

Georgetown Security Studies Review

Volume 12 | Issue 2

March 2025

An official publication of the Center for
Security Studies at Georgetown University's
Edmund A. Walsh School of Foreign Service



Georgetown Security Studies Review

Volume 12 | Issue 2

March 2025

An official publication of the Center for Security Studies at
Georgetown University's Edmund A. Walsh School of Foreign Service

<https://georgetownsecuritystudiesreview.org>

Disclaimer

The views expressed in Georgetown Security Studies Review do not necessarily represent those of the editors or staff of GSSR, the Edmund A. Walsh School of Foreign Service, or Georgetown University. The editorial board of GSSR and its affiliated peer reviewers strive to verify the accuracy of all information contained in GSSR. However, the staffs of GSSR, the Edmund A. Walsh School of Foreign Service, and Georgetown University make no warranties or representations regarding the completeness or accuracy of information contained in GSSR, and they assume no legal liability or responsibility for the content of any work contained therein. Copyright 2012–2025, Georgetown Security Studies Review. All rights reserved.

GEORGETOWN SECURITY STUDIES REVIEW

Published by the Center for Security Studies
at Georgetown University's Edmund A. Walsh School of Foreign Service.

EDITORIAL STAFF

Sarah Cope, *Editor-in-Chief*

Jakob Grein, *Deputy Editor-in-Chief*

Shane Ward, *Associate Editor for Europe & Central Asia*

Zach Solomon, *Associate Editor for the Indo-Pacific*

Apurva Ramakrishnan, *Associate Editor for the Middle East & North Africa*

Jordyn Abrams, *Associate Editor for Sub-Saharan Africa*

Ryan Wisowaty, *Associate Editