally, China's aggressive actions in places such as the South China Sea alienate its neighbors.

The PLA Lacks Recent Military Experience

The PLA has not engaged in combat since 1988 during a minor naval skirmish with Vietnam. Beijing's last major conflict was its failed invasion of Vietnam in 1979 during the Sino-Vietnam War. Even the *PLA Daily*, China's military news outlet, has written about the problem of "peace disease," expressing Beijing's concern over its dearth of recent combat experience. This is a change from the late-twentieth century when veterans of the Civil War and the Korean War held military leadership positions.¹⁰⁸

An Exposed Maritime Position

China's economy is highly dependent on overseas trade, and its merchant marine is the world's largest. Consequently, its need for maritime security and open sea routes is acute.

However, China suffers from several maritime weaknesses. It has a long coastline to defend. The People's Liberation Army Navy (PLAN) must operate in a constricted battle space where its adversaries control the exits. Finally, China has created artificial islands in the South China Sea that are extremely vulnerable, yet it is committed to defending them. China depends on maritime trade but is in a weak naval position.

Dependence on Foreign Oil

China is the world's largest crude oil importer, despite energy reform and diversification efforts proposed by Xi Jinping.

Nearly 80 percent of China's oil transits chokepoints, primarily the Strait of Malacca, with alternative routes through the equally constrained Sunda Strait or the Lombok Strait. All of these chokepoints are vulnerable to interdiction. The PLAN is responsible for protecting sea lines of communication

108 Timothy R. Heath, "China's Military Has No Combat Experience: Does It Matter?," The RAND Blog, November 27, 2018, <https://www.rand.org/blog/2018/11/chinas-military-has-no-combat-experience-does-it-matter.html>.

(SLOCs), but its ability to do so at a distance from China's shores is limited. As a hedge against energy disruption, China keeps a strategic national petroleum reserve, but this would only cushion the economy for about two months.

Limits on Long-Range Capabilities

The PLA is most effective within the first island chain and is limited in its ability to project force into the western Pacific Ocean and beyond.

A Weak Enlisted Personnel System

Despite 40 years of force modernization, the PLA remains a conscription-based military with a mix of volunteers and conscripts, both of whom serve two-year terms. The short period of service prevents the acquisition of expertise, especially for maintaining complex weapons and executing combined arms operations. The large annual rotation of personnel also means that the force is not fully trained for large parts of the year.

Increasing Centralization Slows Military Decisionmaking

The CCP, led by Xi, has demanded absolute loyalty from the PLA and Chinese domestic security forces. This results in the increasing centralization of command. However, a command system that relies heavily on small elite groups at the top can produce bottlenecks that delay decisionmaking in a crisis.

Russian Vulnerabilities

[Note: This is a summary of the discussion in Appendix C.]

Russia's efforts to reassert itself as an influential player in regional and global affairs are unmistakable. An increasingly adventurous foreign policy under President Vladimir Putin has been marked by major military interventions in its "near-abroad," such as in the Crimea and Ukraine, and small but focused global interventions, such as in Syria and Venezuela. Despite this effort to regain great power status, Russia has many vulnerabilities that provide Western powers with opportunities for inflicting surprise. Several vulnerabilities act with a multiplier effect: an economic vulnerability can exacerbate a military or internal political weakness.

Eight broad areas of vulnerability stand out: (1) the Russian people's dissatisfaction with the regime, (2) weak governance stemming from cronyism, (3) economic dependence on fossil fuels, (4) instability on its periphery, (5) a lack of population east of the Urals, (6) weak alliances, (7) cyber defense shortcomings, and (8) narrow military modernization.

POLITICAL/ECONOMIC VULNERABILITIES

Dissatisfaction With the Regime

Although Putin himself remains popular, many Russians are dissatisfied with a regime that prospers while the economy has left many Russians behind. Because Putin's United Russia party controls the Duma, it alone bears responsibility for economic and social problems. There is no bipartisanship. The lack of an ideological basis for the party gives it flexibility in developing policy but also means that it does not generate the public excitement that a core ideology brings. As a result, the Russian state might not be able to sustain a prolonged conflict, particularly a conflict that involves a war of aggression and the inevitable setbacks that occur.

Cronyism

Russia's governance is weakened by Putin's inclination toward cronyism. This creates a group of trusted advisers and increases his personal authority. However, it also creates dual hubs of influence and authority that may clash in a crisis as the informal, personality-driven advisers contend with the formal agency chains of command. Putin's emphasis on loyalty has led him to elevate several incompetent individuals to positions of prominence, thus undermining government legitimacy. Finally, intense loyalty to the leader creates a bubble that inhibits the transmission of unwelcome news. Thus, Putin may find himself in a situation like that of Stalin before World War II, where warnings of impending disaster could not get through to the leader.

Dependence on Fossil Fuel Revenues

The Russian economy remains reliant on fossil fuel revenues, with oil and natural gas energy exports accounting for about 65 percent of the country's total exports. The revenues from these exports finance a wide range of social programs. Putin has pledged to increase these programs in the face of popular discontent. Thus, Russia faces both economic downturn and social unrest if these exports are interrupted. These exports go mainly to the west, by pipeline and by sea, and are easily interdicted.

Chechnya

These autonomous regions along Russia's southern flank were forced into the Russian Federation. They have never fully reconciled with that action. Sentiment for separatism could break out again.

In particular, Chechnya has been a region of instability and rebellion since its conquest by the Romanovs in the nineteenth century. In the post-Soviet era, it rebelled repeatedly and was twice crushed by military force. Putin has made a deal with Chechen strongman Ramzan Kadyrov that Kadyrov will have a free hand in governance as long as he remains loyal to Russia. This approach has been successful but may break down if Kadyrov dies or is pushed to break with Moscow by popular discontent.

Russia East of the Urals

This area is thinly populated, with only 2.5 people per square mile, far less dense than China to the south. Further, the Russian population in this area is decreasing as fewer people want to live in this austere region. That weakens Russia's grip on the vast area. There is also resentment that the resources extracted from the region are not adequately compensated by the central government.

MILITARY/DIPLOMATIC VULNERABILITIES

Alliance Tensions

Russia lacks the global network of clients and allies that the Soviet Union enjoyed during the Cold War. The two major allies that it has, Belarus and Kazakhstan, may not be reliable in a conflict.

Despite the historically close relationship between Russia and Belarus, its sole European ally, Russia's relationship with Belarus has become strained. Moscow has generously fulfilled Minsk's energy needs, but a recent rift between the two has created a potential diplomatic opening for the West. Further, the disputed reelection of Alexander Lukashenko has called into question the stability of the current regime and its policy of alignment with Russia. Despite Russia's considerable influence, Belarus has historically straddled diplomatic and military lines between Russia and Europe. Even a neutral Belarus would be a significant help to the United States and NATO.

Kazakhstan maintains relationships with both the United States and China in addition to its close ties to Russia. Its distinct culture provides distance from Russia. For example, it recently transitioned from the Cyrillic to the Latin alphabet. It is also becoming an energy rival to Russia as it develops its oil production capacity.

Although Russia does not base military troops in Kazakhstan, it does maintain two military installations, the Sary Shagan site for testing anti-ballistic missiles and the Baikonur Cosmodrome for space launches.

Weak Cyber Defenses

Although Russia has demonstrated strong offensive cyber capabilities, its cyber defenses are weak. Its computer infrastructure is aging, and its approach to cybersecurity is lackadaisical. Its early-warning mechanisms fail to identify most cyber threats to the country's computer systems. Russians' pervasive use of pirated software, most of which runs on outdated operating systems, further diminishes the country's cyber defenses.

Narrow Military Modernization

Militarily, Russia punches above its weight. It maintains a broad set of military capabilities across all warfighting domains. Nevertheless, the Russian military today is only a quarter of the size that it was under the Soviet Union and receives about a sixth as much of the GDP. This has forced Russia to make trade-offs, focusing its military modernization primarily on homeland defense. Thus, it has invested in nuclear strike systems, air defense, submarines, and internal security forces. It has had to sacrifice depth of capability and possesses few reserve forces. Thus, its ability to sustain a great power conflict is questionable.

It also lacks the global reach that the Soviet military, especially the Soviet Navy, possessed, although it does maintain some small-scale, rapidly deployable forces that it has used in Syria.

Russia began extensive reforms to its forces in 2008 after performing poorly in Georgia. These efforts appear to have been successful, as Russia's military has performed well in its incursions into Ukraine and Syria. These conflicts also provided its personnel with combat experience. However, these military performances against regional powers are not necessarily representative of how Russia would perform in a great power conflict.

Revitalizing an Old Tool

Surprise is a tool available to democracies. It is achievable within the moral, political, and military parameters that democracies operate under and should be embraced when the circumstances allow. However, thinking about surprise, and innovative operational concepts in general, has stagnated since the end of the Cold War because the United States had overwhelming military force against prospective opponents. Now, the tool needs to be revitalized. This chapter describes how to do that and thereby give the United States an advantage in future conflicts.

Imagining a Wartime Emergency

The *Coping with Surprise* project pointed out that war itself would be the first surprise. It has been over 70 years since great powers have fought each other. This Pax Americana—comparable to the Pax Britannica of the nineteenth century—has produced great benefits for democratic governance and economic prosperity, but it has created an expectation of perpetual peace. Although major conflicts are thankfully rare, they do happen.¹⁰⁹

Thus, one difficulty in thinking about inflicting surprise is imagining the circumstances in which such actions would be used. Surprise in this project focuses on great power conflicts. These conflicts involve times of national emergency and extreme situations. The tools that the United States would be willing to use go beyond those applied during normal peacetime competition.

109 For a discussion about the unexpected nature of the future conflict, see *Coping with Surprise*, ch. 1, “Why Think about Surprise Now? — The Long Peace.”

However, it is difficult in peacetime to imagine what wartime exigency might be like. For example, during the interwar period, U.S. naval thinking rejected unrestricted submarine warfare because of existing treaties and the adverse reaction to similar German actions during World War I. This shaped the design and training of the submarine force, emphasizing deck guns instead of torpedoes and tying submarine maneuvers to the battle fleet. Yet, when war broke out, the United States decided within hours to conduct unrestricted submarine warfare against Japan. The attack on Pearl Harbor had been so traumatic that it wiped away two decades of peacetime thinking. The price was that it took several years before the submarine campaign became fully effective.¹¹⁰

As the submarine example shows, it is hard to capture the demands of the wartime environment during the quiet years of peace. The closest that contemporary Americans have come to experiencing something like the trauma of Pearl Harbor is the experience of the terrorist attacks on 9/11. However, the attack lacked the anxiety of a war whose outcome was uncertain. No one believed the terrorists would defeat the United States and subjugate its people. It is a critical difference. Such a fear permeated the United States at the beginning of World War II and would color decisionmaking in a future great power conflict.

One difficulty in thinking about inflicting surprise is imagining the circumstances in which such actions would be used. Great power conflicts . . . involve times of national emergency and extreme situations. The tools that the United States would be willing to use go beyond those applied during normal peacetime competition.

The challenge, then, is to capture the decisionmaking environment of a great power conflict. Such an environment would involve higher casualties than experienced in the last half-century, material losses beyond those experienced since World War II, and attacks on the homeland such as have not occurred since the Civil War.

Even in the early stages, a great power conflict would likely inflict thousands of casualties. A missile salvo exchange in the Pacific in which the United States lost a carrier would cause thousands of casualties in a few minutes. This could happen even though the carrier is in a supposed sanctuary. There are analogs in earlier conflicts. For example, at the beginning of the Solomons campaign of World War II, the United States lost three cruisers (and the Australians lost a fourth) and had another damaged, with 1,700 casualties in a single night (August 8-9, 1942). Over the campaign, the United States lost about a ship a week in just that one region.¹¹¹

110 Thomas C. Hone and Trent Hone, *Battle Line: The United States Navy 1919-1939* (Annapolis, MA: Naval Institute Press, 2006), 110-126.

111 For a vivid description, see Richard Newcomb, *Savo: The Incredible Naval Debacle off Guadalcanal* (New York: Holt, Rinehart,

An even more dramatic example occurred at the beginning of World War I. On September 19, just weeks after war began, the German submarine U-9 sank the British cruisers Hogue, Aboukir, and Cressy, within 70 minutes, causing 1,450 casualties. The shock struck the British public especially hard because most of the sailors had been reservists, recently called up from their civilian lives.¹¹²

Aircraft carriers get a lot of attention and would be targeted in any Chinese naval campaign. Although aircraft carriers are hard to sink because of their size, severe damage to one or more would be a shocking visual to an American public accustomed to naval monopoly. Severe damage to a nuclear carrier might also involve the release of radioactive material, with all the public anxiety that would entail.

Land warfare, such as might occur in Eastern Europe, could also produce mass casualties rapidly. In one now-infamous case in 2014, two Ukrainian mechanized infantry battalions, about 1,000 troops, “were virtually wiped out” in three minutes from a well-planned Russian artillery strike.¹¹³ During the “Black Hawk Down” incident of 1993, the sight of an American corpse being dragged through Mogadishu shocked the U.S. public. What would pictures of fields of American corpses do?¹¹⁴

A great power conflict would also produce attacks on the homeland. Even if the great powers refrain from kinetic attacks against the hinterland, cyberattacks would certainly occur. Thus, the American public would feel the effects of war in a way that it has not since the early-1940s.

Thus, many national security options that are now regarded as unthinkable become plausible when decisionmakers face extreme circumstances. Options for inflicting surprise that would be rejected during times of peace would then become attractive. Many of the vignettes in the appendix appear excessive when viewed from a peacetime perspective. In an environment where the United States has suffered thousands of casualties and more occur every day, the actions become acceptable, even attractive.

Academic studies back up this phenomenon. Even for something as extreme and taboo as nuclear weapons, studies have found that the American people would support a nuclear strike when presented with a scenario with a sufficient risk of American casualties.¹¹⁵

One study found that “a large percentage of Americans would approve of a conventional bombing attack designed to kill 100,000 Iranian civilians in the effort to intimidate Iran into surrendering.”

The bottom line is that options for inflicting surprise should not be rejected as too extreme without trying to imagine the wartime circumstances under which the actions would be implemented.

and Winston, 1961), 257.

112 For an extended discussion of the sinkings and the public reaction, see James Goldrick, *The Kings Ships Were at Sea: the War in the North Sea August 1914 - February 1915* (Annapolis, MA: Naval Institute Press, 1984), 126-135.

113 Philip A. Karber, “Lessons Learned from the Russo-Ukrainian War: Personal Observations,” Johns Hopkins Applied Physics Laboratory and US Army Capabilities Center, July 8, 2015, 18, <https://prodev2go.files.wordpress.com/2015/10/rus-ukr-lessons-draft.pdf>.

114 For description of the incidents, see Mark Bowden, *Black Hawk Down* (New York: Atlantic Monthly Press, 1999), 325-326.

115 These findings came from a survey experiment where participants were asked about use of force in a hypothetical war with Iran. Scott Sagan and Benjamin Valentino, “Revisiting Hiroshima in Iran: What Americans Really Think about using Nuclear Weapons and Killing Noncombatants,” *International Security* 42, no. 1 (Summer 2017): 41-79, doi:10.1162/ISEC_a_00284.

A Different Mindset

It is important to keep the broad context in mind: for every surprise that has happened historically, there is a party that suffered the surprise and another that inflicted it. Someone saw and seized the opportunity. This requires an aggressive mindset that is seen in some military commanders. General Mattis was famous for it, but others, General Stanley McChrystal and General David Petraeus, displayed similar characteristics. However, military bureaucracies tend to be cautious, applying the peacetime practices of predictability, routine, and orthodoxy, even in wartime.

Ulysses S. Grant once railed against this kind of defensive thinking: “I am heartily tired of hearing about what Lee is going to do. Some of you always seem to think he is suddenly going to turn a double somersault and land in our rear and on both of our flanks at the same time. Go back to your command and try to think what we are going to do ourselves, instead of what Lee is going to do.”¹¹⁶ General Robert E. Lee had repeatedly surprised the Army of the Potomac, and the Union senior commanders had become extremely cautious as a result. Grant had come from the western theater, where the Union forces had been more successful and moved forward relentlessly. He was exhorting his subordinates to be more confident and proactive.

The point applies to inflicting surprise. As noted earlier, inflicting surprise is a transgressive and aggressive act that is often uncomfortable for institutions and individuals. It requires a wartime, proactive, unrestrained mindset that is often not rewarded in peacetime.

The people who are good at it may not be the ones who follow customary bureaucratic practice. One thinks of General George Patton in World War II, an imaginative general who did the unexpected but was constantly in political trouble because of his statements and actions. For example, he infamously slapped a soldier suffering from traumatic stress and had to make a formal and public apology. After the war, he made comments implying that the United States should go to war with the Soviet Union.

“I am heartily tired of hearing about what Lee is going to do Go back to your command and try to think what we are going to do ourselves, instead of what Lee is going to do.”

– Ulysses S. Grant

Thus, the military services may need to make a place for unorthodox thinkers. There are institutional bases for doing this. With regard to surprise, proponents can point to the fact that surprise is one of the nine principles of war contained in joint publications. It thus has some standing in military doctrine.¹¹⁷ Further, the *National Defense Strategy* exhorts the military services to foster a competitive mindset to “outthink, outmaneuver, out-partner, and out-innovate” adversaries.”¹¹⁸

116 Horace Porter, *Campaigning with Grant* (New York: Century Company, December 1896).

117 Joint Chiefs of Staff, *Joint Publication 1, Doctrine for the Armed Forces of the United States* (Washington, DC: Department of Defense, July 2017), I-3, https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp1_ch1.pdf.

118 *National Defense Strategy*, 5. One can hear Secretary of Defense Mattis’s voice in this.

The Ethical, Normative, and Legal Dimension of Surprise

Pulling in the opposite direction is the ethical dimension of surprise—a new dimension for this project. In earlier discussions about coping with surprise, ethical considerations rarely arose. An adversary had surprised the United States. The task was to understand the nature of the surprise and prevent it from happening again. The responses were bureaucratic, organizational, educational, or budgetary. They rarely involved an ethical or normative choice.

When the United States initiates the surprise, normative considerations arise immediately because the scope of decision is much broader. There is agency because the surprise, and all the consequences that flow from it, can be initiated or not. Thus, normative considerations cannot be ignored if surprise is to be a usable instrument of policy.

One difficulty in making these decisions is confusion about the appropriate standards to apply, peacetime or wartime. Surprise, as used in this project, applies during great power conflicts. These conflicts involve extreme situations and times of national emergency. The tools that the United States would be willing to use go beyond those applied during normal peacetime competition.

Although there is a different set of rules for wartime than peacetime, wartime emergencies do not override all ethical, normative, or legal considerations. For example, the United States never used poison gas in World War II, even when the application might have been practical and the risk of retaliation low.¹¹⁹ Navigating this dilemma, between the Scylla of ethical obligations and the Charybdis of national emergency, requires some forethought.

As noted above, inflicting surprise is often transgressive, upsetting previous practices and procedures. Many of these restrictions are conventions, agreed on methods and practices. There is a key difference between doing something that contravenes a convention and doing something that is illegal or unethical. For example, during the interwar years, the United States refrained from code-breaking of diplomatic traffic and acquiring the resulting advantage on the theory, as Henry Stimson said, “gentlemen don’t read each other’s mail.”¹²⁰ That was a convention that the United States eventually overturned when existential threats and technological opportunities provided the right incentives.

The discussion below provides a short examination of ethical concerns in the four categories that this project has used: surprise attack, technological surprise, doctrinal surprise, and political/diplomatic surprise.

Surprise attacks present the clearest moral dilemma. The United States does not attack countries out of the blue without some warning or immediate provocation. Even in short-notice attacks such as on Grenada in 1983 or Panama in 1989, the United States provided clear diplomatic communication about unacceptable behavior. In the case of Panama, the United States had demanded that Noriega relinquish

119 The United States apparently considered using poison gas on the island of Iwo Jima rather than staging a ground assault in 1945. The island was isolated, had no civilian population, and promised to be a costly battle. However, President Roosevelt denied the proposal. See Joseph Alexander, *Closing in: Marines in the Seizure of Iwo Jima* (Washington, DC: Marine Corps Historical Center, 1984), 48.

120 The original quotation was contained in Stimson’s memoirs in Henry L. Stimson and Bundy McGeorge, *On Active Service in Peace and War* (New York: Harper & Brothers, 1948), 188, cited in Ariel Levite, *Intelligence and Strategic Surprises* (New York: Columbia University Press, 1987), 5.

power, and the Panamanians had actually declared war on the United States. In the case of Grenada, the United States had warned the government about its alliance with Cuba. Typically, the United States focuses on fighting its wars as defensive measures after an opponent has taken the first steps to break the peace. The beginning of World War II, with the Japanese attack on Pearl Harbor, provides the iconic case of moral clarity. The Civil War falls in this category because of the South's secession and its firing of the first shots on Fort Sumter. The Korean War and Desert Storm provided similar moral clarity since adversaries attacked an ally, though not the United States directly.

Although there is a different set of rules for wartime than peacetime, wartime emergencies do not override all ethical considerations. . . . Navigating this dilemma, between the Scylla of ethical obligations and the Charybdis of national emergency, requires some forethought.

No examples of surprise against a great power such as the German invasion of Russia present themselves for the United States. However, as described in Chapter 3, there are instances when the United States has achieved surprise against regional opponents. The U.S. invasions of Panama in 1989, Grenada in 1983, and Iraq in 1991 and 2003 all achieved an element of surprise. These shared certain attributes to deal with the ethical question of surprise attack: ultimatums to the target country specifying the objectionable behavior and what was needed to preserve peace, acts of Congress to achieve domestic legitimacy, and UN or multilateral resolutions to achieve international legitimacy.

These actions also mitigate adverse reactions by the international community. Although the United States has the ability to fight alone, coalitions increase both the forces available and domestic political support. The 1956 British and French attack on the Suez Canal illustrates a failure in this regard. As described earlier, the attack successfully achieved surprise, but the adverse United States and Soviet reactions caused a political failure.

Technological surprise seems most straightforward because it involves new weapons employed in a conflict. Since all weapons must comply with international agreements about their use and configuration, surprise weapons are no different. Similarly, doctrinal surprise, putting together new concepts of operation from existing technologies and capabilities, also has ethical guidelines. The same legal and treaty restrictions that bind all wartime operations also bind new concepts.

A key consideration for both is collateral damage, generally a euphemism for civilian casualties. Because the new weapons and operational concepts have not been used before, their effects may not be entirely understood. It is not enough to satisfy internal ethical concerns. Use of these new weapons and operational concepts must also stand up to external scrutiny. Otherwise, perceived callousness toward civilians can undermine legitimacy.

Moral considerations often arise in the opening phases of a conflict when it is unclear which set of rules apply, wartime or peacetime. This is particularly true for technological and doctrinal surprise

since they can be employed at any time. Several of the vignettes get at this moral ambiguity. Does the preemptive use of new weapons at the beginning of a conflict but before kinetic operations begin constitute a violation of peacetime norms or a sensible wartime action? The vignette on mining the Taiwan Straits (China vignette #5) raises this question. The vignette's perspective is that it is better to contravene convention and prevent a war than to follow convention and fight a war. The preemptive action forces the other side to make the decision about using lethal action first. Nevertheless, others might have a different view.

Diplomatic/political surprise involves giving inducements to foreign parties to support U.S. interests in some way. The classic option is to have a foreign power ally itself to the United States or, if linked to an adversary, declare neutrality. Diplomatic/political surprise can also involve encouraging domestic opposition groups to hinder an adversary's war-making powers. Either of these actions may include an element of duplicity or moral compromise. As the case study on Nixon going to China shows, foreign governments may demand concessions with ethical dimensions. In the case of China, the demand was for classified material, compromise on Taiwan, and support for Pakistan.

Another consideration is whether the United States is inducing the other party to accept too much risk. For example, during the Cold War, the subjugated peoples of Eastern Europe rose periodically against occupation by the Soviet Union: East Germany in 1953, Hungary in 1956, and Czechoslovakia in 1968. However, the crackdowns were so severe that the United States decided not to encourage further uprisings. Thus, during the Polish crisis of 1986, the United States encouraged the Polish resistance to employ only nonviolent means.¹²¹

The Afghan resistance, encouraged and supported by the United States (and many others), eventually defeated the Soviet occupation. However, the cost to the Afghan people was immense, 1 million civilians dead and 5 million displaced as refugees. There is no easy answer here; the foreign actors have agency and can accept or reject what the United States is offering. In Afghanistan, for example, the United States did not create the insurgency or control it. Nevertheless, the United States cannot completely divorce itself from the consequences of its diplomatic and political actions.¹²²

So, what do these ethical concerns mean for planning surprise? The key insight is recognizing that inflicting surprise has an ethical dimension that is generally not present when thinking about how to cope with being surprised. There are, therefore, additional steps in thinking about how to use the tool.

- Think about ethical concerns ahead of time to avoid a last-minute clash.
- But do not get trapped by convention. Imagine what wartime circumstances will be.
- For surprise attacks, build legitimacy through actions by Congress and international bodies.
- For weapons and doctrine, recognize the effect they might have on civilians. The various international treaties and conventions do not provide absolute protection for civilians, but they do provide a lot.
- For diplomatic and political surprises, do not ignore the implications of what is being encouraged.

121 See, for example, Seth Jones, *Covert Action: Reagan, the CIA, and the Cold War Struggle for Poland* (New York: Norton and Company, 2018).

122 For the enthusiasm to support resistance and the postwar effects, see George Crile, *Charlie Wilson's War* (New York: Atlantic Monthly Press, 2003), "Epilogue – Unintended Consequences," 507–525.

- To help with thinking about peacetime versus wartime standards, connect the action with the circumstances under which the action would be undertaken. For this, an “if-then” construct is often helpful: if these circumstances occur, then this weapon would be appropriate.

Surprise as an Enhancement to Deterrence

This would appear to be a contradiction. Surprise involves secrecy, but deterrence involves making capabilities known so an adversary will be persuaded against taking certain actions. However, surprise deters because of both what adversaries know and fear and what they are not sure about but also fear.

Deterrence seeks to influence an adversary’s cost-benefit analysis to prevent a future attack from taking place. It takes two forms, deterrence by denial and deterrence by punishment. Deterrence by denial threatens to defeat adversary forces outright, denying them their objective. Deterrence by punishment promises swift, painful response to an adversary attack, threatening that the objective they seek is not worth the cost.¹²³

Surprise deters because of both what adversaries know and fear and what they are not sure about but also fear.

Surprise reinforces deterrence through both mechanisms, what adversaries know and what they fear. Adversaries know about U.S. capabilities but do not know how these capabilities might be employed. For example, the United States is known to have amphibious forces, but these can appear in a surprise attack anywhere on an adversary’s shores. Deterrence also works through what is not known. Adversaries can never be sure if there are plans for attacks in unexpected places, new technologies, novel doctrines, or unforeseen diplomatic moves. The United States has shown the ability to produce these kinds of surprise in the past. This unpredictability can undermine an adversary’s ability to confidently judge the next U.S. move, potentially strengthening the deterrent effect.¹²⁴

Cold War U.S. naval exercises showed how demonstrated capabilities can be both surprising and enhance deterrence. As former secretary of the navy John Lehman described in his memoirs, the maritime strategy of the 1980s emphasized hemming the Soviet Union in with naval forces. Ships would go silent, steam rapidly, and appear in unexpected places. Thus, fleets popped up in the Norwegian Sea, Norwegian fjords, the Arctic, and the Barents Sea. On one occasion, the first that the Soviets knew about a fleet off their coast was a massed air exercise over one of their fleet units. The Navy was making the point that in wartime a U.S. fleet could show up anywhere.¹²⁵

123 Glenn H. Snyder, *Deterrence and Defense: Toward a Theory of National Security* (Princeton, NJ: Princeton University Press, 1961), 14–16.

124 Alex S. Wilner, *Deterring Rational Fanatics* (Philadelphia, PA: University of Pennsylvania Press, 2015), 22.

125 John Lehman, *Oceans Ventured: Winning the Cold War at Sea* (New York: Norton and Company, 2018), especially xvii, 197–198, 214–215.

Deterrence can also arise from capabilities that adversaries imagine and fear, a surprise that might happen in the future. The United States has pulled off some tremendous feats in the past—technological, doctrinal, and diplomatic/political—and prospective adversaries can never be sure what the United States might do in the future.

For example, in 1968, Soviet submarine *K-129* had a catastrophic accident and sank 1,600 miles northwest of Hawaii. The Soviets did not know what had happened and went out looking for the sub when it did not make contact at the scheduled time. However, they did not know where to look. The United States did know where to look because it had picked up sounds of the sinking on its underwater acoustic arrays. The United States then sent a deep underwater probe to pinpoint the exact spot. Finally, it built an elaborate mechanism, the *Glomar Explorer*, to salvage the wreck, including its nuclear missiles and highly classified communications equipment. A cover story about deep-sea mining concealed the expedition's real purpose. In 1974, the ship recovered a portion of the submarine, though most was lost due to an accident. To the United States, it was a failure. To the Soviet Union, it was yet one more reminder of U.S. technological prowess. The Soviet Union did not even know where the submarine was. The United States not only knew where it was but went and got it.¹²⁶

Finally, just as U.S. planners will often examine the worst-case scenario, so too will adversary planners. In the face of uncertainty about U.S. capabilities and potential surprises, adversary planners may ascribe capabilities beyond what the United States has actually achieved. Ballistic missile defense in the 1980s is an example. Although the problem turned out to be more difficult than U.S. advocates had believed, the Soviets were concerned then, and the Russians still are, about what the United States might be able to develop. Their fears about U.S. technological prowess drove a kind of panic and helped end the Cold War.

Some Practical Actions

This project aims to help policymakers. To accomplish that goal, this section lays out some practical actions that arise from the theoretical framework developed in this report. Many of the actions described here will be broadly applicable, not just for identifying and encouraging opportunities for generating surprise but also for coping with surprise inflicted by adversaries and for innovation in general.

DEMOCRACIES NEED SECRECY

Surprise must begin with secrecy. This is uncomfortable for societies depending on openness from their government. But secrecy is vital, not just for surprise, as the historical analysis has shown, but for all military operations.

Yet, secrecy is a tricky thing in a democracy. There is a long-standing criticism that government sometimes uses secrecy to conceal embarrassing political facts. The study cannot adjudicate that tension except to note its existence and recognize that historically democracies can achieve surprise even when dealing with a free press and democratic accountability.

The development of U.S. congressional intelligence oversight committees may provide a model for reconciling this tension, where a select number of members can review classified plans and hold intelligence agencies accountable while limiting exposure of sensitive sources, planning, and operations.

126 For the full story, see Norman Polmar and Michael White, *Project Azorian: The CIA And The Raising of the K-129* (Annapolis, MA: Naval Institute Press, 2010).

ENHANCING THE OPPORTUNITIES

DOD can take some actions to enhance the opportunities for using surprise in future conflicts.

Technology

Offices such as the Strategic Capabilities Office (SCO) and the Defense Innovation Unit (DIU) are experimenting with new technologies. DOD's approach should be to let 100 flowers bloom. It is hard to know ahead of time which technologies will pan out. Special access programs can protect sensitive new technologies.

Planners should remember that the use of new technologies for surprise should be massive. They should not use small amounts as an operational test to better understand how the technology works and what the appropriate procedures and organizational structures are. The knowledge gained is not worth the surprise lost. Thus, it is essential to maintain facilities for secret testing. Such testing mitigates the risk of prematurely revealing new technologies and matures the technology without a full and highly visible operational test.

Doctrine

Doctrinal surprise, like operational innovation in general, requires a vibrant intellectual environment to surface and assess innovative concepts. Although the military services are often regarded as rigidly hierarchical and intolerant of dissent, they actually have wide-ranging discussions in their professional periodicals. For example, the Navy's professional periodical, *Proceedings of the U.S. Naval Institute*, regularly hosts debates about the future of the carrier, with some arguing against it and some arguing for it. That independence needs to be protected.

Diplomacy

The 2018 NDS notes, indeed celebrates, the value of allies and partners. This facilitates diplomatic and political surprise. Therefore, maintaining diplomatic outreach and a strong network of allies and partners helps produce surprise by enhancing awareness of potential opportunities, as well as facilitating many other advantages in great power conflicts.

OPPORTUNITIES IN NEW DOMAINS

The new domains of cyber and space offer opportunities for surprise because the rules for employment are often less strict. Further, these domains do not have human beings in them, thus reducing the possibility of casualties and minimizing the risk of escalation.¹²⁷

Cyber, for example, is moving away from a purely defensive policy toward a more offensive stance that includes surprise. In 2008, President Bush launched the Critical National Security Initiative. The Obama administration followed with establishment of the U.S. Cyber Command. With the publication of the *Department of Defense Cyber Strategy* in 2018, the United States included consideration of offensive operations at the strategic level. The strategy recognized two new areas: (1) the elevation and coordination of cyber forces with conventional forces (sea, air, and land) during wartime, and (2) U.S. adversaries' dependence on networks as a vulnerability to exploit. The strategy stated explicitly that

127 Jim Chen, "Cyber Deterrence by Engagement and Surprise," *Prism* 7, no. 2 (2017): 100-107, <https://cco.ndu.edu/PRISM-7-2/Article/1401948/cyberdeterrence-by-engagement-and-surprise>.

“the Joint Force will employ offensive cyber capabilities and innovative concepts that allow for the use of cyberspace operations across the full spectrum of conflict.”¹²⁸

No international agreements restrict cyber activities. This is a problem for protecting peacetime use of cyberspace, but also an opportunity for planners.

A similar situation exists with the space domain. CSIS’s Aerospace Security Project identified four types of weapons that states or even some non-state actors can use to disrupt the satellite networks: kinetic counter space, non-kinetic counter space, electronic weapons, and cyber weapons. The authors—Harrison, Johnson, and Robinson—also identify how each great power competitor has made advancements in their offensive space capability. The Chinese, for example, have continued to develop anti-satellite weapons since the 2000s. Russia is also making a concerted effort to develop and test new anti-satellite technologies.¹²⁹

In December of 2019, the United States formally established the U.S. Space Force (USSF) as the sixth branch of the armed forces. USSF joined USSPACECOM to enhance U.S. capabilities in space. Chairman of the Joint Chiefs of Staff General Mark A. Milley acknowledged that “our adversaries are building and deploying capabilities that threaten us, so we can no longer take space for granted.”¹³⁰

As with the cyber domain, space has few legal restrictions. One CSIS report noted that “few international norms exist.” The major treaty forbids operating nuclear weapons in space but not much else.¹³¹ As a result, there is broad scope for operations of all kinds. Space Command is working on ways to use space creatively. Surprise is one operational concept that might fit.¹³²

USING EXERCISES, EXPERIMENTS, AND WARGAMES TO TEST CONCEPTS

The *Coping with Surprise* project discussed how wargames, experiments, and exercises could be used to anticipate surprises that an adversary might employ. Those same tools can be used to explore opportunities for inflicting surprise.¹³³

Wargames—“a simulated battle or campaign to test military concepts and usually conducted in conferences by officers acting as the opposing staffs”—provide the best opportunity for thinking about surprise because they are relatively inexpensive and flexible. To be valuable, however, they need to connect to planners, employ free play, be numerous, and remain private.¹³⁴

128 Department of Defense, *Summary Department of Defense Cyber Strategy 2018* (Washington, DC: 2018), https://media.defense.gov/2018/Sep/18/2002041658/-1/-1/1/CYBER_STRATEGY_SUMMARY_FINAL.PDF.

129 Todd Harrison, Kaitlyn Johnson, and Thomas G. Roberts, *Space Threat Assessment 2019* (Washington, DC: CSIS, April 4, 2019), <https://www.csis.org/analysis/space-threat-assessment-2019>.

130 “Department of Defense Establishes U.S. Space Force,” U.S. Department of Defense, December 20, 2019, <https://www.defense.gov/Newsroom/Releases/Release/Article/2045981/departments-of-defense-establishes-us-space-force/>.

131 Kaitlyn Johnson, *Key Governance Issues in Space* (Washington, DC: CSIS, September 2020), https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/200901_Johnson_GovernanceInSpace_WEB.pdf.

132 Air Force Space Command, *The Future of Space 2060 and Implications for U.S. Strategy* (Washington, DC: 2019), <http://www.spaceref.com/news/viewsr.html?pid=52822>.

133 For the full discussion of wargames, experiments, and exercises, see *Coping with Surprise*, ch. 8, “What to Do – Anticipation.”

134 “War-game,” Merriam-Webster, <https://www.merriam-webster.com/dictionary/war-game>. The DOD dictionary does not include definitions for “wargame” or “experiment.”

- Wargames need to be connected to planners so that the insights obtained can be used in current and future operations rather than end up on a shelf.
- Free play is needed to incorporate the reactions of a thinking opponent and to allow friendly forces enough scope to try out new ideas.
- Having many games allows exploration of low-priority concepts or low-probability events. It is hard to know in advance which ideas will really pay off, so exploring many ideas increases the chances that the most promising will get attention.
- Privacy is needed to investigate sensitive issues. This is especially true for opportunities to generate surprise because, as discussed frequently in this report, surprise is often aggressive and transgressive. At best, that can be unsettling to observers thinking about these issues in a peacetime environment. At worst, ideas will be suppressed and planners criticized for “insensitive” thinking.

Experiments—“an operation or procedure carried out under controlled conditions to test a hypothesis”—are the next step. Every wargame must make assumptions about how various functions will work in the real world. However, when these functions, or the technology underlying them, are new, the assumption may or may not be valid. Thus, an experiment is the next step for concepts or technologies developed in a wargame. An experiment has real people and equipment execute a concept to see whether the concept works. The value for generating surprise is that experiments can illuminate where there are unexpected opportunities.¹³⁵

Exercises—“a military maneuver or simulated wartime operation involving planning, preparation, and execution that is carried out for the purpose of training and evaluation”—can have a role in identifying opportunities for generating surprise, but that role will be limited. There are several reasons for this limitation. First, exercises are primarily intended to train troops and staff. That introduces many artificialities to maximize the training time and scope of activities for all the units and personnel involved. Exercises are expensive because large numbers of troops and equipment are operating. Finally, exercises must operate in real time and with the constraints of physics on movement. As a result, there are so many restrictions in terms of geography, forces, and timeline that their value for generating insights about future warfighting is limited.¹³⁶

Nevertheless, exercises can play a useful, if limited, role. There can be elements of free play so that commanders and planners can have an opportunity to think up ways to surprise adversaries. “Nonstandard” events can be allowed or injected, thus enhancing both the opportunity and incentive for generating surprise.

Exercises can send signals to potential adversaries. For example, following the actions of the Navy during the 1980s, naval units can demonstrate the ability to appear in unexpected places. The NDS talks about being “strategically predictable but operationally unpredictable.”¹³⁷ An example of this operational unpredictability was the Arctic operations of the Truman Carrier Strike Group in 2018. The

135 “Experiment,” Merriam-Webster, <https://www.merriam-webster.com/dictionary/experiment>.

136 Definition from Department of Defense, *DOD Dictionary of Military and Associated Terms* (Washington, DC: June 2020), <https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/dictionary.pdf>.

137 James Mattis, *National Defense Strategy*, 5.

objective was not only to rebuild the capacity to operate in that environment but to deliberately put resources in locations that potential adversaries would not expect.¹³⁸

Key Questions for Investigation

Ernest May, in his sweeping analysis of intelligence by different countries between the two world wars, concluded that the key to better wartime outcomes was not accuracy in making estimates—that was nearly impossible—but asking the right questions. These questions would focus policymaking on the right issues.¹³⁹ Here, then, are some of the high-impact questions that exercises, experiments, and wargames should examine. The services already look at many of these questions, so they are not unfamiliar. Nevertheless, there is value in laying them out so planners can keep them in mind when thinking about the future and how surprise might create opportunities.

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- Where is the adversary vulnerable? Planners already devote considerable effort to identifying the vulnerabilities of great power adversaries, so this is not a new idea. Worth keeping in mind, however, is that these vulnerabilities are not just military but include economic and social elements also. The existence of these vulnerabilities opens up opportunities for military plans. As noted, for example, China is very vulnerable to economic disruption.

The economic and social vulnerabilities imply a role for civilian experts to participate in defense and operational planning. These experts can bring functional and regional knowledge and help evaluate whether particular economic and social vulnerabilities are worth pursuing. Civilian involvement can be uncomfortable because military planning tends to be done in a stovepipe. There is an entire literature on how the civilian and military spheres are delineated and separated. However, as Eliot Cohen argues in his analysis of military-civilian strategic planning, the two cannot be separated at the highest levels and must be tied together.¹⁴⁰

138 Megan Eckstein, “Navy Leaders Say ‘Dynamic Force Employment’ Proving Successful in Truman Deployment,” U.S. Naval Institute, November 22, 2018, <https://news.usni.org/2018/11/22/navy-leaders-say-dynamic-force-employment-proving-successful-truman-deployment>; and Eugene H. Black and Jennifer Couture, “Dynamic. Distributed. Deadly.,” *Proceedings*, U.S. Naval Institute, February 2020, <https://www.usni.org/magazines/proceedings/2020/february/dynamic-distributed-deadly>.

139 Ernest May, *Knowing One’s Enemies: Intelligence Assessments before the Two World Wars* (Princeton, NJ: Princeton University Press, 1984), 504–508.

140 Eliot A. Cohen, *Strategic Command: Soldiers, Statesmen, and Leadership in Wartime* (New York: Free Press, 2002).

- Are there opportunities for attacks at unexpected times and locations? Crisis response and military planning tend to focus on the area of action, where forces are shooting at each other or about to shoot at each other. That is reasonable given the immediacy of the events. However, that focus creates a kind of tunnel vision that can blind planners to broader opportunities. Opening the aperture to look at other locations can inflict surprise, gain advantage, and shift the action to a more favorable venue.
- What new weapons might make an important difference? As Secretary of Defense Donald Rumsfeld famously stated, “you go to war with the [military] you have.”¹⁴¹ Thus, in thinking about conflict, planners use the tools they have available. When developing current operational plans, that is entirely appropriate. When thinking about the future, however, it misses an opportunity to think about new tools.

Wargames can test the value of new tools to see which ones really make a difference. Many new weapons could have some effect, but only a few might have strategic effects. Even the ones that have relatively limited effect might increase that effect if the use were a surprise. As the historical discussion noted, adversaries will immediately develop countermeasures, so previewing capabilities will reduce or even negate the impact of a new capability. German use of poison gas is an example here. Used massively as a surprise, it might have had strategic effects. Used as a routine weapon of war, it had only a minor effect.

- Are there diplomatic openings that could change the military situation? Diplomatic structures such as alliances and partnerships are often assumptions in wargames. That is not unreasonable, given that such wargames are typically run by military organizations. However, wargames can open up opportunities to think about how diplomatic rearrangements might affect the course of the campaign. It is, therefore, worthwhile bringing in some civilian participation to identify and assess the diplomatic elements. Some diplomatic insights may present opportunities for surprise; others may reinforce the long-established value of alliances for basing, force augmentation, and political legitimacy. All will be valuable.
- How does this end? Planning for follow-on actions is important because, as described earlier, surprises are rarely decisive on their own. They create advantages that set up follow-on actions, but follow-on actions are needed. Indeed, thinking about follow-on actions and conflict termination is important beyond just the context of surprise.

The nature of the follow-on action could be military or diplomatic. Ultimately, however, the conflict must end. There is an entire literature on conflict termination, so there is no need to review that here. It is enough to say that defining “victory” at the beginning of a conflict is a crucial step for ensuring that a plan gets there.

Avoiding Incentives for a First Strike or Nuclear Escalation

Although surprise can provide a powerful tool in great power conflict and even enhance deterrence,

141 Eric Schmitt, “Iraq bound troops confront Rumsfeld over lack of armor,” *New York Times*, December 8, 2004, <https://www.nytimes.com/2004/12/08/international/middleeast/iraqbound-troops-confront-rumsfeld-over-lack-of.html>; Rumsfeld actually said, “the *Army* you have,” but the implication was broader.

it can contribute to instability if not handled properly. One risk is that great power adversaries will believe that the United States is considering surprise attacks on them. Indeed, such may have occurred in 1983 when the United States launched a series of global exercises (“Able Archer”) that alarmed the Soviet Union enough that it thought a surprise attack might be imminent.

This is particularly dangerous in situations where there is a large first-mover advantage. Here there are risks with both adversary powers. In the western Pacific, the risk is naval. As Wayne Hughes points out in his immensely influential book on fleet tactics, missile salvos (as with naval aircraft strikes) provide a great advantage to the force that launches first. Thus, his mantra was: attack effectively first. That first attack can attrite the adversary, reduce the size of the answering strike, and allow time for defenders to fully prepare defenses against any retaliation.¹⁴²

A similar dynamic exists in Eastern Europe. If Russia thought that NATO might strike first, it would have great incentive to send its ground forces into Eastern Europe preemptively. That would accomplish a *fait accompli*, giving it bargaining leverage for any subsequent diplomatic negotiations.

Therefore, discussions about surprise need to be clear that it does not include consideration of surprise or nuclear attack on another great power. Public statements about the need for stability can help here. It also means that planners need to be aware of how friendly troop movements might look to an adversary in times of crisis. They should be cognizant of Roberta Hofstetter’s comment about the U.S. Pacific Fleet when it moved from San Diego to Pearl Harbor, Hawaii: a good deterrent also makes a great target.¹⁴³

There is also the risk of nuclear escalation. Both China and Russia have formidable nuclear arsenals. Extreme caution would need to be exhibited to ensure that the shock of surprise did not drive escalation across the nuclear threshold. Open warfare between two nuclear-armed, great power adversaries has so far been averted, and any opening moves in a conflict would have to take care to signal the limited nature of the conflict.

Discussions about surprise need to be clear that it does not include consideration of a surprise or nuclear attack on another great power.

In the early years of the Cold War, there emerged a large body of literature that attempted to grapple with how limited war could be waged in an age of nuclear weapons.¹⁴⁴ While much of this focused on

142 Wayne Hughes and Robert Girrier, *Fleet Tactics and Naval Operations*, (Annapolis, MD: Naval Institute Press, 2018).

143 Roberta Wohlstetter, *Pearl Harbor: Warning and Decisions* (Stanford, CA: Stanford University Press, 1962).

144 For a sample of this literature, see Robert E. Osgood, *Limited War: The Challenge to American Strategy* (Chicago: University of Chicago Press, 1957); Henry Kissinger, *Nuclear Weapons and Foreign Policy* (New York: Harper & Row, 1957); Bernard Brodie, *Strategy in the Missile Age* (Princeton, N.J.: Princeton University Press, 1959); Herman Kahn, *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960); Morton Halperin, *Limited War in the Nuclear Age* (New York: John Wiley & Sons, 1963); Thomas Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966); and Richard Smoke, *War: Controlling Escalation* (Cambridge, MA: Harvard University Press, 1977).

limited nuclear war, which is well outside the scope of this paper, some basic principles for keeping conflict below the nuclear threshold can be gleaned from this literature.

The key consideration is that political objectives must be well defined and limited. One critical component would be to not threaten an adversary's regime, as such threats may be viewed as existential and as warranting a nuclear response. The U.S. military joint concepts acknowledge this reality, noting in the *Major Operations Joint Concept* that effort must be made to focus on "disintegrating the adversary's military system, with less disruption to other national-level and societal related systems," which may minimize the escalatory use of weapons of mass destruction.¹⁴⁵

Limited means must also be employed while maintaining recognized mutually understood boundaries and thresholds. One clear boundary is to limit strikes on the adversary's homeland to military facilities and coastal areas. Unfortunately, except for a number of proxy wars and covert operations, there is comparatively little history of these being tested in open conflict among nuclear-armed great powers.¹⁴⁶

Finally, Keep the Lawyers in the Loop

This is not a popular recommendation in military circles, but it is necessary. As noted above, many actions that inflict surprise have ethical implications. Purely ethical questions can be handled by duly designated senior officials. However, there are also legal questions; for these, officials need to consult lawyers. Many potential surprises are transgressive. Transgressing conventions and expectations may be fine. Transgressing domestic and international law is not.

Take as an example the vignette on commissioning privateers, an action that would surprise not just adversaries but the U.S. public and elected officials as well. Although this mechanism is explicitly provided for in the Constitution, it has not been used for two centuries. An article that the author wrote with a collaborator explored the legal issues in depth and concluded that issuing letters of marque was still allowable under domestic and international law. However, the research shaped recommendations about *how* such a mechanism could be used.¹⁴⁷

Many other vignettes raise legal questions, whether it is laying mines at sea, conducting cyberattacks, or acquiescing to attacks on adversary leadership. All of these would need legal analysis for assurance that the actions are allowable under the laws of war. It might be that some actions are forbidden. More likely, domestic and international law would shape how and in what circumstances actions could be conducted.

Therefore, lawyers must be involved in reviewing plans for surprise. Indeed, the joint publication on deception makes that explicit recommendation.¹⁴⁸ Although planners might waive these considerations in peacetime, concerns will arise in wartime when the instruments are about to be used. That is not the

145 DoD, *Major Combat Operations Joint Operating Concept* (Washington, DC: December 2006), 12, https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joc_combatops.pdf?ver=2017-12-28-162012-383.

146 For a number of secretive, direct confrontations between the United States and Soviet Union, see Austin Caron, *Secret Wars: Covert Conflict in International Politics* (Princeton, NJ: Princeton University Press, 2018).

147 Mark Cancian and Brandon Schwartz, "Unleash the Privateers," *Proceedings*, U.S. Naval Institute, April 2020, <https://www.usni.org/magazines/proceedings/2020/april/unleash-privateers>.

148 Joint Chiefs of Staff, *Joint Publication 3-13.4 Military Deception* (Washington, DC: January 2012), https://jfcsc.ndu.edu/Portals/72/Documents/JC2IOS/Additional_Reading/1C3-JP_3-13-4_MILDEC.pdf.

place to discuss ethics. It sets up a clash between those who created plans for the surprise, often the military, and those who have awakened to ethical considerations, often the civilians.

One thinks of the Schlieffen plan, Germany's war plan before World War I, which called for movement through neutral Belgium in the event of war. When Germany was on the verge of ordering mobilization to initiate the plan, the Kaiser had a moment of panic, recognizing that by violating neutral Belgium, the plan was forcing Germany into a two-front war. The Kaiser did not have ethical qualms, but he recognized that others would. By that time, however, it was too late.¹⁴⁹

The field of operational law has received considerable criticism for narrowing military options and slowing military operations. Although the criticism is not entirely undeserved, the vast body of domestic and international law cannot be ignored. "Lawfare," the use of law to affect military operations, is real, and future commanders must deal with it in developing operational plans. The United States, as a nation of laws, is particularly vulnerable to such restrictions. As Professor William Eckhardt observes: "Knowing that our society so respects the rule of law that it demands compliance with it, our enemies carefully attack our military plans as illegal and immoral and our execution of those plans as contrary to the law of war. Our vulnerability here is what philosopher of war Carl von Clausewitz would term our 'center of gravity.'"¹⁵⁰

In striking a balance, all participants must be clear about what is prohibited by law and what contravenes long-term practice. Only the former is forbidden; the latter can be done, though there may be a political price to be paid.

149 Barbara Tuchman, *The Guns of August*, (New York: McMillan Company, 1962, 73-80).

150 William George Eckhardt, "Lawyering for Uncle Sam When He Draws His Sword," *Chicago Journal of International Law* 431 (2003), 4, <https://chicagounbound.uchicago.edu/cjil/vol4/iss2/12/>; for a full discussion of Lawfare and surprise, see Cancian, *Coping with Surprise*, "Lawfare—a new domain of conflict."

Appendix A

Vignettes on Inflicting Surprise

As noted in the first chapter, this study uses vignettes to illustrate potential instances of future surprise. Vignettes illustrate possibilities; they represent plausible futures, not predictions or recommendations. Each would require a thorough operational and legal review before being implemented.

The study tried to “open the aperture” when envisioning possible surprises. Thus, some vignettes may look imprudent and highly risky. Yet, the nature of surprise is that it often appears unreasonable. Nations may take greater risks and undertake unconventional actions when facing extreme threats, as a great power conflict would likely entail.

China

	Vignette	Vulnerability	Historical Analog
1	Privateers unleashed on Chinese global shipping	Maritime limitations	The United States used privateers to attack British shipping during the American Revolution and War of 1812.
2	Cruise missile strike on Chinese homeland	Maritime limitations	The United States undertook the Doolittle raid on Japan in 1942.
3	Covert arming of Uighur insurgency	Fear of domestic instability	The United States armed mujahidin in Afghanistan.
4	Swarm strike on Chinese naval bases	Lack of recent military experience	The British launched an air attack on the Italian naval base at Taranto in 1940.
5	“Quarantine” of China during a confrontation over Taiwan	Maritime limitations	The United States quarantined Cuba during the Cuban missile crisis.
6	Chinese Belt and Road assets shut down	Lack of international appeal	Germany loses its global trade and colonies during World War I.
7	Clandestine underwater acoustic array set up in South China Sea	U.S. strength: technology	U.S. acoustic arrays located sunken Soviet K-129 submarine in 1968.
8	Chinese bases outside the homeland captured or neutralized	Maritime limitations	Allies used maritime superiority to neutralize German overseas bases and economic interests during World War I.
9	Attack on a “command and control node”	Disaffected minorities	German army officers plotted the assassination of Hitler in 1944.

CHINA VIGNETTE #1

The United States Unleashes Privateers on Chinese Global Shipping

History: In both the American Revolution and the War of 1812, the United States commissioned privateers to raid the British merchant fleet. In the words of Thomas Jefferson, privateers made British merchants “feel, and squeal, and cry out for peace.”

The Future? The chairman of the National Intelligence Council has been closely watching a PLA buildup in eastern China since August. Although her concerns make it into the President’s Daily Brief, they are watered down in coordination by other China experts around the intelligence community who say that the Taiwan question is unlikely to be resolved by force. On November 20, Russian diplomats and their families descend on Beijing Daxing International Airport with excess luggage in tow. The next day, new intelligence reporting indicates that the PLA is commandeering civilian trucking to move personnel and equipment toward military facilities on the coast. The chairman has seen enough. She sends a memo directly to the president’s briefer, copying colleagues at the National Security Council: **“WARNING OF WAR: China Making Final Preparations to Attack Taiwan.”**

Once informed, the president takes the threat seriously. The president hopes to induce China to back off with a conspicuous move to DEFCON 3 in the Pacific. Seeking strength in numbers, the president asks

presumptive allies to visibly ready their forces. The secretary of state initiates a full-court diplomatic press to prevent war. However, allies are reluctant to become involved, and China continues its mobilization.

With diplomacy failing, the United States girds for war. The Navy secretary sends a private message to the CEOs of three private military corporations (PMCs): “Washington expects conflict with China. Pre-position boats in international waters. Await initiation order.”

The PMCs call up their crews and begin sending their boats to major shipping lanes and international waters near major ports, far beyond the PLAN’s reach. Each PMC controls 5 to 20 privateering strike groups. Each strike group comprises a mothership, a rigid inflatable boat, and for some, a small helicopter. Strike group personnel typically consist of three teams: an assault team; a crew to pilot captured vessels (called “prizes”) to port and guard prisoners; and personnel to operate the mothership. The PMCs plug into preplanned logistics networks to fuel and support them. The watercraft and helicopters have a standardized emblem distinguishing them as U.S. privateers. The privateersmen, many of whom are former military, wear uniforms with insignia, carry arms openly, and operate in accordance with the laws and customs of war. The privateer commander is designated as the person responsible for rule violations. These features are calculated to qualify the privateersmen for protection under the Second and Third Geneva Conventions.

The huge PLAN assemblage goes radio silent at 1500 ET on Christmas Eve. The CIA analyst issues a warning of imminent attack. China attacks Taiwan two hours later, prompting a ferocious allied response. In light of the naval balance, China expects most of its merchant fleet to be safe since the U.S. Navy is fully engaged with the maritime struggle around Taiwan. The United States disabuses them of that notion by resorting to privateering for the first time since the War of 1812.

In a scene that plays out repeatedly, a privateer approaches a Chinese merchant vessel. Those privateers with a small helicopter drop an assault team onto the bridge of the ship, where they capture the stunned crew. In other cases, the privateer fires across the Chinese ship’s bow. In either case, a rigid inflatable boat comes alongside with a hook ladder, depositing another team onboard. The assault teams methodically clear the vessel, arresting the crew. Few crews fight back as they are caught off-guard and are accustomed to being boarded by inspectors and coast guard teams in the ordinary course of operations. Those who do fight are pacified with less-lethal weapons and, when needed, small arms fire. A prize crew comes aboard to pilot the vessel to a U.S. or allied port and guard the merchant group. The attack teams return to the mothership to regroup for the next hunt. Once in port, U.S. district courts adjudicate prize cases as authorized by U.S. law. The vessel and its cargo are auctioned off, with proceeds going to the privateers. The crews are interned for the duration of the war or repatriated in accordance with the law of war.

China is caught off-guard as it desperately tries to protect its merchant fleet. They lose hundreds of ships in the first few weeks of the war. Choked by an allied naval and air blockade, China pays arms dealers to ferry weapons to its merchant ships and hires both Chinese and Russian PMCs to guard them. Chinese ships begin sailing in convoy but lack PLAN support, so privateers devour the stragglers. The PMC guards scuttle vessels when they cannot resist capture. Chinese state media claims the privateers are sinking ships without warning, but the United States releases helmet cam footage to counter the propaganda. The United States refuses to recognize flags of convenience as protection for Chinese vessels following the long-held U.S. view that neutral merchant vessels may acquire enemy character by virtue of ownership or control.

Privateering causes diplomatic trouble for the United States as China and its aligned states claim it violates customary international law. The State Department Legal Adviser sets out the U.S. view in a letter to the Red Cross. Most countries complain about the practice but do nothing to interfere. They watch for signs of abuse. As British admiralty judge Sir Leoline Jenkins observed long ago, privateers are “a sort of people that will always be found fault with but still made use of.”

Months later, despite its strong legal position, the United States mollifies its critics by converting the privateers to warships under international law. The mothership, although still privately owned, is listed on the Naval Vessel Register and placed under the command of a U.S. Navy officer. A small crew of enlisted sailors joins the strike group. The ships are painted with the markings of U.S. warships. The international community now acquiesces to the enterprise.

Most of the Chinese merchant and fishing fleet cowers in neutral ports. Privateers wait outside major ports to hunt down those that try to flee. Marine insurance rates on Chinese vessels and cargoes skyrocket. Like British merchants before them, Chinese commercial interests feel, and squeal, and cry out for peace.

Soon the bite of a naval blockade, the devastation of the merchant and fishing fleets, and military losses convince the Chinese government to accept a Vatican offer of mediation.

Author’s Note: Privateers were the commerce raiders of their day, but privateering disappeared from the world stage by the mid-nineteenth century. Instead, the U.S. Navy has done America’s commerce raiding since the War of 1812. Although some states renounced privateering by acceding to the Paris Declaration of 1856, the United States never did. To the contrary, it reiterated its right to privateer at the Second Hague Conference in 1907. The U.S. Constitution expressly authorizes Congress to issue letters of marque (Article I, section 8, clause 11). These commissions permit private persons to capture or attack foreign vessels. Existing law establishes procedures to adjudicate prize claims and requires only minor revision for the disposition of prize money. Although privateering sometimes led to piracy in the seventeenth and early-eighteenth centuries, it did not when the United States used privateers during the Revolutionary War or the War of 1812.

CHINA VIGNETTE #2

Cruise Missile Strike on the Chinese Homeland

History: On April 18, 1942, U.S. aircraft, launched from an aircraft carrier that was approaching Japan on a little-used northern route, bombed targets around Tokyo and in several industrial cities. The physical effects were small, but the psychological effects were great, causing the Japanese to pull air defense units back to guard the homeland.

The Future? Conflict breaks out between the United States and China, arising from disputes in the South China Sea and the Taiwan Straits. China, employing its modernized air and naval capabilities, sets up an anti-access/area denial (A2/AD) bubble and moves many of its forces south. Battles erupt periodically over the artificial islands and Chinese naval forces that sortie into the area. Both sides take heavy losses.

The United States decides to take the war to its enemy. Two cruise missile submarines, the USS *Florida* (SSGN-728) and USS *Georgia* (SSGN-729), sail into the Sea of Japan off the eastern coast of North Korea. Together they launch a salvo of 120 missiles that head northwest. The missiles cross the

sparsely defended eastern arm of North Korea near the city of Chongjin. Once across North Korea, the missiles continue to Chinese military airfields in Manchuria at Shuangliao, Shuangcheng, and Liuhe. Strike planners choose airfields, figuring that ground forces are not going to figure prominently in the conflict, so there is no point in striking their bases far from the operational theater. On the other hand, aircraft can easily move south to get into the fight.

Damage to the airfields is not significant. Some hangers and headquarters buildings are severely damaged, and a few aircraft caught in the open, particularly some of the trainers, are destroyed. Most aircraft survive, having been parked in underground shelters.

Five missiles strike the Harbin aircraft factory. These cause highly visible damage, but the plant is back in operation within 24 hours.

Although the physical damage is small, the psychological shock is great. Northern China has thought itself safely distant from the conflict in the south. The first problem for the Chinese, however, arises from the North Koreans, who demand that China defend them against “U.S. aggression,” even though no missiles fall on North Korean territory. The North Koreans threaten to start launching missiles at South Korea and Japan if the Chinese do not send air and missile defense units to the border area. Then the governors of the northern provinces of Heilong and Jilin demand increased air defenses, as do the local military commanders. Other governors, suddenly feeling exposed, start asking about the defenses of their provinces. Governors of coastal districts ask about threats of amphibious invasion, even though U.S. amphibious forces are unable to get within 400 miles of the Chinese coast. Reluctantly, the PLA leadership moves air defense assets and some naval assets north to defend against future U.S. attacks. This weakens Chinese forces in the main theater of conflict.

Author’s note: Most surprises are not decisive in themselves. Actions such as described in this vignette would affect the course of the conflict, however, by significantly reducing adversary forces in the battle area.

CHINA VIGNETTE #3

The United States Covertly Arms Uighur Insurgency

History: In tandem with Pakistan and Saudi Arabia, the United States armed and supported the Afghan mujahedin in their fight against the Soviet Union. The insurgents gradually wore down the Soviets through guerrilla warfare. Eventually, the Soviets withdrew.

The Future? The increasingly harsh Chinese crackdown on Islam alienates many Uighurs. Thousands are imprisoned. Children are forced to renounce religion as “superstition” and to learn Chinese. An underground culture arises through which the Uighurs can practice their faith and pass on their culture. This is mostly peaceful, but the illegal nature of the effort attracts some radicalized members who are willing to use violence. This dissatisfaction simmers for years until a conflict breaks out with the United States in the South China Sea.

The conflict stalemates as both sides learn how destructive modern munitions can be. The USS *Roosevelt* has been reduced to a burned-out and radioactive wreck. Conversely, the Chinese artificial islands in the South China Sea are so severely damaged that the sea is reclaiming them.

To put pressure on the Chinese government and shift its attention in a different direction, the United States decides to support an insurgency among the Uighurs.

Getting supplies to the Uighurs is difficult given their geography. Russia is unwilling to get involved as it rather enjoys the sight of its two main competitors fighting each other. Mongolia and the “stans” to the west live in fear of their powerful neighbor. Only India, motivated by many small humiliations in the past and with increasing economic and military muscle to flex, is willing to take on the Chinese. India’s influence opens up a long stretch of China’s southwestern border because India can lean on Nepal and Bhutan to cooperate covertly. The Himalayas block easy access to Uighur territory, but there are a few access points. The wide-open spaces also allow aircraft to infiltrate.

Thus, a “rat line” opens whereby arms, munitions, money, and propaganda materials make their way into western China and to disaffected Uighur elements which have formed themselves into “militias.” These militias conduct a low-level insurgency and terrorist campaign across the region.

Because the difficult supply route limits the amount of arms that can be delivered, the insurgency never rises to a level where it seriously threatens Chinese control. However, the harsh Chinese reaction, which includes mass arrests and summary executions, continues to inflame the population, so the insurgency never goes away. Further, the instability so unnerves the Chinese leadership that they move large numbers of security forces into the area. This weakens the effort in the south, eliminating any possibility that China can use the conflict as a way to settle the issue of Taiwan. More worrisome for the PLA leadership is that many of the Chinese troops became disaffected. These troops thought they were signing up for a fight against the main enemy, the United States, and not for dirty war against their countrymen. Morale among these troops begins to crack, as it had for the Russians in Afghanistan and the Americans in Vietnam, with abuses of the population, drug use, and sale of stolen weaponry becoming common.

CHINA VIGNETTE #4

Swarm Strike on Chinese Naval Bases

History: On the night of November 11-12, 1940, the British launched a strike on the Italian naval base at Taranto. The strike consisted of 20 torpedo bombers flown off a carrier that had sprinted to get into position. The Italians, caught by surprise and not expecting that aerial torpedoes could be used in a shallow harbor, put up a weak defense. The strike incapacitated three battleships and shifted the balance of power in the Mediterranean. The success of this attack showed the Japanese that aerial attack in shallow harbors was possible.

The Future? Despite a conflict in the South China Sea, maritime commerce in Northeast Asia continues. North Korea, South Korea, and Japan all warn their merchant fleets about the conflict but notify China about their continuing operations. None of these countries can afford to shut down overseas trade.

Major elements of the PLAN remain in northern ports as a reserve, staying out of the line of fire in southern China and the South China Sea. The United States sees an opportunity.

In the predawn hours, two tired North Korean cargo ships move slowly up the West Coast of the Korean peninsula; their stated destination is the major North Korean port of Nampo. At three in the morning, one ship is rounding the point at Changsan-got, the other is about 250 miles south in the Yellow Sea, due West of the South Korean port of Kunsan.

Hatches on the ships’ top containers open. Launchers rise, and each container launches two large drones. In all, 80 drones rise and travel west at a low altitude. One group closes on the Chinese port of Lushunkou (formerly “Port Arthur”). The other approaches Qingdao, the headquarters of the Chinese fleet.

Two hours later, the drones reach their targets. Chinese air surveillance radar picks up something, but operators ashore are uncertain exactly what the something was. It turns out that the stealth configuration and exotic coatings, combined with the low altitude, make the drones difficult to detect.

The bases are caught totally unaware. Upon arriving at the bases, the drones circle briefly, picking out their targets. The drones are programmed to attack the highest value targets but to avoid ballistic missile submarines. The United States does not want the operation to look like preparation for a nuclear attack.

At Lushunkou, the drones strike two submarines and four frigates in the harbor. Incendiary devices on the drones cause fires on three of the ships. The same process plays out at Qingdao, with drones circling, then diving onto their targets. Four drones hit the Chinese aircraft carrier *Shandong*, which begins to burn furiously. A dozen drones hit the Chinese naval headquarters and associated buildings; others hit fuel storage facilities, which begin to burn. Drones also strike two submarines and two destroyers.

One submarine sinks at pierside. None of the other ships sink, but all are rendered combat ineffective; repairs will take months or even years. The *Shandong* is a total loss.

After the strike, the “North Korean” cargo ships head south. Chinese warships close on the northernmost, which is scuttled, the small crew fleeing on a high-speed boat. The southernmost ship disappears into the international shipping lanes off the south coast of the Korean peninsula.

Author’s Note: This vignette also resembles the September 2019 Iranian missile attack on Saudi refineries.

CHINA VIGNETTE #5

The United States “Quarantines” China During a Confrontation Over Taiwan

History: In 1962, the Soviet Union secretly emplaced nuclear-capable missiles in Cuba. The United States responded with a “quarantine” that imposed costs on the Soviets and Cubans without kinetic military action. This unexpected response led the Soviets to back down.

The Future? The military and economic gains of recent decades lead China to believe that the time has arrived to bring the renegade province of Taiwan under control. China’s economy has surpassed that of the United States. Inside Taiwan, the pro-unification People First Party has made significant headway in elections. While the people of Taiwan will certainly resist an invasion, the prospects for collaboration are better now than they have been at any point since 1949.

The People’s Liberation Army (PLA) is confident in its preparations for an invasion across the Straits of Taiwan. Although the People’s Liberation Army Navy (PLAN) cannot match the U.S. Navy on the high seas, it does not have to. The responsibility for dealing with the U.S. Navy and Air Force falls to the Rocket Force (PLARF). A new generation of high performance, anti-ship ballistic missiles such as the DF-26 are designed to keep the U.S. Navy far enough away from the straits to neutralize its ability to contest a crossing. To deal with air threats, China is producing large quantities of sophisticated anti-air missiles and sensors. While the Chinese are not sure how these defenses will fare against U.S. stealth aircraft such as the F-35 and B-2, they will be able to put a lot of missiles in the air. The United States will have to deal with these capabilities in planning its response.

Chinese military leaders thus calculate that any military response from the United States would run the risk of massive casualties in personnel and equipment. If the U.S. Navy sails close enough to the straits to aid the Taiwanese, even conservative models suggest that the United States will lose one

aircraft carrier and several support ships to ballistic missiles and submarines. A counter landing by U.S. forces onto Taiwan will subject U.S. troops to the full firepower of the Chinese assault. It is unclear if the United States can stomach such casualties; its leaders believe in “casualty aversion” and frequently write on that subject in public fora.

The Chinese are confident that they understand American options. They are wrong.

As the invasion fleet marshals, a flight of American bombers and fighters takes off from bases in Japan and Guam. Chinese anti-air assets scramble, ready to intercept as soon as the planes cross into their airspace. The Chinese prefer the United States to back down meekly, but they are ready for a fight.

Instead, the planes turn and fly north to south about 40 miles outside Chinese airspace. Chinese leaders think they understand now—this is a show of force, meant to signal strength, when in fact, it does just the opposite. The United States has now publicly attached its credibility to Taiwan while declining to follow through. As the aircraft turn away, Chinese leaders are satisfied. But then they hear a puzzling report: missiles flew from the American planes toward the Chinese coast but dropped into the sea inside Chinese national waters. What does that mean?

Then there is a broadcast coming over all maritime emergency channels: “The U.S. has declared a quarantine in the straits of Taiwan in order to preserve regional peace. Mines have been emplaced in the straits to enforce this quarantine. In six hours, they will arm; by that time, all maritime traffic must exit the coordinates.” There follows a series of longitudes and latitudes that not only block the invasion route to Taiwan but also one of the main thoroughfares of China’s internal maritime traffic. The United States has deployed naval mines that can travel 40 miles after release. This is not one of the options that Beijing has planned for. Now they have to sweep mines in an environment of heightened tension when the sweepers can be attacked at any moment.

Undeterred, the PLAN sends minesweepers into the straits. The first sweeper to reach the area, the aging *Huoqui*, disappears in a fireball as a mine evades its sensors and explodes under its keel. Other minesweepers move more cautiously and, after much effort, think that they have swept the channel. Three destroyers move through the channel as what appears to be the advanced element of an invasion force. However, in the channel, the *Haikou* is rocked by an explosion and begins to sink stern first. It turns out that some of the mines can move around. The minesweepers go back out, but this time Taiwanese missile boats strike, sinking two.

At this point, the UN secretary-general offers to mediate a settlement. The Chinese accept, claiming that the Taiwanese government has pleaded for peace.

Author’s Note: The United States possesses many conventional military capabilities that it has not used in decades. Although it is easy to focus on recently used capabilities or to mirror the methods used by adversaries, this ignores less-common tools, such as naval mines. Naval mines are becoming increasingly sophisticated as computing power and miniaturized propulsion allow them to take on a role as hunters, not just passive munitions. They also have the advantage of shifting the opportunity for avoiding a collision onto adversaries.

The notion of a “quarantine” was devised during the Cuban missile crisis because blockade was considered an act of war. A “quarantine” would thus keep open the possibility of a peaceful resolution to the crisis.

CHINA VIGNETTE #6

The United States Shuts Down Chinese Belt and Road Assets

History: At the beginning of World War I, Great Britain and the other allied powers shut down Germany's global network of industry and trade.

The Future? War begins with an incident in the South China Sea. Both sides fire missile salvos, causing extensive casualties. The United States loses five surface ships, with several more damaged. Carrier *Abraham Lincoln* is so badly damaged that it trails radioactive debris as it limps back to San Diego. Meanwhile, the Chinese lose over 10 surface vessels and all five submarines that venture outside coastal waters.

The intensity of the fire creates a “no-go” zone at the first island chain. Chinese vessels dare not venture out, while U.S. vessels dare not venture in.

The United States looks for ways to hurt the Chinese without escalating the conflict or risking its forces prematurely inside the “no-go” zone. It eyes Chinese investments outside of the Chinese homeland created by the Belt and Road Initiative, since most lie beyond China's ability to defend.

The United States declares that all Chinese overseas facilities with “national security” applications are subject to interdiction. The United States demands that all such facilities expel Chinese workers and accept international inspection to ensure that they are not used for wartime purposes. Facilities where this does not take place are to be blockaded by mines or other means. Railroads operated by the Chinese outside of Chinese territory will be considered military transportation nets and “treated accordingly.”

To make its point, the United States sends a destroyer and a light amphibious warship with about 50 Marines on board to each of the seaports with Chinese-owned facilities.

All of the targeted countries object to this intrusion of their sovereignty. The United States makes quiet diplomatic approaches, assuring the countries that the United States will support them in any retaliation by the Chinese. If the countries expropriate the Chinese-owned facilities, the United States will not object. In any case, the United States encourages these countries to renegotiate financial arrangements with the Chinese.

Prodded by NATO, Greece makes the first move, seizing the Chinese facilities at Piraeus. Others tentatively follow. Soon billions of dollars of Chinese facilities are in the hands of “caretakers.”

Author's Note: Threatening China's Belt and Road Initiative is challenging because the facilities are structured as private investments, not government facilities. The Chinese presence is mostly financial, rather than physical. However, their existence constitutes a major vulnerability since China has invested hundreds of billions of dollars and has no way to defend most of them.

CHINA VIGNETTE #7

The United States Inserts a Clandestine Underwater Acoustic Array in the South China Sea

History: In 1968, the Russian submarine K-129 suffered a catastrophic explosion and sank in the Pacific. When the submarine did not return, the Soviets searched for it but had no idea what had happened or where the submarine was. However, U.S. acoustic arrays had picked up the sound of the explosion and determined the location. U.S. expeditions later found the wreck.

The Future? After years of naval expansion, the PLAN believes it can challenge any navy, including the U.S. Navy, in waters near China's shores. China announces that it will begin enforcing national requirements for passage through its "territorial" waters in the South China Sea. It establishes an air defense identification zone (ADIZ) over the entire region and claims a maritime boundary around each island. All ships and aircraft must identify themselves and get permission before crossing. The many Chinese artificial islands greatly expand the extent of "territorial" waters.

The United States and other countries denounce the announcement, pointing to the 2016 arbitration court decision. However, China perseveres.

To maintain the appearance of a law enforcement action, China moves only coast guard and submarine units (clandestinely) into the South China Sea.

Chinese coast guard vessels board a Philippine cargo ship transiting the South China Sea without providing notification. A Vietnamese cargo ship also tries to transit without notification. When the crew resists boarding, the Chinese open fire, killing two and forcing the ship to withdraw.

The United States warns China about its military activities, but China doubles down by announcing that it will use military force in the future "to protect its national territory." A Philippine corvette that enters the South China Sea is sunk by a torpedo. China denies involvement. Most nations begin complying.

Two years earlier, the United States had clandestinely emplaced an undersea acoustic system in the South China Sea. The United States built such systems—called Sound Surveillance System (SOSUS)—in the Atlantic and Pacific during the Cold War. The systems consist of underwater sensors and links to shore and data processing facilities. By monitoring certain kinds of underwater sound, they can track submarines at long ranges.

The South China Sea has presented special problems because of its shallow depth and high ambient noise. However, the United States solves the problem with new varieties of sensors and advanced data processing.

Using the system, the U.S. Navy directs submarines toward three of the submarines enforcing the restricted zone. U.S. antisubmarine aircraft, P-8s, track the fourth submarine, which is the furthest east.

At one designated moment, U.S. forces sink all four Chinese submarines. There are no survivors.

The United States makes no public announcement about the sinkings. After some quiet diplomacy, the Chinese lift the requirement for transit permission.

CHINA VIGNETTE #8

The United States Captures or Neutralizes Chinese Bases Outside the Homeland

History: At the beginning of World War I, Great Britain and the other allied powers attacked German's overseas colonies. Although the German fleet was powerful and had some naval units deployed globally, these were too small to hold off Allied naval forces. The small German garrisons were unable to defend these exposed domains. The allies scooped up German Samoa, German New Guinea, and possessions in China almost immediately. Most German possessions in Africa also succumbed quickly, although guerrilla resistance continued in southeast Africa to the end of the war. No overseas base or territory returned to German control after the war.

The Future? After heavy attrition, the conflict between the United States and China has reached a stalemate. Having suffered several thousand casualties each, both sides back off to keep their forces outside the other's defensive bubble. Missile sniping continues as the United States tries to establish footholds inside the first island chain. Meanwhile, China tries to open a gap so it can move forces out into the global commons.

With a long war in prospect, the United States decides to neutralize Chinese military facilities outside of the Chinese homeland. Although these are few, they are vulnerable, and their destruction would provide a psychological point—that China is an isolated regional power, not an up-and-coming global power. China thinks that the facilities are safe since they reside in neutral countries.

The first target is the Chinese base in Djibouti. As tensions escalate, the U.S. Navy has moved a Marine amphibious readiness group into the Middle East. That force now lands and links up with U.S. forces stationed at Camp Lemmonier. Together they surround the 300 Chinese troops and supporting workers at the Chinese port base. Chinese guards at the gate open fire on the maneuvering U.S. forces. The Marines respond with artillery and antitank missiles, obliterating the building. The Chinese garrison surrenders.

The next target is a possible Chinese signal intelligence facility on Myanmar's Great Coco Island. Close reconnaissance concludes that such a facility does, indeed, exist. The United States notifies the government of Myanmar that it will not tolerate the facility. One cruise missile hits a camouflaged antenna. The small Chinese garrison, consisting mostly of technical specialists, surrenders to a small Marine force that lands on the airport at the north end of the island.

Next, the United States approaches the government of Argentina about a Chinese facility in Patagonia. Although the Chinese government claims that the facility is for space exploration, the United States requests that international inspectors ascertain the facility's actual purpose. The Argentine government refuses, saying that this is sovereign territory. In diplomatic back channels, the United States tells Argentina that either international inspectors visit the facility and certify its peaceful use, or the United States will destroy it with cruise missiles and render the question moot. The Argentines agree to inspectors.

Shortly afterward, an aircraft ordered by the Chinese government departs the local airfield and heads for China via a circuitous route that takes it over Russia and avoids the combat area. When inspectors arrive at the facility in Patagonia, they find empty buildings with many blank spots where equipment used to be.

Finally, the United States resolves to shut down the Chinese facility in the southeasternmost corner of Tajikistan. The facility's purpose is to contain Uighurs fleeing China or planning armed incursions; it is not aimed against the United States. Nevertheless, the United States wants to make the point that China's external ambitions are being crushed. Further, closing the facility would facilitate any instability in western China that Uighurs might be inclined to engineer.

Because this facility is so far inland, it is hard for the United States to get at. Tajikistan, which borders China, is also nervous about angering its powerful neighbor. The United States ambassador in Dushanbe quietly suggests to the Tajik government that it step back from the Chinese base. Hours later, a volley of cruise missiles obliterates the facility. All the countries in the area deny allowing the United States to use their airspace. A spokesperson for the Indian government suggests that the missiles "dropped from the heavens."

CHINA VIGNETTE #9

Attack on a “Command and Control Node”

History: In early 1944, a group of German army officers came to believe (correctly) that Hitler was leading their country to ruin and resolved to remove him. They sought Allied support for the plot and acquiescence to a post-Hitler ceasefire but got neither. They used a British “clam” mine specially designed for sabotage and obtained from German intelligence. The conspiracy went ahead in the belief that support would ultimately arrive. In the event, Colonel von Stauffenberg’s July 20 plot narrowly failed to kill Hitler, and the simultaneous coup d’état miscarried.

The Future? The explosion comes six months into a desperate conflict in the western Pacific. It surprises everyone. In a war where most warheads weighed 500 or 1,000 kilograms, the most decisive explosive weighed only 1 kilo. Of course, in the digital age, the guidance of munitions is much more important than their weight; one guided cruise missile inflicts more damage than hundreds of dumb bombs ever did. Most weapons in the war use satellite, laser, or radar guidance. This one-kilo bomb has no mechanical guidance yet is the most precisely guided munition in the whole war. Fit inside a staff officer’s briefcase, the bomb is placed mere feet away from the supreme leader’s legs during his daily briefing. No one notices when the staff officer excuses herself to go to the restroom, although everyone notices five minutes later when an explosion rips through the conference of senior military and civilian leaders.

The staff officer turns out to be a radicalized Tibetan. Abandoned by her Han-Chinese father and raised by her Tibetan mother, she attended university in Beijing. Her grades were outstanding, and her political reliability rated as high. Thus, she entered the PLA and worked her way into a highly sensitive position supporting the daily war briefing. Later, under “interrogation,” she confesses to having been radicalized by stories of mistreatment of Tibetans and forced Sinicization.

After the explosion, new leadership takes power. Lacking a dominant figure, a “collective” leadership emerges. Unsure of their internal position and needing to shore up support in the Chinese Communist Party, this leadership seeks to end the war. Thus, in exchange for recognition of the new leadership, China agrees to a cease-fire. Both sides withdraw to prewar positions.

Even after the war, it is not clear what, if any, connection the United States has to the attack. Targeting a specific individual strikes many Americans as immoral and possibly illegal because of Executive Order 12333.

On the other hand, the United States was suffering hundreds of casualties a week in the ongoing conflict. Some lawyers argue that an adversary’s leadership is a valid target. The United States has long targeted command and control nodes during regional conflicts. Such nodes often house senior leadership.

Author’s Note: During Operation Desert Storm in 1991 and the invasion of Iraq in 2003, U.S. aircraft bombed command-and-control centers. Saddam Hussein was known to frequent some of them. In 2003, the United States established a special process for the rapid attack of “high-value targets,” a euphemism for adversary leadership.

Russia

	Vignette	Vulnerability	Historical Analog
1	NATO cuts Russian exports of fossil fuels to cripple the Russian economy	Reliance on fossil fuel exports for economic stability	The Confederacy was dependent on the export of cotton.
2	Belarus declares neutrality in Russian clash with NATO	Weak alliances	Italy remained neutral at the beginning of the war.
3	U.S. forces raid Russian territory in the Far East when conflict breaks out in Eastern Europe	Geographic extent	During World War II, the Soviet Union worried about Japanese intentions in Siberia.
4	Western-trained agitators induce instability in Siberia	Geographic extent and government unpopularity	Many territories on Russia's periphery declared independence in 1918–1919.
5	Unmanned underwater vehicles devastate Russian northern fleet	Narrow military modernization	U-47 sneaks into the British fleet anchorage at Scapa Flow and sinks the British battleship HMS Royal Oak.
6	Cyberattack on Russian naval missile systems	Weak cyber defenses	Stuxnet malicious code infects and damages Iranian nuclear centrifuges.

RUSSIA VIGNETTE #1

NATO Cuts Russian Exports of Fossil Fuels to Cripple Russian Economy

History: In the American Civil War (1861–1865), the Confederacy's dependence on the export of cotton constituted a major vulnerability. The Union blockade shut down most exports, robbing the Confederacy of funds to pay for war supplies. The blockade also created hardship on the home front, which bit increasingly into popular support for the cause. Great Britain and other cotton importers, cut off from American sources, developed sources elsewhere, for example, in Egypt.

The Future? When conflict breaks out in the Baltic states, observers expect delivery of fossil fuels from Russia to Europe and other countries along its periphery to cease.

NATO decides to allow the flow to continue but forbids any state from transferring funds to Russia. Initially, Russia keeps pumping in hopes of eventually receiving payment since its economy is so dependent on the revenues from these products. When China refuses to comply with the ban and moves funds outside the international system, NATO responds with cruise missile attacks that shut down the pumping stations of the Russian pipelines going to China.

Russia retaliates by shutting off the European pipelines, calculating that the resulting pressure will force NATO into submission because of popular discontent. Europe relies on Russia for much of its energy needs. However, the United States has large unused capacity for producing both natural gas and oil. Fracking technology has greatly expanded supply, and demand has never quite recovered after the Covid-19 pandemic. The United States, therefore, encourages the increase in domestic production, rapidly ships energy supplies to Europe, and uses the strategic petroleum reserve as a buffer until the new supplies are fully established.

Green groups in Europe try to shut down the new supply chain because they view it as undermining carbon reduction goals. Russia offers the groups covert financial and informational support to pressure European governments to restrict supplies. However, the European populace, already on edge because of the conflict in Eastern Europe and now faced with skyrocketing fuel prices, long gas lines, and unheated houses, is unsympathetic.

Although the war stalemates as NATO very, very slowly develops a counteroffensive, the standard of living for the average Russian plummets. Patriotic feeling remains high, so this is not a crisis. However, the Russian leadership remembers the 1917 bread riots that provided an opening for the Bolsheviks to overthrow the state and seize power. It also worries that the United States is displacing Russia as the primary European energy supplier.

Many considerations go into Russia agreeing to an armistice, but concerns about domestic instability are an important one. The armistice reestablishes the status quo, although NATO does agree to limits on forces stationed in the Baltic states and around Kaliningrad.

Author's Note: Sixty-five percent of Russian foreign trade is fossil fuel. Any disruption in the flow of these energy exports would jeopardize not just economic performance but also political stability because the revenues support so many social programs.

RUSSIA VIGNETTE #2

Belarus Declares Neutrality in Russian Clash with NATO

History: At the onset of World War I, Italy was a member of the Triple Alliance with Germany and Austria-Hungary. Despite this alliance, Italy chose to remain neutral at the beginning of the war. Italy was chiefly interested in acquiring territory along its border with Austria-Hungary, an objective it eventually saw it could best obtain by working with the Triple Entente (Britain, France, and Russia).

The Future? After surviving contested elections and significant political unrest in 2020, Alexander Lukashenko remains president of Belarus. Significant Russian propaganda and security assistance are required to put down political protests. Russia had also provided financial assistance in the form of loans and oil subsidies to help stabilize the economy. In exchange for Russian assistance to stay in power, Lukashenko makes promises of increasing economic and military integration with Russia along the lines of the 1999 Union State treaty. However, once the immediate threat to his power fades, Lukashenko slowly returns to his previous attempts to maintain some degree of independence from Russia, resisting Russian attempts to establish permanent bases in Belarus territory.

The stability does not last. Continued economic stagnation in Russia turns up the domestic political pressure. Its economy emerges from the Covid-19 pandemic battered. With reduced demand keeping energy prices low, President Vladimir Putin faces political unrest at home. Seeking to shift attention elsewhere, Moscow begins to put pressure on the Baltic states, claiming to protect Russian-speaking minorities in Estonia and Latvia. A series of disinformation and cyber campaigns in Estonia and Latvia ensue along with increased military exercises in Russia's Western Military District and the Baltic Sea.

The 15,000 Russian troops in Kaliningrad go on alert, along with several divisions along the borders of Belarus. U.S. intelligence sources indicate that Russian troops might be making preparations to close the Suwalki Gap, a roughly 60-mile borderland between Lithuania and Poland separating the Kaliningrad Oblast and Belarus. This would cut the Baltic states off from the rest of NATO. NATO's four

multinational battalions in Poland and the Baltic states go on high alert to prepare for any Russian move. Although NATO was committed to the defense of Eastern Europe, recent cuts to U.S. defense spending have led to a diminished U.S. presence in Europe. Tensions remain high as Russia and NATO await each other's next move.

At this point, Minsk releases a public statement that Belarus will remain neutral in any potential conflict between NATO and Russia. Under an explicit statement of multidirectional foreign policy, Minsk maintains that it will continue its economic and military cooperation with Russia, including maintaining the Russian air defense bases and naval communication facilities already present. However, no large-scale military units of any state will be permitted to enter Belarus territory.

In effect, Belarus will be, like Finland during the Cold War, inside the Russian sphere of influence but independent and not a willing military partner.

The policy of neutrality is the fruition of a diplomatic press by the United States. While military tensions are rising along NATO's eastern flank, the U.S. ambassador to Belarus pursues opportunities for preventing Russian troop movements through the country. Due to Belarus's geographic proximity to Russia and its extensive economic, military, and cultural ties, the United States rules out any formal alignment with the West. Instead, the United States aims for neutrality and strengthening Belarusian independence.

The U.S. ambassador has noted the rising concern, bordering on panic, in the Belarusian government and population. All fear being dragged into a conflict that they do not control and becoming one of the principal battlegrounds.

In exchange for neutrality, the United States pledges to support diversifying Belarus crude oil supplies by securing favorable long-term crude oil deals with Norway, Saudi Arabia, and the United States itself. In addition, the United States offers financial assistance for oil pipeline infrastructure to provide a more consistent supply through the Baltic states.

There is also a psychological component. The United States points to past Russian attempts to foster secessionist movements in former Soviet territories such as Georgia and Ukraine. The United States feeds Belarusian fears of being absorbed into Russia as a subordinate province. The significant political turmoil of 2020 and the Russian assistance in suppressing dissent further establishes a sense of Belarusian national identity and significantly decreases pro-Russian sentiments within the country.

The declaration of neutrality greatly limits Russia's access to the Baltic states if it launches a military invasion. It also raises questions about whether Russia's long and exposed flank on the Belarus border is entirely secure. The Russians stand down from their alerts and wrap up the exercises, and tensions return to normal levels within a few weeks. Even if Minsk uses the agreement as a later bargaining chip with Russia, the deal has served its purpose.

RUSSIA VIGNETTE #3

U.S. Forces Raid Russian Territory in the Far East When Conflict Breaks Out in Eastern Europe

History: During World War II, the Soviet Union worried about Japanese intentions in Siberia. Japan had seized northern China in the late-1930s and conducted an excursion into Siberia in 1939. Although the Soviet Union had decisively defeated the Japanese incursion, the Soviet Union nevertheless held troops back during the German invasion in 1941 until it was satisfied by spies that Japan would not invade again.

The Future? Tensions are rising between Russia and the Baltic states, but no one expects a conflict. However, the Russians use a flash exercise to launch an invasion of the Baltic states. The attack makes rapid progress. NATO forces are driven out of most Baltic territory but manage to hold out on the Courland Peninsula and the large offshore islands of Saaremaa and Hiiumaa.

In Europe, NATO forces move into the Baltic region and mass forces in Poland for a counteroffensive. However, fighting will be bloody and progress likely slow. The United States is unsure of how many NATO countries will bear the burden. The United Kingdom and France are solid, as are Poland, Romania, and, of course, the Baltic countries. Norway and Denmark will aggressively defend their own territory. The rest are not so clear.

The United States seeks alternative approaches and sees an opportunity in the Pacific. Russian forces in the Far East are comparatively weak and spread over an immense region. The Far Eastern fleet, based in Vladivostok, is large, but the ships are 30+ years old. Ground forces are concentrated along the Chinese and Korean borders. Defense of the Kuril Islands falls to the understrength 18th Machine Gun Artillery Division, and one brigade garrisons Sakhalin Island.

Two U.S. carrier battle groups sail out of San Diego. The 14 available amphibious ships embark a brigade of Marines and also sail. The carrier battle group based in Japan moves south. It keeps an eye on the Chinese and allows the Japanese to remain neutral.

U.S. submarines keep the Soviet fleet penned up in Vladivostok as U.S. Pacific forces move north. Amphibious forces capture the undefended Kuril island of Urup and the lightly defended island of Shikotan. Engineers begin repairing an abandoned airfield on Urup to receive military aircraft. Marine missile batteries on the islands strike Russian targets on Iturup and Kunashir in the Kurils and Sakhalin Island to the west. The batteries move constantly, preventing the Russians from striking back effectively.

The United States starts sending stealthy reconnaissance drones over Sakhalin Island. Stories planted in Japanese media demand that Russia return the islands to Japanese control. These stories resonate in Japan as the Soviets had seized Sakhalin and the southern Kuril Islands at the end of World War II.

Marine raiders capture the small villages of Uelikal and Keniut on the mainland. There they hand out food and humanitarian supplies to the impoverished inhabitants, who say that it is more help than they have received in years from the Russian government.

Meanwhile, NATO forces in Europe are moving slowly through the Suwalki gap and launching strikes against Russian forces in the Baltics. NATO forces continue to hold out in Courland. Faced with a major NATO offensive in the west, territorial incursions in the east, and the real possibility of territorial losses, Russia looks for a way out.

Pope Benedict XVII offers to mediate a peace settlement based on the status quo ante. The Russians accept the mediation as does NATO. After a short cease-fire, both sides agree to withdraw their forces in accordance with the newly signed Lateran Treaty of 202x.

Author's Note: In World War II, German forces held out in the Courland Peninsula from the time they were cut off in October 1944 to the end of the war. Japan has never accepted the loss of the southern Kuril Islands, and elements of Japanese society would welcome the restoration of Sakhalin Island.

RUSSIA VIGNETTE #4

Western-Trained Agitators Induce Instability in Siberia

History: Many territories on Russia's periphery declared independence in 1918 and 1919 when the government's central authority weakened during the Russian Civil War.

The Future? The election of Moldovan prime minister Maia Sandu in November 2020 ushers in a new era of relations between the European Union and Moldova. Unlike her predecessors, Sandu is explicitly pro-EU, pushing for closer relations with the West. However, Sandu's pro-EU stance worries the Pridnestrovian Moldovan Republic, also known as Transnistria.

Transnistria, a Russian-majority breakaway region in eastern Moldova, is staunchly opposed to the country's integration into the European Union and away from Russia. Sandu's pro-EU policies spark protests in Transnistria, and some Transnistrian politicians call for formal independence from Moldova. To signal its support for Transnistria, Russia announces the shipment of artillery, mortars, light weapons, and missile systems to Transnistria's armed forces. This proves to be highly popular with the Russian population, who, influenced by government-controlled media, sympathize with oppressed "brothers and sisters" in the near abroad.

In the face of increasing Russian support for the Transnistrian separatist movement, Moldova turns to its close ally Romania for military assistance. Romania, a member of NATO, agrees to provide air support to offset the small size of Moldova's air force.

Russian president Vladimir Putin issues a statement warning the United States against pursuing "aggressive actions" in Transnistria. He also moves military and internal security forces toward the border. In Transnistria, separatist forces operating a Russian SA-11 missile system shoot down a Romanian F-16 fighter jet on a routine patrol of Moldovan air space. Outraged by this incident and feeling threatened, Romania asks NATO for assistance, invoking Article 5 and the need for collective defense.

Rather than risk a conflict in Europe, the United States decides to divert Russia's attention away from the conflict in Transnistria by leveraging the ongoing unrest on Russia's periphery.

The opportunity exists in Siberia, where the Russian government has been dealing with long-standing but low-level unrest. While anti-government protests in Moscow mainly focused on government corruption, the protests in Siberia have been driven by local governance and environmental concerns. However, due to the escalating conflict in Transnistria, the Russian government has shifted attention and drawn down forces in the region.

Overtly, the United States, supported by the European Union, takes diplomatic action. The U.S. Department of State expresses support for the protesters in Siberia in an official statement condemning the violence in Transnistria. The State Department soon releases another statement, expressing support for tighter environmental regulations in Siberia. The statement supports the Siberian people's "right to life and the pursuit of happiness," which is intrinsically tied to a healthy environment, and references the anti-landfill protests in Arkhangelsk, the fishing crisis in Khabarovsk, and the deforestation threat to Siberia's Lake Baikal.

The U.S. House of Representatives subsequently passes the Siberian Human Rights and Healthy Environment Act, which allows the United States to slap sanctions on anyone, or any business, deemed to have caused environmental degradation in Siberia.

Putin figures that he can weather diplomatic actions as he has previously. However, there is a covert element to the U.S. response.

Soon after the passage of the Siberian Human Rights Act, a group of exiled Siberian “federalization” activists, such as Russian blogger Dmitry Shipov, gather in Kyiv to attend a week-long covert seminar. The activists learn how to use encrypted messaging apps and virtual private networks to organize demonstrations under the nose of Russian security services. They also receive instruction in using social media to raise global awareness of the Siberian protests. At the end of the week, the activists vanish, only to appear briefly a week later in Novosibirsk station. After publishing “The Statement of Siberian Rights,” they then vanish again, spreading across Siberia.

The formerly exiled activists connect with local organizers and quickly put their political activism training into practice. Soon protests sweep across the region, posing a severe threat to the central government’s authority. Of greater concern, local law enforcement agencies seem ambivalent about taking action against demonstrators. Compounding the Russian government’s difficulty in controlling the demonstrations, the protesters only use encrypted messaging apps. The hashtag “#Siberian_Uprising” goes viral on Twitter and Instagram, as millions of people focus on the protests.

The Russian government is caught off guard by the size and scope of the Siberian protests. Now, faced with an emboldened and expanding anti-government movement in Siberia, Putin decides to shift his focus to Siberia, not wanting to risk losing control over the vast territory. Although Russia continues low-level support for the Transnistrian separatists, its military forces disperse. This allows Moldova to regain control over the region.

RUSSIA VIGNETTE #5

Unmanned Underwater Vehicles Devastate Russian Northern Fleet

History: On the night of October 13-14, 1939, Gunther Prien guided U-47 into the British fleet anchorage at Scapa Flow. The British thought the anchorage was fully secured, but Prien found a gap in the defenses. He torpedoed the British battleship HMS Royal Oak, which rolled over and sank in 13 minutes, taking 835 of her crew with her. U-47 escaped.

The Future? The conflict in Eastern Europe reaches a near stalemate as NATO clings to a corner of the Baltic states while trying to muster a counteroffensive. The Russian Northern Fleet mostly stays in its bastions near the coast but periodically sends submarines into the North Atlantic to harass NATO shipping.

NATO planners consider ways of getting at the Russian fleet and removing the threat that they pose. A direct attack by surface ships is possible but likely costly because of Russian land-based capabilities. Submarines might get in close, but the Russians are known to have acoustic arrays and good antisubmarine capabilities near their shores. The solution is to use unmanned undersea vehicles (UUVs). The U.S. Navy has developed the “Orca,” an “extra-large” UUV. For the operation against the Russian Navy, 10 are adapted for long-range and extremely quiet operation. They are also provided with a 1-ton explosive payload. This will be a one-way trip for them.

The Orcas stage at a remote Norwegian fjord, where a team of technicians provides final maintenance and guidance download. The Orcas are then sent on their way. With the ability to recharge batteries on the surface, they have an extremely long range. However, once they get to within 200 miles of Murmansk, they submerge and enter into extremely quiet operation to get through Russian antisubmarine defenses.

One Orca suffers a mechanical failure and sinks to the bottom 40 miles short of its target. Another Orca passes near an acoustic array and is picked up by the sensors. The location is good enough for the Russians to vector an antisubmarine helicopter. The helicopter drops a torpedo, which hits and sinks the Orca.

The remaining eight continue on their way but spread out to strike the different harbors simultaneously. Six hours out from their targets, they receive a final satellite update. Four Orcas head for Polyarny/Severomorsk/Murmansk, two for Ura Bay, and two for Zapadnaya. Once inside the harbors, the Orcas look for their targets. Their programming rules out ballistic missile submarines. NATO does not want this to appear as a prelude to a nuclear strike. One Orca targets the Russian aircraft carrier *Admiral Kuznetsov* and blows a 30-foot hole in its side. The ship goes down by the bow but remains afloat. Another Orca strikes the guided-missile cruiser *Pyotr Velikiy*. The others prioritize attack submarines. One strikes *Orel*, a cruise missile submarine (SSGN); another strikes *Tigr*, an attack submarine (SSN). Both submarines sink within minutes. The other Orcas apparently become confused and end up sinking support vessels.

The Russians do not know what has happened. They assume that submarines have entered the harbors, though they hold open the possibility of a new kind of stealth aircraft. Fleet units zigzag around the anchorages and out into the open ocean but find nothing. To protect the remaining units, the Russians pull aircraft from Eastern Europe to protect the North. They also build sea barriers around the remaining fleet units, which protect them from attack but make them much less deployable.

Months later, the Russians find both sunken Orcas and piece the story together.

Author's Note: The U.S. Navy is building Orcas, though not currently as attack platforms.

RUSSIA VIGNETTE #6

Cyberattack on Russian Naval Missile Systems

History: Stuxnet malicious code was covertly introduced into the control program for Iranian nuclear centrifuges between 2005 and 2010. The code caused the centrifuges to malfunction, and the resulting damage set back the Iranian nuclear program for many years. It was thought that the code was introduced on an infected USB drive. Once inside the network, the malicious code replicated and spread. Although no country claimed responsibility, the United States and Israel were suspected.

The Future? The Russia-NATO conflict has stalemated, with NATO holding a corner of the Baltic states and preparing a counteroffensive. The war at sea has continued, with occasional forays by Russian surface ships and submarines, mainly in response to NATO incursions into northern seas.

During one pause in operations, a 20-year-old Russian weapon system specialist brings his cell phone onboard the battle cruiser *Admiral Nakhimov*. This contravenes regulations, but he figures that there is no harm since the ship is pier-side and will not sail for another week. It is the night shift, and both he and the other watchstanders typically play computer games during the long night hours when there is little going on. He has downloaded a special add-on for his favorite game, *Assault Trooper™*. The add-on promises special weapons and sensors, allowing him to reach higher levels in the game. Like many Russians, the sailor uses pirated software since his military pay could not cover the cost of a legitimate purchase. Because so many people use pirated software, he does not regard his actions as unusual.

However, this game add-on is a honeypot. Inside the software, which does, in fact, provide additional capabilities in the game, is malware to infect the ship's fire control system. The target is the ship's fire

control software, which uses some modules from Western sources. These modules do routine functions not directly related to warfighting functions. However, the malware is designed to find these standard modules and embed itself in them. The wireless radio on the cell phone connected to the ship's automatic identification system and was then able to find its way to the fire control system due to the old software/network design.

The next morning, during a routine weapons status test, one of the anti-air missiles launches. The missile goes only a short distance before crashing into the sea and does no damage. The missile itself can easily be replaced. However, Russian naval engineers are in a panic to learn what has gone wrong. They forbid future status checks until the problem is resolved.

Eventually, software engineers find the malware. This causes them to restrict operations of all ships with missiles until the fire control software has been scrubbed. Doing that ship by ship takes weeks. Thus, the Russian surface fleet is neutralized for an extended period without a shot being fired.

Author's note: The Russians do indeed use a lot of pirated software. Assault Trooper is not an actual game, but there are many existing games built around such a theme. The air gap jump using reconfigured RAM has been demonstrated.¹⁵¹

151 There are a variety of ways to jump the air gap. For example, Catalin Cimpanu, "Academics turn RAM into Wi-Fi cards to steal data from air-gapped systems," Zero Day, December 15, 2020, <https://www.zdnet.com/article/academics-turn-ram-into-wifi-cards-to-steal-data-from-air-gapped-systems/>.

Appendix B

Chinese Vulnerabilities

Chinese military and economic growth has been impressive. China now has the second-largest economy in the world, or largest, depending on how one counts. Its military has greatly expanded its capabilities, shifting from a mass, homeland defense force to a regional power with global aspirations.

With its increasing economic and military strength, China has become more assertive. This has particularly been evident in the South China Sea, where China has built a series of artificial islands, which it uses to assert maritime and territorial rights in the vicinity. It publicizes the infamous nine-dash line, which makes claims far beyond what is recognized by other nations and international institutions. It extends its economic influence through the Belt and Road Initiative.

Although China's great strengths have appropriately received extensive attention, China also has vulnerabilities. These vulnerabilities create opportunities for surprise that are developed in some of the vignettes.

Some vulnerabilities are political/economic:

- For China, stability and unity are not just desirable state attributes but have been viewed throughout Chinese history as indicators of ruler legitimacy. Any instability, therefore, would threaten the regime itself.
- The Chinese Communist Party's (CCP) definition of China establishes Han Chinese as the main nationality and marginalizes minorities, who are often discontented and potentially open to outside influences.

- The CCP has made a social compact with the Chinese people: economic progress at the cost of political freedom. Thus, a serious economic downturn, such as a might occur during conflict, would not just create popular discontent but could also undermine the CCP's justification for governing.
- Xi Jinping's aggressive anti-corruption campaign threatens elites and could provide openings for foreign intelligence.

Some of China's vulnerabilities are military/diplomatic:

- Globally, China is a deeply unpopular power. Although it has many clients, it has few friends that would stand with it in a conflict.
- The People's Liberation Army (PLA) lacks recent combat experience, which could inhibit rapid tactical decisionmaking, effective application of combined arms, and the coordination of widely separated joint operations.
- The Chinese economy depends on maritime trade, but although the People's Liberation Army Navy (PLAN) has expanded greatly, it is not strong enough to protect China's global interests.
- China's reliance on energy imports and sea lines of communication (SLOCs) leave it vulnerable to disruptions in its energy supplies.
- The PLA is most effective within the first island chain and limited in its ability to project force into the western Pacific Ocean and beyond.
- The PLA has severe weaknesses in its enlisted personnel system, having transitioned only partially to a volunteer system.
- The centralization of all decisionmaking creates a risk of slow reaction in a military crisis.

Political/Economic Vulnerabilities

OBSESSION WITH DOMESTIC STABILITY

During the long sweep of Chinese history, Chinese leaders ("the sons of heaven") were expected to maintain domestic order and prosperity as a measure of regime legitimacy. Nevertheless, preserving domestic peace and prosperity has been extremely difficult, and many rulers fell from power when instability undermined their legitimacy. As the inheritor of this tradition, the Chinese Communist Party (CCP) values internal stability and unity above all and is vulnerable to perceived threats to both its physical domestic security and ontological security. Dissent is thus regarded as an existential threat and suppressed ruthlessly.¹⁵²

Stability at all costs requires extensive control, which the CCP seeks through social control mechanisms (social scoring), domestic surveillance, ideological campaigns to increase domestic support, and, when necessary, criminal proceedings and physical force. CCP Document No. 9 orders all political units to hunt down any endorsement of the West's "universal values," to include ideology

¹⁵² Michael D. Swaine and Ashley J. Tellis, *Interpreting China's Grand Strategy* (Santa Monica, CA: RAND Corporation, 2000), "China's Security Problem," 17, https://www.rand.org/pubs/monograph_reports/MR1121.html; and Baogang He and Mark E. Warren, "Authoritarian Deliberation: The Deliberative Turn in Chinese Political Development," *Perspectives on Politics* 9, no. 2 (2011): 235, doi:10.1017/S1537592711000892. As quoted by Thomas O'Brien, "Shifting patterns of governance in authoritarian regimes," *Australian Journal of Political Science* 52, no. 2 (June 2017), doi:10.1080/10361146.2017.1300872.

surrounding political governance, civil society, freedom of the press, and neoliberal economics. As strategist Aaron Friedberg has explained, “Beijing’s obsessive desire to squelch dissent, block the inward flow of unfavorable news, and discredit ‘so-called universal values’ bespeaks an insecurity that is, in itself, a form of strategic vulnerability.”¹⁵³ Thus, Beijing is extremely sensitive to any actions that seem to threaten its internal stability. China spends more annually on domestic security to ensure stability than it does on the PLA.¹⁵⁴

MINORITIES ARE VIEWED AS A THREAT TO STABILITY

The CCP’s particular brand of nationalism relies on Han-centric ethnocentrism. This marginalizes non-Han Chinese from the national culture. Diverse ethnic groups and religious and social movements are therefore considered threats to domestic stability and, hence, the Chinese regime’s legitimacy.¹⁵⁵ As a result, minorities are grossly underrepresented in the Chinese government, and the government demands that they assimilate to Han-Chinese cultural standards.

China has over 100 ethnic groups that are distinctly different from the Han-Chinese majority, with the largest being the Uighurs, Mongols, and Tibetans. These primarily inhabit the western and northern border regions of China.¹⁵⁶

Chinese Uighur Muslims face particular discrimination. The CCP associates the practice of Islam with violent extremism and ideological threats to domestic stability. These perceived threats are used to justify re-education and Sinicization programs. The forced detention of Uighurs in Xinjiang is justified as a counterterrorism measure to protect the Han majority. The CCP’s “re-education camps” in western Xinjiang have become so extensive that they have been compared to the gulag forced labor camps of the Soviet Union.¹⁵⁷

However, the Uighurs are not the only minorities facing persecution under CCP rule. African diasporas in the Guangzhou region, for example, exist in a permanent state of “illegality” concerning work visas and residency status. Politicians such as Pan Qinglin have targeted African communities in Guangdong, asserting that a blending of cultures would compromise Chinese culture and encourage terrorism.¹⁵⁸

153 Aaron L. Friedberg, “Competing with China,” *Survival* 60, no. 3 (June 2018), doi:10.1080/00396338.2018.1470755.

154 Hal Brands and Zack Cooper, “After the Responsible Stakeholder, What? Debating America’s China Strategy,” *Texas National Security Review* 2, no. 2 (February 2019), doi:10.26153/tsw/1943; and Bonnie Lao, “Potential Domestic Instability: An Internal Examination of China’s Belt and Road Initiative,” NATO Association of Canada, April 17, 2020, <https://natoassociation.ca/potential-domestic-instability-an-internal-examination-of-chinas-belt-and-road-initiative/>.

155 Thomas G. Mahnken, *Secrecy & Stratagem: Understanding Chinese Strategic Culture* (Sydney, Australia: Lowy Institute for International Policy, February 2011), https://www.lowyinstitute.org/sites/default/files/pubfiles/Mahnken,_Secrecy_and_stratagem_1.pdf.

156 “China,” World Directory of Minorities and Indigenous Peoples, Minority Rights Group International, November 2017, <https://minorityrights.org/country/china/>.

157 Lao, “Potential Domestic Instability”; Lindsay Maizland, “China’s Repression of Uighurs in Xinjiang,” Council on Foreign Relations, November 25, 2019, <https://www.cfr.org/backgrounder/chinas-repression-uighurs-xinjiang>; Mustafa Akyol, “China’s Gulag for Muslims,” *New York Times*, January 2, 2019, www.nytimes.com/2019/01/02/opinion/uighur-muslims-china-gulag.html; and Azeem Ibrahim, “China Must Answer for Cultural Genocide in Court,” *Foreign Policy*, December 3, 2019, <https://foreignpolicy.com/2019/12/03/uighurs-xinjiang-china-cultural-genocide-international-criminal-court/>.

158 Lao, “Potential Domestic Instability.”

These heavy-handed policies against minorities create a vulnerability. The ethnically diverse regions in western China, where ethnic groups have not integrated, have become susceptible to tensions and hostilities between minority and majority populations. This, in turn, makes the region vulnerable to internal fracture. Observing the precarious co-existence between minorities and Han populations, Charles Freeman, a China expert at CSIS, noted, “tensions are easy to kindle.”¹⁵⁹

ECONOMIC GROWTH UNDERPINS POLITICAL STABILITY

Chinese political stability has been built on economic prosperity. In effect, the CCP has told its people that, although they will not have democratic institutions, an expanding economy will make the trade-off worthwhile. So far, this social contract has been successful for both sides. Per capita income in China has skyrocketed, increasing tenfold in the last 20 years, and a large middle class has developed. In return, the CCP has maintained tight political control and allows no popular opposition. Unlike in Russia, for example, no antigovernment protests are allowed.

Trade drives this economic prosperity. Thirty-eight percent of Chinese GDP comes from trade, compared to just 9 percent in the United States.¹⁶⁰

In the event of a great power conflict, maritime trade would virtually cease, inflicting severe damage on China’s economy. In the past, countries have been able to endure such disruptions through rationing and, over time, substitution and increased domestic production. The Germans did this in both world wars, for example. Further, populations have shown an ability to endure great sacrifices when necessary. One thinks of the British during the early years of World War II. The Chinese population might show similar resilience. On the other hand, an abrupt rupture of the social contract might spur domestic political instability. China’s exposed maritime trade, therefore, constitutes a political vulnerability as well as an economic one.¹⁶¹

ROOTING OUT CORRUPTION THREATENS ELITES

Rampant corruption has long existed within the ranks of China’s government and party officials. Western intelligence agencies used corruption as an opportunity to recruit agents, offering large bribes and facilitating their rise in the hierarchy. One report noted “the CIA’s incredible recruiting successes” by leveraging corrupt practices.¹⁶² In 2012, Xi Jinping announced an aggressive anti-corruption campaign. That had some success shutting down intelligence penetration but, in purging thousands of officials, threatened long-standing financial arrangements and many powerful actors.

Although this campaign is portrayed as a “good government” effort, it also serves to increase the CCP’s control. Timothy Heath, a Chinese expert at RAND, has observed that efforts to counter corruption among senior leadership and personnel include coercion and intense pressure to develop discipline among PLA military commanders and China’s political elites. However, the magnitude of corruption, common in positions of power, increases the risk that some individuals could resort to drastic actions

159 Christina Larson, “China’s Minority Problem – And Ours,” *Foreign Policy*, September 30, 2009, <https://foreignpolicy.com/2009/09/30/chinas-minority-problem-and-ours/>.

160 “Trade (% of GDP),” World Bank, <https://data.worldbank.org/indicator/NE.TRD.GNFS.ZS>.

161 Timothy R. Heath, *China’s Pursuit of Overseas Security* (Santa Monica, CA: RAND Corporation, 2018), https://www.rand.org/content/dam/rand/pubs/research_reports/RR2200/RR2271/RAND_RR2271.pdf.

162 Zach Dorfman, “China Used Stolen Data to Expose CIA Operatives in Africa and Europe,” *Foreign Policy*, December 21, 2020, <https://foreignpolicy.com/2020/12/21/china-stolen-us-data-exposed-cia-operatives-spy-networks/>.

if threatened. These individuals might look for revenge and a soft landing in exile. Thus, they could prove to be security risks for Beijing by providing openings for foreign intelligence.¹⁶³

Military/Diplomatic Vulnerabilities

CHINA: THE LONELY POWER

China is a lonely power. It has many clients—countries that it does business with or that receive its investments—but few friends that will stand with it in a conflict. Thus, whereas the United States can enlist many countries to provide direct and indirect support in a conflict, China will have difficulty getting any foreign help. China will have difficulty defending its homeland at a distance and protecting its global interests.

This loneliness arises because of China's cultural and political uniqueness, perceived predatory investment practices from its Belt and Road Initiative (BRI), and aggressive actions against its neighbors. China's resulting inability to form a defensive alliance network is its greatest military weakness.

The first driver of this loneliness is the distinctive amalgam of China's political system, which comprises elements of Leninist Communism, Confucianism, Asian authoritarianism, Han-ethnocentrism, and a “big brother” surveillance state. This unique structure is not appealing to other countries, in contrast with the Maoist ideology of the past, which resonated with some elements of the global community. One evidence of this lack of appeal is the absence of foreigners approaching China for citizenship, a major contrast with the United States and Europe.¹⁶⁴ (Refugees from North Korea constitute a special case. They have nowhere else to go since access to South Korea is so tightly controlled.) China's international reputation as a serial abuser of human rights and suppressor of political freedoms exacerbates this lack of appeal.

Paradoxically, the BRI also creates loneliness, despite linking China economically to dozens of countries worldwide.¹⁶⁵ That occurs because of perceptions that Chinese investment practices take advantage of vulnerable states. Beijing has a reputation for over-promising and under-delivering on development projects. As a result, the BRI has been criticized as a “new colonialism.”¹⁶⁶

In April 2019, Xi Jinping acknowledged the concerns that the BRI can be a debt trap for countries; however, there have not been substantial changes to the investment structure. The BRI is designed to produce financial profits for China. Chinese investment firms lend money and hire Chinese construction firms; the host country accumulates debt. If the country cannot pay off the debt, China repossesses the project and exchanges the debt for equity.¹⁶⁷

163 Timothy R. Heath, “The Consolidation of Political Power in China Under Xi Jinping: Implications for the PLA and Domestic Security Forces,” Testimony before the U.S.-China Economic and Security Review Commission on February 7, 2019, <https://www.rand.org/pubs/testimonies/CT503.html>.

164 David Shambaugh, “The Illusion of Chinese Power,” *National Interest*, June 25, 2014, <https://nationalinterest.org/feature/the-illusion-chinese-power-10739>.

165 Sung Chul Jung, “Lonely China, Popular United States: Power Transition and Alliance Politics in Asia,” *Pacific Focus* 33, no. 2 (August 2018), doi:10.1111/pafo.12118.

166 Justin McDonnell, “Elizabeth C. Economy,” *The Diplomat*, April 10, 2014, <https://thediplomat.com/2014/04/elizabeth-c-economy/>.

167 Marshall W. Meyer and Minyuan Zhao, “China's Belt and Road Initiative: Why the Price is Too High,” Wharton University of Pennsylvania, April 30, 2019, <https://knowledge.wharton.upenn.edu/article/chinas-belt-and-road-initiative-why-the-price-is-too-high/>.

The CCP's use of hybrid and political warfare campaigns undermines international trust. These campaigns prompt countries to act cautiously and to review carefully economic, technological, security, social, academic, and political interactions with Chinese institutions.¹⁶⁸

China has regional territorial disputes that fuel tensions with other states, including U.S. allies such as Japan, the Philippines, and Thailand and partners such as Vietnam and Taiwan. These disputes stem from Beijing's claims to sovereignty over vast maritime territories. These territories contain abundant fishing resources and potentially large oil and natural gas deposits, but China's claims conflict with competing claims by others.¹⁶⁹ In addition to these ongoing maritime disputes, China confronts India over territorial claims in the Himalayas.¹⁷⁰ China's actions in these territorial disputes, such as increasing its military footprint and constructing artificial islands, exacerbate the friction. U.S. allies such as Australia, Singapore, South Korea, and New Zealand, which do not have territorial disputes with China, still regard these actions warily.

These actions also inhibit the full development of a strategic Sino-Russian bilateral relationship based on energy resources and opposition to the United States. Seeing these aggressive actions, Russia fears China's rise and the implications for the regional balance of power, particularly in Siberia, where Russia has little population and is militarily vulnerable. China, for its part, remembers Soviet hostility during the Cold War and Russian reversals of pending oil deals during the late-1990s.¹⁷¹

THE PLA LACKS RECENT MILITARY EXPERIENCE

The PLA's last major conflict was its failed invasion of Vietnam in 1979 during the Sino-Vietnam War. Since then, its only military actions have been a minor naval skirmish with Vietnam in 1988 and small-scale border brawls with India. By contrast, the United States has fought major campaigns in Vietnam, Desert Storm, the invasion of Afghanistan in 2001, and the invasion of Iraq in 2003. It conducted extended counterinsurgency campaigns in Iraq and Afghanistan. The United States has also fought smaller conflicts against Grenada in 1983, Panama in 1989, and Serbia in 1999 as well as enforced long-term no-fly zones over the Balkans and Iraq.

Even the *PLA Daily*, China's military news outlet, has written about the problem of "peace disease," expressing Beijing's concern over its dearth of recent combat experience.¹⁷² This is a change from

168 Ross Babbage, *Stealing a March: Chinese Hybrid Warfare in the Indo-Pacific; Issues and Options for Allied Defense Planners* (Washington, DC: Center for Strategic and Budgetary Assessments, July 2019), 34, <https://csbaonline.org/research/publications/stealing-a-march-chinese-hybrid-warfare-in-the-indo-pacific-issues-and-options-for-allied-defense-planners>; and Ross Babbage, *Winning Without Fighting: Chinese and Russian Political Warfare Campaigns and How the West Can Prevail*, vol. 1 (Washington, DC: Center for Strategic and Budgetary Assessments, July 2019), 57, <https://csbaonline.org/research/publications/winning-without-fighting-chinese-and-russian-political-warfare-campaigns-and-how-the-west-can-prevail>.

169 "Territorial Disputes in the South China Sea," Global Conflict Tracker, Council on Foreign Relations, April 14, 2020, <https://www.cfr.org/global-conflict-tracker/conflict/territorial-disputes-south-china-sea>.

170 Emily Feng and Leo Lewis, "China warns neighbours over territorial disputes," *Financial Times*, August 1, 2017, <https://www.ft.com/content/377e9440-a379-11e3-88b0-00144feab7de>.

171 Michael S. Chase et al., *Russia-China Relations: Assessing Common Ground and Strategic Fault Lines*, NBR Special Report #66 (Washington, DC: National Bureau of Asian Research, July 2017), 35, <https://www.nbr.org/publication/russia-china-relations-assessing-common-ground-and-strategic-fault-lines/>.

172 Timothy R. Heath, "China's Military Has No Combat Experience: Does It Matter?," RAND Blog, November 27, 2018, <https://www.rand.org/blog/2018/11/chinas-military-has-no-combat-experience-does-it-matter.html>.

the late-twentieth century, when veterans of the Chinese Civil War and Korean War held military leadership positions.

The lack of recent combat experience is a particular problem for China because it is building a massive military machine encompassing all the domains of warfighting. It must do this without any firsthand experience. The PLA has been limited to wargaming and exercises to build expertise, but these activities, while valuable, cannot fully replicate war's confusion, complexity, and stress.

This lack of combat experience is apparent in training also. For example, China lacks the equivalent of Red Flag or Top Gun, which have honed the expertise of U.S. pilots since the 1970s. These programs arose from bitter combat experience during the Vietnam War, when the Air Force and Navy saw that their fighter pilots were not getting the 5:1 or 10:1 kill ratios against adversary forces that they had enjoyed during the Korean War. Instead, these ratios had fallen to 2:1. Thus, they instituted realistic training programs at huge cost to reverse this trend. Beijing has noticed the deficiency and begun pilot training programs with simulated combat situations requiring in-flight planning and navigation, but the programs are just beginning.¹⁷³

A WEAK MARITIME POSITION

China's need for maritime security is acute. It has the world's largest merchant fleet because its export-driven economy creates a huge demand for shipping. In 2020, China had 3,100 ships in its global merchant fleet. Hong Kong adds another 2,300. This fleet has grown rapidly, having increased capacity by 150 percent between 2009 and 2019. In addition, China has a massive long-distance fishing fleet, estimated at 2,500 vessels.¹⁷⁴

However, China suffers several maritime weaknesses. The first and most obvious is that China has a long coastline and many ports that are susceptible to interdiction.

The second is that the PLAN must operate in a constrained battlespace that is blocked by the first island chain, restricting the PLAN's maneuverability. Foreign navies, including the U.S. Navy's 7th Fleet, Russia's Pacific Fleet, and the Japanese Maritime Self-Defense Force control the points of entry and exit.¹⁷⁵

Compared with sea powers that have conducted maritime operations and deployed globally for centuries, China has no experience protecting its ambitious global engagement efforts. Historically it has been a land power, not a naval power.

173 War is Boring, "China Might Have Stealth Fighters, But How Good are the Pilots Who Fly Them?," *National Interest*, May 24, 2019, <https://nationalinterest.org/blog/buzz/china-might-have-stealth-fighters-how-good-are-pilots-who-fly-them-59147>.

174 "China—Merchant Marine," CIA Factbook, <https://www.cia.gov/the-world-factbook/countries/china/#transportation>; "Hong Kong—Merchant Marine," CIA Factbook, <https://www.cia.gov/the-world-factbook/countries/hong-kong/#transportation> (excludes "other" category); Richard Scott, "China's Shipping: 70 Eventful Years," *Hellenic Shipping News Worldwide*, April 10, 2019, <https://www.hellenicshippingnews.com/chinas-shipping-70-eventful-years/>. Calculating merchant ship fleet numbers is complicated because of discrepancies between ownership, operations, and registration. Nevertheless, when ownership and registration are considered, thereby eliminating "flags of convenience," China has the world's largest merchant fleet. See Dennis J. Blasko, "China's Merchant Fleet," Center for Naval Analyses, July 28, 2015, https://www.cna.org/cna_files/pdf/china-merchant-marine.pdf; and Reuters, "From Africa to South America, China's Fishing Fleet Outstrips the Competition," *South China Morning Post*, February 23, 2018, <https://www.scmp.com/news/china/society/article/2134438/chinas-fishing-industry-dwarfs-rest-worlds-study-suggests>.

175 Nan Li, "The Evolution of China's Naval Strategy and Capabilities: From 'Near Coast' and 'Near Seas' to 'Far Seas'," in *The Chinese Navy: Expanding Capabilities, Evolving Roles* Phillip Saunders, Christopher Yung, Michael Swaine, and Andrew Nien-Dzu Yang, eds. (Washington, DC: National Defense University, 2011).

Finally, China's artificial islands in the South China Sea have become a fixture of Chinese nationalism. However, the islands extend far beyond Chinese shores and would be threatened in any conflict. Thus, China would be forced to defend these "immovable targets" at the limit of its capabilities.¹⁷⁶

DEPENDENCE ON FOREIGN OIL

Beijing has not overcome its dependence on foreign energy imports, leaving the country vulnerable to disruptions in its oil supplies. Despite energy reform and diversification efforts proposed by Xi Jinping in the 2014 New Energy Security Strategy, China's transportation industry, which comprises 70 percent of its oil consumption, perpetuates the need for foreign oil. As a result, China imports 10 million barrels of crude oil per day, and that amount has grown continuously; it is the world's largest crude oil importer.¹⁷⁷

Most of China's imported oil comes by sea. About 52 percent transits the South China Sea by way of the Strait of Malacca, with alternative routes through the Sunda Strait or the Lombok Strait. All of these SLOCs are vulnerable to interdiction.¹⁷⁸

The PLAN is responsible for protecting SLOCs, but its ability to do so at distance from its own shores is limited. These chokepoints lie outside the PLA's defensive bubble, and attempting to operate there would subject it to the naval power of its adversaries.¹⁷⁹

As a hedge against energy disruption, China keeps a strategic national petroleum reserve. Although the size is secret, it was estimated to be 600 million barrels in 2016.¹⁸⁰ However, this would be sufficient only for about 60 days in the event of a total oil blockade.¹⁸¹ Rationing could stretch this, but that might induce discontent among the population.

LIMITS ON LONG-RANGE CAPABILITIES

The PLA is most effective within the first island chain and constrained in the ability to project force into the western Pacific Ocean and beyond.¹⁸² A key weakness is that the PLA Air Force (PLAAF) and

176 James Goldrick, "China's strategic perspective on the South China Sea," Australian Strategic Policy Institute, November 26, 2019, <https://www.aspistrategist.org.au/chinas-strategic-perspective-on-the-south-china-sea/>; and *ibid.*, 33.

177 Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2019* (Washington, DC: U.S. Department of Defense, 2019), https://media.defense.gov/2019/May/02/2002127082/-1/-1/1/2019_CHINA_MILITARY_POWER_REPORT.pdf.

178 "China's Crude Oil Imports Surpassed 10 Million Barrels per Day in 2019," U.S. Energy Information Agency, March 23, 2020, <https://www.eia.gov/todayinenergy/detail.php?id=43216>; and "How Much Trade Transits the South China Sea?," ChinaPower, CSIS, <https://chinapower.csis.org/much-trade-transits-south-china-sea/>.

179 Michael S. Chase et al., *China's Incomplete Military Transformation: Assessing the Weaknesses of the People's Liberation Army (PLA)* (Santa Monica, CA: RAND Corporation, February 2015), 93, https://www.rand.org/content/dam/rand/pubs/research_reports/RR800/RR893/RAND_RR893.pdf; and Christopher R. O'Dea, "Asia Rising: Ships of State?," *Naval War College Review* 72, no. 1 (Winter 2019), 9, <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=7872&context=nwc-review>.

180 Kevin McCauley, "Modernization of PLA Logistics: Joint Logistic Support Force," Testimony before the U.S. China Economic and Security Review Commission, February 15, 2018, 14, https://www.uscc.gov/sites/default/files/McCauley_Written%20Testimony.pdf.

181 Based on 14.5 million barrels per day consumption, 4.9 million barrels per day production. From "China," U.S. Energy Information Agency, September 30, 2020, <https://www.eia.gov/international/analysis/country/CHN>.

182 Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2019*, 55.

PLA Naval Air Force (PLANAF) lack tanker aircraft to support long-distance air combat.¹⁸³ The PLAN similarly lacks oceangoing tanker capability. China is working to expand the reach of its forces. The recent development of the Y-20 refueling aircraft is a step toward this goal, but the PLA's ability to project force outside of the first island chain remains limited.¹⁸⁴

A WEAK ENLISTED PERSONNEL SYSTEM

Despite 40 years of force modernization, the PLA remains a conscription-based military with a mix of volunteer soldiers and involuntary conscripts who serve two-year terms. The short period of service befits a mass army designed for homeland defense but is inappropriate for a military with regional and global ambitions. There is not enough time for personnel to acquire expertise, especially for complex weapons and operations. This rapid personnel turnover affects the PLA's ground forces most because it has a larger proportion of short-term personnel and a smaller cadre of long-term NCOs, but the short service cycle affects all PLA services.

The annual training cycle begins with basic training of recruits from September through December and takes nine months to bring each class up to full combat readiness.¹⁸⁵ The PLA's NCO program helps to offset this conscription cycle by keeping NCOs in the same unit for over a decade and assigning officers to the same command for at least three years.¹⁸⁶ However, China has an annual window of vulnerability during which the force is only partly trained. Further, the need to constantly train new arrivals limits units' abilities to reach higher levels of proficiency.

Short service cycles also limit the PLA's ability to integrate the modern equipment, technologies, and concepts required to meet China's aspirations for technological modernization and complex joint operations. These require time to train personnel on the necessary advanced skills, but the two-year cycle makes this difficult.¹⁸⁷

INCREASING CENTRALIZATION SLOWS MILITARY DECISIONMAKING

President Xi has made personal loyalty a feature of the regime, including for the military and security forces. This has driven an increasing centralization of command. Organizational changes directed by the 2015 Third Plenum implemented the centralization of national security authorities under the president.¹⁸⁸ The rigid command structure at the top levels of Chinese military and political leadership is thus an inherent feature of the Chinese authoritarian system. However, a

183 Chase et al., *China's Incomplete Military Transformation*, 104–105; and David Barr, “This Piece of Chinese Military Hardware Could Change the Balance of Power in Asia,” *National Interest*, November 6, 2017, <https://nationalinterest.org/feature/piece-chinese-military-hardware-could-change-the-balance-23070>.

184 Lyle J. Goldstein, “China's Y-20 Transport Plane: Sending Coronavirus Supplies and Refueling Bombers?,” *National Interest*, March 22, 2020, <https://nationalinterest.org/blog/buzz/chinas-y-20-transport-plane-sending-coronavirus-supplies-and-refueling-bombers-135927>.

185 Zach Morris, “China's Conscription Cycle: Challenges, Vulnerabilities and Opportunities,” *Small Wars Journal*, January 29, 2018, <https://smallwarsjournal.com/jrnl/art/chinas-conscription-cycle-challenges-vulnerabilities-and-opportunities>.

186 Marcus Clay and Dennis J. Blasko, “People Win Wars: The PLA Enlisted Force, and Other Related Matters,” *War on the Rocks*, July 31, 2020, <https://warontherocks.com/2020/07/people-win-wars-the-pla-enlisted-force-and-other-related-matters/>.

187 Chase et al., *China's Incomplete Military Transformation*, 74–86, 141.

188 Anthony Cordesman, *China Military Organization and Reform* (Washington, DC: CSIS, August 2016), 26, <https://www.csis.org/analysis/chinese-military-organization-and-reform>.

command system that relies heavily on small elite groups at the top can cause bottlenecks that delay decisionmaking.¹⁸⁹

PLA reorganization efforts to increase flexibility reflect an understanding of the shortcomings of a rigid command structure. To implement this, the PLA is developing a “system of systems” to integrate its command networks and allow rapid combat decision and execution.¹⁹⁰ The flexibility and rapidity of decisionmaking that this system of systems aims for are in tension with a structure that values loyalty and obedience. How this tension will resolve is unclear, and these reforms are so far untested.

189 Heath, “The Consolidation of Political Power in China Under Xi Jinping.”

190 Jeffrey Engstrom, *Systems Confrontation and System Destruction Warfare: How the Chinese People’s Liberation Army Seeks to Wage Modern Warfare* (Washington, DC: RAND Corporation, 2018), iii, https://www.rand.org/pubs/research_reports/RR1708.html.

Appendix C

Russian Vulnerabilities

Russia's efforts to reassert itself as an influential player in regional and global affairs are unmistakable. An increasingly adventurous foreign policy under President Vladimir Putin has been marked by major military interventions in its "near-abroad," such as in Crimea and Ukraine, and small but focused interventions globally, such as in Syria and Venezuela. Despite this effort to regain great power status, Russia has many vulnerabilities that provide opportunities for Western powers to inflict surprise. Several vulnerabilities act with a multiplier effect: an economic vulnerability exacerbates a military or internal political weakness.

Five vulnerabilities are political/economic.

- Although Putin himself remains popular, many Russians are dissatisfied with a regime that prospers while they are mired in an economy that, although recently expanding, has left many Russians behind.
- In staffing positions of power, Putin has often prioritized loyalty over competence.
- The Russian economy remains reliant on fossil fuel revenues and would face both economic downturn and social unrest if these exports were interrupted or if Europe, Russia's major customer, shifted more strongly toward renewables.
- Chechnya, along Russia's southern flank, has never fully reconciled with its incorporation into the Russian Federation. Sentiment for separatism could break out again.
- Russia east of the Urals is thinly populated, and that population is decreasing. This weakens Russia's grip on the vast area.

The last three vulnerabilities are military/diplomatic.

- Russia's relationship with Belarus, a buffer between NATO countries and Russia, has become strained. Although Russia has generously fulfilled Belarus's energy needs, a recent rift between the two has created a potential diplomatic opening for the West.
- Although Russia has demonstrated strong offensive cyber capabilities, its cyber defenses are weak. Its early-warning mechanisms fail to identify most cyber threats to the country's computer systems, and the Russian population's pervasive use of pirated software, most of which runs on outdated operating systems, further diminishes the country's cyber defenses.
- Militarily, Russia has performed well in its incursions into Ukraine and Syria, having extensively reformed its forces after performing poorly in Georgia in 2008. However, these military operations are not necessarily representative of how Russia would perform in a great power conflict. Considerable weaknesses remain, and Russia's ability to quickly ramp up for great power conflict is questionable.

Political/Economic Vulnerabilities

LATENT DISSATISFACTION WITH THE REGIME

The Russian population's attitude toward its government is bifurcated: President Vladimir Putin's personal appeal and popularity far outweigh that of the regime as a whole, which is widely viewed as systemically corrupt. Putin was re-elected with 76 percent of the vote in 2018, his highest share ever. Although voting irregularities existed, and some opposition candidates were barred from running, broadly speaking, Russians support Putin.¹⁹¹ His approval rating was near 80 percent after the annexation of Crimea in 2014, although by mid-2020 that number had fallen to around 60 percent.¹⁹² Nevertheless, that is a level of support that Western leaders would be thrilled with. Russian expert Peter Elstov highlights Russian elites' nationalistic efforts to unite the Russian speaking peoples of the former Soviet Union and that the elites are not alone. "The Russian people support this nationalistic revival," he notes unequivocally.¹⁹³ On the other hand, concerns about the economy dominate, limiting enthusiasm for adventures abroad.¹⁹⁴

In contrast to Putin's personal popularity, Russians' approval for their government as a whole and the Duma specifically is low. United Russia, which controls the Duma and is also Putin's party, currently maintains a dismal approval rating of 30 percent.¹⁹⁵ This disapproval has manifested itself in several

191 Trevor Hughes, "Putin Elected as Russia's President for Another Six-Year Term," *USA Today*, March 18, 2018, <https://www.usatoday.com/story/news/2018/03/18/putin-headed-easy-re-election-russias-presidential-race-6-more-years/436129002/>.

192 Julie Ray and Neli Esipova, "Economic Problems, Corruption Fail to Dent Putin's Image," Gallup World Poll 2016, March 28, 2017, <https://news.gallup.com/poll/207491/economic-problems-corruption-fail-dent-putin-image.aspx>; and Tom Balmforth, "Trust in Russia's Putin Falls to 13-year Low: State Pollster," Reuters, January 21, 2019, <https://www.reuters.com/article/us-russia-putin-poll/trust-in-russias-putin-falls-to-13-year-low-state-pollster-idUSKCN1PF1TL>.

193 Peter Elstov, *The Long Telegram: A Neo-Kennanite Approach to Russia* (London: Lexington Books, 2020), 113.

194 "Popular Support for Putin Foreign Policy on Decline, Pollster Says," *Moscow Times*, August 9, 2018, <https://www.themoscowtimes.com/2018/08/09/popular-support-for-putins-foreign-policy-is-dropping-a62482>. Most recent polling shows a further drop: "Press Release: Vladimir Putin," Levada Center, May 14, 2020, <https://www.levada.ru/en/2020/05/14/vladimir-putin-9/>.

195 Russia Monitor, "United Russia Congress: Putin Distances Himself from Ruling Party," Warsaw Institute, November 25,

bouts of demonstrations over the past decade. Russians protested fraudulent Duma elections in 2011 and 2016, though the former were more widespread. Large-scale nationwide protests in early 2017 were driven by broader issues, specifically discontent with corruption. In 2018, there were pension protests, 2019 saw protests in Moscow again, and 2020 included protests in Khabarovsk about local corruption.¹⁹⁶

James Dobbins and colleagues argue that the regime's lack of an ideology serves as both a strength and a weakness: it enables ideological malleability but deprives the regime of a backstop to justify its oppressive tendencies and weak economy.¹⁹⁷ Since no other political parties in Russia wield power (and thus cannot take responsibility for policy outcomes), public dissatisfaction lies solely with United Russia.

Widespread disapproval of the Russian government creates a vulnerability. The Russian state might not be able to sustain a prolonged conflict, particularly a conflict that involves a war of aggression and the inevitable setbacks that occur. Mass demonstrations could arise against an unpopular and unsuccessful conflict. Indeed, Putin's creation of the National Guard (Rosgvardiya) and Russia's elaborate internal security mechanisms are designed to guard against such an occurrence, but there is a limit to what the security forces might be able, or willing, to suppress.¹⁹⁸

WEAK GOVERNANCE DRIVEN BY CRONYISM

Russia's governance is weakened by Putin's inclination toward cronyism. Although this creates a group of trusted advisers and increases his personal authority, it also creates dueling power structures, elevates incompetent officials, and discourages candid opinions from being shared. Putin may find himself in a situation like that of Stalin before World War II, with a loyal but incompetent bureaucratic machine and authority divided between official and unofficial channels. The consequences 80 years ago were, of course, catastrophic for Russia: those willing to warn Stalin of the danger that lay ahead were exiled or executed, leading to the Soviet Union's lack of preparedness for the German invasion.

Putin has constructed dual hubs of influence and authority. After (temporarily) vacating the presidency and becoming prime minister in 2009, Putin began to reconstruct his inner circle to fit his new role. Rather than disband it upon returning to the presidency in 2012, he elected to keep this informal advisory group in place. In itself, this is not unusual. Many chief executives have groups of informal advisers. The risk for Russian governance is that the informal advisers clash with the formal bureaucracy. As Konstantin Gaaze, a Russian sociologist and journalist observes, Putin's "Politburo 2.0 is built upon internal conflict in which members can be divided into two categories: government officials and businessmen from Putin's inner circle."¹⁹⁹ Others see a more complicated division of

2019, <https://warsawinstitute.org/united-russia-congress-putin-distances-ruling-party/>.

196 Cyrus Newlin, "Patterns of Dissent in Russia's Regions," CSIS, *Commentary*, July 17, 2020, <https://www.csis.org/analysis/patterns-dissent-russias-regions>; and Cyrus Newlin and Jefferey Mankoff, "Protests in Moscow: What's Different This Time?," CSIS, *Commentary*, August 22, 2019, <https://www.csis.org/analysis/protests-moscow-whats-different-time>.

197 James Dobbins et al., *Extending Russia* (Santa Monica, CA: RAND Corporation, 2019), https://www.rand.org/pubs/research_reports/RR3063.html.

198 Jason Gresh, "Rosgvardiya, Hurling Towards Confrontation?," CSIS, September 21, 2020, <https://www.csis.org/blogs/post-soviet-post/rosgvardiya-hurling-towards-confrontation>.

199 Konstantin Gaaze, "Court and Politburo: Putin's Changing Inner Circle," Carnegie Moscow Center, September 22, 2017, <https://carnegie.ru/commentary/73193>.

power, with many groups vying as Putin delegates more decisions to others.²⁰⁰ Regardless, the inherent tension stemming from multiple factions with diverging sets of interests creates a governance system with a shaky foundation that may paralyze government decisionmaking in a crisis.

Putin's emphasis on loyalty has led him to elevate several incompetent individuals, particularly those who had been responsible for his personal security, to positions of prominence. Since 2016, four officers from Russia's Federal Protective Service (FSO) who had all at one point served as Putin's personal bodyguards have been appointed as regional governors. Several of those who have transitioned from security roles to political ones have not succeeded, however. One former bodyguard challenged Alexei Navalny (a political opposition figure) to a Hamilton-Burr style duel after a dispute; another served as governor of Kaliningrad for only two months before being reassigned; a third stepped down as governor of the Astrakhan region after only 10 months in office.²⁰¹

As Putin makes appointments to shore up his power, potentially until 2036, or to secure his legacy and gradual transition out of government, it is likely that he will continue to elevate loyal associates. His efforts, however, may create vulnerabilities. Dueling loyalties and squabbles for power among relative political neophytes who have been elevated to powerful positions beyond their capabilities may create a civilian decisionmaking apparatus that fails in a crisis. (Russia's military command structures are professional and a degree removed from elite squabbles.)

Finally, with many officials vying for Putin's ear and favor, the incentive is to tell him what he wants to hear, and few will be willing to tell him harsh truths. Dobbins et al. point out that "Putin himself appears to be increasingly subject to an echo chamber effect as his inner circle seems to be less diverse than in previous years."²⁰² In a crisis, these advisers may be reluctant to warn him about the dangers of his actions or about the likely reactions of his adversaries.

ECONOMIC VULNERABILITY: BEHOLDEN TO GLOBAL ENERGY MARKETS

Russia's economic vitality and political stability are bound to the global energy market. In 2018, energy exports accounted for 65 percent of the country's total exports.²⁰³ Any disruption in the flow of these energy exports would jeopardize not just economic performance but also political stability because the revenues support so many social programs. Economist Andrea Benedictow posits that, "as an economy dominated by resource extraction and exports, Russia faces the dangers of Dutch Disease."²⁰⁴

The Russian leadership views economic and political stability as part of the same equation.²⁰⁵ Publicly, Putin has recognized the economic pain felt among a large swath of the Russian populace and has committed

200 Tatiana Stanovaya, "The Moscow Regime Cracks," Carnegie Moscow Center, May 7, 2020, <https://carnegie.ru/2020/05/07/putin-regime-cracks-pub-81726>.

201 "The Improbable Careers of Vladimir Putin's Bodyguards," *The Economist*, June 22, 2019, <https://www.economist.com/europe/2019/06/22/the-improbable-careers-of-vladimir-putins-bodyguards>.

202 Dobbins et al., *Extending Russia*, 34.

203 World Bank Group, *Weaker global outlook sharpens focus on domestic reforms*, Russia Economic Report #42 (Washington, DC: 2019), <http://pubdocs.worldbank.org/en/617741575429785951/rer-42-eng.pdf>.

204 Andrea Benedictow, Daniel Fjærtøft, and Ole Løfsnæs, "Oil Dependency of the Russian Economy: An Econometric Analysis," *Economic Modelling* 32 (May 2013): 403, doi:10.1016/j.econmod.2013.02.016.

205 Andrew Radin et al., *The Future of the Russian Military* (Santa Monica, CA: Rand Corporation, 2019), 9, https://www.rand.org/pubs/research_reports/RR3099.html.

to providing increased social spending.²⁰⁶ Privately, Putin and the regime are certainly aware that public acquiescence is connected to the state's ability to provide a more robust social safety net, and they recognize that the funds for such programs depend on the continuous flow of oil and gas. Loss of a significant portion of these revenues would create unfavorable economic conditions. When global oil and gas prices have fallen, as in 1998, 2009, and from 2014 to 2016, the Russian economy has faced stagnation or recession.²⁰⁷

Falling energy prices or the interruption of energy delivery because of a conflict would force the government to make hard economic choices, such as cutting public pension payments (which are indexed to inflation and relied upon by the state to redistribute wealth), and, thus, directly reduce Russians' disposable income.²⁰⁸ A population already dissatisfied with the regime would likely become increasingly disenchanted if their standard of living were lowered; this would raise the possibility of unrest.

Russia's reliance on energy exports constitutes a significant vulnerability. Though Russia earns far less from gas exports than from oil, its gas revenues are particularly vulnerable. Europe receives 90 percent of such exports, much of which goes to the European Union.²⁰⁹ Gazprom, Russia's state-owned gas giant, sent 81 percent of its exports to Western Europe in 2018.²¹⁰ Cutting off that supply (whether through diplomatic efforts, convincing EU allies to do so, or by kinetic action) would reduce Russia's export revenues, thus reducing funds available for social policies. However, the dependence is mutual; 40 percent of Europe's total gas imports come from its eastern neighbor.²¹¹

Most Russian oil (about 70 percent) is also exported to Europe. Approximately 95 percent of the oil extracted within Russia is internally transported through the main oil pipeline system run by state-owned Transneft. However, 80 percent of Russia's oil exports ultimately reach their destination countries by sea. Thus, Russia's oil exports are vulnerable, but in a different way than that of its gas exports. An interdiction campaign would be maritime rather than land based.²¹²

INTERNAL REGIONAL INSTABILITY: CHECHNYA AND THE CHALLENGES OF A MULTIETHNIC EMPIRE

Although many ethnic groups broke away with the dissolution of the Soviet Union, Russia still exhibits characteristics of a multiethnic empire. Russians comprise 77 percent of the population, but there are dozens of minorities: Tatars, Ukrainians, Chechnyans, Turkic speakers, and many indigenous groups. Unlike ethnic groups in the United States, ethnic groups in Russia are often concentrated in regions

206 Henry Foy, "Vladimir Putin Pledges Big Social Spending Increases in Annual Address," *Financial Times*, February 20, 2019, <https://www.ft.com/content/7392c0ae-34f2-11e9-bd3a-8b2a211d90d5>.

207 Nikos Tsafos, "Who's Afraid of Russian Gas? Bridging the Transatlantic Divide," CSIS, *CSIS Brief*, May 3, 2018, <https://www.csis.org/analysis/whos-afraid-russian-gas-bridging-transatlantic-divide>.

208 World Bank Group, *Weaker global outlook*, 30.

209 Dobbins et al., *Extending Russia*, 59.

210 "Delivery Statistics," Gazprom Export, 2018, <http://www.gazpromexport.ru/en/statistics/>.

211 Ibid.; Paul Belkin, Michael Ratner, and Cory Welt, "Russia Nord Stream 2 Pipeline: A Push for the Finish Line," Congressional Research Service, May 28, 2020, <https://crsreports.congress.gov/product/pdf/IF/IF11138>. The Nord Stream Pipeline transports 55 billion cubic meters annually to Germany. Russia exports 160 billion cubic meters annually to Western Europe.

212 "Russia Exports Most of its Crude Oil Production, Mainly to Europe," U.S. Energy Information Administration, November 14, 2019, <https://www.eia.gov/todayinenergy/detail.php?id=33732#>.

with a long local history, including varying measures of autonomy or even independence. There are frequent tensions with central direction from Moscow.

Chechnya stands out as a region of tension and potential separatism. Forced to become part of the Russian Federation, resentment lingers about that incorporation. Further,

Chechnya has long been a region of instability and rebellion since its conquest by the Romanovs in 1859—a brutal campaign that took 40 years. In the post-Soviet era, Chechnya sought independence from the newly formed Russian Federation, efforts that were twice crushed by military force. Today, while separatist efforts have diminished, Russia’s tenuous hold on the region depends on Chechnya’s president, Ramzan Kadyrov, who was installed by Putin in 1996.

Since 2009, the end of the last military conflict between Moscow and Grozny, Chechens have continued to show episodic expressions of discontent. In August 2018, Chechens from across the North Caucasus flocked to the settlement of Geldagan to express their anger at the death of Yusup Temerkhanov, a man who had killed a Russian officer and died in a Siberian prison camp.²¹³

Kadyrov sided with his people in this episode and voiced their collective desire for “equality and justice.”²¹⁴ Nevertheless, Kadyrov shows unwavering loyalty to Putin while maintaining absolute rule in Chechnya. Putin and Kadyrov have an implicit bargain.²¹⁵ So long as Chechnya’s separatist factions do not resurface and the republic remains quiet, Putin grants Kadyrov wide latitude to rule Chechnya. By depending on a single individual, however, this bargain creates a vulnerability for Russia. If Kadyrov dies or popular discontent forces him to break with Putin, then Chechnya’s separatist tendencies will likely resurface.

THE EMPTY TERRITORY EAST OF THE URALS

Russia east of the Urals has large amounts of natural resources that the Russian Federation, and the Soviet Union before it, has endeavored to exploit.

However, the area is very lightly populated. Just 6.1 million people live in Russia’s Far East region, or 4 percent of the country’s population.²¹⁶ The region is vast and sparsely populated: its population density is 2.5 people per square mile, denser than Alaska but less so than Wyoming.

	Land mass (sq.mi.)	Population	Density (population per square mile)
Russia east of Urals	2,400,000	6,100,000	2.5
Alaska	586,000	731,000	1.3
Wyoming	97,818	578,000	5.9

Even this small population is declining. During the Soviet Union, the government used many tools, both incentives and coercion, to get people to live in these austere regions. However, with the advent

213 Kathrin Hille, “How Chechnya’s Ramzan Kadyrov Could Destabilize Russia,” *Financial Times*, August 28, 2018, <https://www.ft.com/content/c8dad00-a086-11e8-85da-eeb7a9ce36e4>.

214 Ibid.

215 Brian Whitmore, “Putin’s Willing Executioner,” *The Atlantic*, February 4, 2016, <https://www.theatlantic.com/international/archive/2016/02/russia-putin-ramzan-kadyrov/459990/>.

216 Andrew Higgins, “Russia Looks to Populate its Far East. Wimps Need Not Apply,” *New York Times*, July 14, 2016, <https://www.nytimes.com/2016/07/15/world/europe/russia-looks-to-populate-its-far-east-wimps-need-not-apply.html>.

of the Russian Federation, the government was no longer willing or able to continue these measures, so the region has lost population. Approximately 8 million people lived in this region under the Soviet Union, but this number has fallen by about 2 million.²¹⁷ Further, the composition of this population has changed—and not in Moscow’s favor. The Russian Slavic share of the population grew to 80 percent during Soviet times, but this proportion has fallen to 60 percent, with the non-Slavic population rising to 40 percent. Current trends indicate that these numbers will roughly equalize before 2030.²¹⁸

Further, the population resents what they were regarded as an unfair exchange with European Russia. They live in a harsh environment and supply valuable raw materials to the rest of Russia but receive much less in return.²¹⁹ In 2019, for example, thousands protested the construction of a landfill in the far north Arkhangelsk region, prompting the local government to cancel the project. After wildfires devastated the Siberian city of Krasnoyarsk, protesters demanded the resignation of the Putin-backed governor. In 2020, tens of thousands in Khabarovsk rallied against the Russian government after the arrest of Sergei Furgal, the region’s popular governor.

Lingering in the background is a concern about China. Whereas Russia’s territory is lightly populated, China’s territory is densely populated: 110 million Chinese live just over the border in Manchuria. Any instability in the Far East would raise the question of whether Russia might lose control of large swaths of territory.²²⁰

Military/Diplomatic Vulnerabilities

ALLIANCE TENSIONS

Russia has few alliance partners. In the post-Soviet world, Belarus and Kazakhstan became its most reliable partners. Although both have had long-standing ties to Russia, both nations have experienced recent tensions in the relationship.

Belarus—Tensions in the Moscow-Minsk Alliance: Despite its historically close ties with Russia, Belarus shows signs of discontent that portend a weakening of the relationship with Russia. Alexander Lukashenko, Belarus’s president since 1994, has maintained a firm grip on power and has historically been a reliable ally to Russia. Indeed, Russian foreign policy overtly recognizes the importance of Belarus. In the 2016 version of Russia’s official foreign policy document, the *Foreign Policy Concept of the Russian Federation*, the Russian Foreign Ministry declared that it “is committed to expanding strategic cooperation with the Republic of Belarus within the Union State with a view to promoting integration in all areas.”²²¹

217 Ibid.

218 Paul Goble, “Ethnic Balance Shifting Against Moscow East of Urals,” Jamestown Foundation, June 22, 2016, <https://jamestown.org/ethnic-balance-shifting-against-moscow-east-of-the-urals/>.

219 Aleksei Tarasov, “Has Siberia Had Enough of Russia?,” Open Democracy, November 21, 2013, <https://www.opendemocracy.net/en/odr/has-siberia-had-enough-of-russia/>.

220 This fear has struck deep into the Russian consciousness, though not all take it seriously. For a skeptical view, see Ben Judah, “Why Russia Is Not Losing Siberia,” Open Democracy, January 25, 2013, <https://www.opendemocracy.net/en/odr/why-russia-is-not-losing-siberia/>.

221 Ministry of Foreign Affairs of the Russian Federation, *Foreign Policy Concept of the Russian Federation* (Moscow: November 2016), https://www.mid.ru/en/foreign_policy/official_documents/-/asset_publisher/CptICkB6BZ29/content/id/2542248.

Despite Russia's considerable influence, Belarus has historically straddled diplomatic and military lines between Russia and Europe. It is not a member of the European Union but of the Russian-led Eurasian Economic Union.²²² It is a NATO partner nation but is also militarily linked to Russia as a member of the Collective Security Treaty Organization.²²³

Not surprisingly, the relationship between the two countries has tensions. Recently, a rift over oil supplies has been a point of contention. Belarus has relied on Russia to sell it deeply discounted oil, which it then exports to Europe at market prices, earning it approximately \$2 billion per year.²²⁴ In January 2020, Moscow cut off these oil supplies for three days before restoring shipments to 25 percent of their original levels. In response, Minsk decided to seek oil from other sources, striking a deal with Norway to plug a portion of the shortfall. Secretary of State Mike Pompeo recently met with Lukashenko (Pompeo is the first U.S. secretary of state to visit Belarus in 25 years) and offered American oil to meet Belarus's needs.²²⁵

This economic dispute between Putin and Lukashenko illustrated a deeper tension over their long-term relationship. The former stated that continued gas discounts will cease unless the two countries developed deeper ties, while the latter cautioned that war may result from a forced union.²²⁶ The root of Moscow's insistence on further integration is a 1997 union agreement that would bring the two countries closer politically, economically, and militarily, but a full merger was not stipulated. The Belarusian people largely oppose Putin's attempts at integration, which they see as an effort to turn Belarus into a Russian satellite state. In December 2019, about 1,000 protestors took part in a demonstration to voice their disapproval of any such measures.²²⁷ Russian scholar Jeffrey Mankoff observes that "Moscow risks underestimating the willingness of Belarusians to stand up for their independence."²²⁸

Belarus is also currently experiencing political upheaval as a result of a disputed election, making Alexander Lukashenko's hold on power less certain.

Any peacetime rift between Russia and Belarus would raise the possibility of having NATO activities on Russia's doorstep. In wartime, even a neutral Belarus would constitute a major NATO advantage because Belarus lies between Russia and the Baltic states. In any regional conflict, Russia would want

222 Emily Tamkin, "What Exactly is Going on Between Russia and Belarus?," *Foreign Policy*, February 6, 2017, <https://foreignpolicy.com/2017/02/06/what-exactly-is-going-on-between-russia-and-belarus/>.

223 Alexis Mrachek, *U.S. Relations with Belarus and the Russia Effect* (Washington, DC: Heritage Foundation, August 2019), 2, <https://www.heritage.org/europe/report/us-relations-belarus-and-the-russia-effect>.

224 "Economic Health of Belarus, in Dispute with Russia over Oil Supplies," Reuters, January 14, 2020, <https://www.reuters.com/article/uk-russia-oil-belarus-economy-factbox/factbox-economic-health-of-belarus-in-dispute-with-russia-over-oil-supplies-idUSKBN1ZD1QZ>.

225 "Pompeo Offers Belarus Oil in Rare Visit," BBC, February 1, 2020, <https://www.bbc.com/news/world-europe-51342197>.

226 Vladimir Soldatkin, "Putin to Belarus: No Gas Discount Before Union State is Advanced," Reuters, December 19, 2019, <https://www.reuters.com/article/us-russia-belarus-union/putin-to-belarus-no-gas-discount-before-union-state-is-advanced-idUSKBN1YN1Y1>; and Vladimir Isachenkov, "Belarus' Leader Warns Russia Against Forceful Merger," Associated Press, December 24, 2019, <https://apnews.com/0ef06c716e331bd4411441a8b4b63af7>.

227 Tomasz Gryzwaczewski, "The Birth of Belarusian Nationalism," *Foreign Policy*, January 30, 2020, <https://foreignpolicy.com/2020/01/30/the-birth-of-belarusian-nationalism/>.

228 Jeffrey Mankoff, "Will Belarus Be the Next Ukraine?," *Foreign Affairs*, February 5, 2020, <https://www.foreignaffairs.com/articles/belarus/2020-02-05/will-belarus-be-next-ukraine>.

to move its forces through Belarus territory. This would force Belarus to be a combatant and vulnerable to NATO countermeasures, a role Belarus may not want to play.

Kazakhstan—Expressing Its Autonomy: In contrast to the overt disagreements between Belarus and Russia, the relationship between Kazakhstan and Russia is more fluid and nuanced. Unlike Belarus, Kazakhstan has not been overly reliant on its Russian neighbor; it maintains fruitful relationships with both the United States and China. Though Kazakhstan’s ties to Russia remain close, it is simultaneously becoming more economically autonomous. Kazakhstan, for example, has also received significant investment from China’s Belt and Road Initiative. Overall, it appears to be closer to a “free agent” than a Russian client.

Kazakhstan has taken recent steps to distinguish its culture, diplomatic aims, economic ties, and security from Russian influence. In 2017, Kazakhstan’s then-president, Nursultan Nazarbayev, signed a decree to transition the country from Cyrillic to the Latin alphabet. The Russian reaction to the change was hostile, as commentators labeled it an attack on Russian culture and a threat to Moscow’s influence over the former Soviet states.²²⁹ According to Stephen Blank, an expert on Russia and Central Asia, this move “clearly signaled Kazakh independence.”²³⁰ Kazakhstan is also becoming an energy rival to Russia as it further develops its oil production capacity and supplies energy to Central Asia. Perhaps most crucially, Kazakhstan’s relationship with the United States has become closer as the former opens its economy and becomes the benefactor of more favorable U.S. economic policy.²³¹

Russia has two military installations in Kazakhstan: the Sary Shagan site, to test antiballistic missiles, and the Baikonur Cosmodrome, a space launching facility.²³² Although Russia does not house military troops in Kazakhstan, Moscow would almost certainly expect unequivocal backing from President Tokayev in the event of war. Based on the efforts of both Tokayev and his predecessor, who still heavily influences policy and decisionmaking, to become more independent from Russia, this is not guaranteed. Kazakhstan appears to balance Russia with China and the United States and is able to make decisions that place the country in the most advantageous position without fear of relation from Moscow. In the event of war between Russia and the United States, Tokayev may well conclude that Russia would ultimately be on the losing side. This would potentially drive Kazakhstan to a policy of strict neutrality. At the extreme, it might allow the United States access to Russia from its southern flank, forcing Putin to divert forces from other theaters while also exposing Russian oil and gas pipelines that feed through Kazakhstan.

CYBER WEAKNESSES: THE AGGRESSOR LACKS A ROBUST DEFENSE

Because Russia is known for its cyberattacks, outside observers might assume that its cyber defenses are strong. However, this is not the case; its defenses against cyberattacks are markedly deficient. The

229 Paul Goble, “Moscow Reacts to Kazakhstan and Kyrgyzstan Switching from Cyrillic with Hysterics,” Euromaidan Press, April 18, 2017, <http://euromaidanpress.com/2017/04/18/moscow-reacts-to-kazakhstan-and-kyrgyzstan-switching-from-cyrillic-with-hysterics-euromaidan-press/>.

230 Stephen Blank, “As Kazakhstan Asserts its Independence, How will Russia React?,” *War on the Rocks*, July 31, 2018, <https://warontherocks.com/2018/07/as-kazakhstan-asserts-its-independence-how-will-russia-react/>.

231 Ibid.

232 “Baikonur Cosmodrome,” NASA, https://www.nasa.gov/mission_pages/station/structure/elements/baikonur.html; and Damien Sharkov, “Russia’s Military Compared to the U.S.: Which Country Has More Military Bases Across the World,” *Newsweek*, June 3, 2018, <https://www.newsweek.com/russias-military-compared-us-which-country-has-more-military-bases-across-954328>.

2017 WannaCry cyberattacks conducted by North Korea exposed Russia's technological weakness, as thousands of its corporate and government networks were affected. Notably, the Ministry of Interior, the government agency tasked with domestic cyber security, was infected. Russian companies appear to have had difficulty fending off cyberattacks that have originated in Russia itself. For example, in 2017, a ransomware program called NotPetya, which the United States and Britain attributed to the Russian government, successfully penetrated gas giant Rosneft.²³³

Overall, Russia's computer infrastructure is aging, and its approach to cybersecurity is lax, making the country vulnerable to cyberattacks. Cyber security expert Greg Sim notes that Russia is over-reliant on simplistic cyber defense methods, as users and companies forego upgrading to modern defenses that can scan email for potential threats.²³⁴ An additional weak point is Russians' consumption of pirated software. According to Software Alliance, an industry group, 87 percent of the software used in Russia is pirated—the fifth highest rate in the world.²³⁵ Most users of pirated software avoid updating their operating systems to help them dodge authenticity tests performed by software producers (for example, Microsoft). However, this makes them vulnerable to cyberattacks.²³⁶

The breadth and responsiveness of Russia's software vulnerability database, known as the Data Security Threats Database (BDU in Russian), lags considerably behind that of both the United States and China. According to an analysis by Recorded Future, a threat intelligence firm, the United States' equivalent database, the National Vulnerability Database (NVD), identifies nearly 108,000 security holes, while Russia's contains around 11,000—just 10 percent of known vulnerabilities. There is an inverse relationship between the number of security holes identified and cyber risk: the more gaps identified, the more likely it is that those vulnerabilities will be patched. There is also a significant lag time in Russia between vulnerability identification and its inclusion in the database, delaying widespread awareness of the threat. It takes an average of 95 days for an identified issue to be included in Russia's BDU, while it takes 45 days in the United States and 11 in China.²³⁷ Thus, Russia's weak cyber defenses create a vulnerability to the kinds of attacks that Russia itself has conducted.

MILITARY MODERNIZATION: PROGRESS MADE BUT GAPS PERSIST

The Russian military is not that of the Soviet Union. It is one-quarter the size (900,000 today versus 3.7 million at the end of the Cold War) and receives about a sixth as much of the nation's GDP (4 percent today versus 22 to 24 percent during the Cold War).²³⁸ Nevertheless, the Russian military

233 Nicholas Morgan, "Russia's Cyber Blind Spot: Vulnerabilities and Measures," Global Risk Insights, March 26, 2019, <https://globalriskinsights.com/2019/03/russia-cyber-attacks-blindspot/>.

234 Ivana Kottasova, "Why Russia's Cyber Defenses are so Weak," CNN, May 15, 2017, <https://money.cnn.com/2017/05/15/technology/russia-vulnerable-cyberattack/>.

235 Business Software Alliance, *First Annual BSA and IDC Global Software Piracy Study* (Washington, DC: 2019), https://www.bsa.org/files/reports/IDC_GlobalPiracyStudy_2004.pdf.

236 Kottasova, "Why Russia's Cyber Defenses are so Weak."

237 Eduard Kovacs, "Russia's National Vulnerability Database Slow, Incomplete," Security Week, July 16, 2018, <https://www.securityweek.com/russias-national-vulnerability-database-slow-incomplete>.

238 International Institute for Strategic Studies (IISS), *Military Balance 2018* (London: 2018), <https://www.iiss.org/publications/the-military-balance/the-military-balance-2018>; IISS, *Military Balance 2020* (London, 2020), <https://www.iiss.org/press/2020/military-balance-2020>; for discussion of GDP burden, see Andrew Krepinevich and Barry Watts, *The Last Warrior: Andrew Marshall and the Shaping of the Modern American Defense Strategy* (New York: Basic Books, 2015), 170–174.

punches above its weight, maintaining military capabilities across all warfighting domains. However, because of the limited resources, Russia must target the areas where it will compete.

After the Cold War, the Russian military collapsed, enduring years of low readiness and lack of procurement. The military's poor performance in the war against Georgia was a wake-up call. As a result, the Russian military undertook a broad set of reforms beginning in 2008. Much of the effort centered on military personnel. Russia sought to reduce the size of its military and professionalize it. Overall, the number of troops declined from 1.2 million to fewer than 1 million, and the officer corps shrank from 355,000 to 220,000. In addition, the four-tier command system was to be reduced to two tiers to more nimbly respond to threats. A weapons modernization plan was also undertaken.²³⁹

The focus has been homeland defense. Russia has invested heavily in strategic deterrence across four main categories:

- **Air defense systems:** It has deployed new and modernized systems to bolster its ability to defend the homeland. However, as Andrew Radin et al. point out, sanctions have restricted imports, and funding through state programs has been reduced.²⁴⁰
- **Command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR):** Russia has made significant strides in this domain. The software and hardware used to produce the networks and platforms that underpin Russia's C4ISR capabilities are constructed domestically, helping to shield these force capabilities from sanctions. Radin et al. note that, despite these investments, there is an enduring gap between Russia and the West, though that will likely grow with increased NATO spending.²⁴¹
- **Long-range strike capabilities:** Russia views this capability as low-cost deterrence against the West.
- **Nuclear:** Russia has modernized land-based ICBMs with the SS-27 missile, but other elements of nuclear forces, such as the sea and air-based systems, have languished.²⁴² Russia's early-warning system was inherited from the Soviet Union, and its capability has declined. Russia's current nuclear force level—1,326 according to the most recent data available—is below the New START Treaty limit of 1,550 deployed nuclear warheads.²⁴³
- **Small-scale forces:** The Russian military has invested in highly trained and rapidly deployable forces (paratroopers, Spetsnaz)—elite ground units that can deploy rapidly for small-scale conflicts, such as in the Crimea and Syria.

239 Anton Lavrov, *Russian Military Reforms and from Georgia to Syria* (Washington, DC: CSIS, November 2018), https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/181106_RussiaSyria_WEB_v2.pdf?sM_hVtQ0qs4_TTU9rSTS_sDJJvcB.IPg; and James Nichols, *Russian Military Reform and Defense Policy*, CRS Report No. R42006 (Washington, DC: Congressional Research Service, August 2011), <https://fas.org/sgp/crs/row/R42006.pdf>.

240 Radin et al., *The Future of the Russian Military*, 50.

241 Ibid., 50.

242 Keith Crane, Olga Oliker, and Brian Nichiporuk, *Trends in Russia's Armed Forces* (Santa Monica, CA: RAND Corporation, 2019), 50, https://www.rand.org/pubs/research_reports/RR2573.html.

243 "New START Treaty Aggregate Numbers of Strategic Offensive Arms," U.S. Department of State, Bureau of Arms Control, Verification and Compliance, March 1, 2020, <https://www.state.gov/new-start-treaty-aggregate-numbers-of-strategic-offensive-arms-13/>. Amy F. Woolf, *Russia's Nuclear Forces: Doctrine, Forces, and Modernization* CRS Report No. R45861 (Washington, DC: Congressional Research Service, July 20, 2020), <https://fas.org/sgp/crs/nuke/R45861.pdf>.

These efforts have been effective, at least when taking on regional and weaker opponents. Nevertheless, Russia has been unable to modernize across all warfighting domains and thus remains weak in some key areas.

- **Offensive air and sea forces:** The Russian air force has attempted to develop a stealth fighter jet capable of competing with the U.S. Air Force's F-22, but those efforts were eventually abandoned. The Russian navy's size is a fraction of the former Soviet Union's, and its ability to maintain vessels is severely deficient.
- **Conventional military forces:** Russia has sought to develop more ready and professional conventional ground forces. Unlike the Soviet Union, however, Russia lacks a strong reserve force and the staying power that such a reserve force provides. This results from a focus on training the active forces and the consequently lower priority for reserve forces. Although Russia had planned to develop a more operational and proficient reserve system to make use of personnel with recent military experience, these plans have not been well funded.

Russia has tried to move away from conscription, with the result that over half the force is made up of "contract servicemembers," that is, volunteers. However, it has been unable to move to a fully volunteer force because of the cost and the difficulties in recruiting. Having a large number of conscripts constrains Russian military options because conscripts are, by Russian law, prohibited from serving outside of Russia.²⁴⁴

244 Radin et al., *The Future of the Russian Military*, 42.

About the Author

Mark F. Cancian (Colonel, USMCR, ret.) is a senior adviser with the CSIS International Security Program. He joined CSIS in April 2015 from the Office of Management and Budget, where he spent more than seven years as chief of the Force Structure and Investment Division, working on issues such as Department of Defense budget strategy, war funding, and procurement programs, as well as nuclear weapons development and nonproliferation activities in the Department of Energy. Previously, he worked on force structure and acquisition issues in the Office of the Secretary of Defense and ran research and executive programs at Harvard University's Kennedy School of Government. In the military, Colonel Cancian spent over three decades in the U.S. Marine Corps, active and reserve, serving as an infantry, artillery, and civil affairs officer and on overseas tours in Vietnam, Desert Storm, and Iraq (twice). Since 2000, he has been an adjunct faculty member at the Johns Hopkins School of Advanced International Studies, where he teaches a course on the connection between policy and analysis. A prolific author, he has published over 40 articles on military operations, acquisition, budgets, and strategy and received numerous writing awards. He graduated with high honors (*magna cum laude*) from Harvard College and with highest honors (Baker scholar) from Harvard Business School.

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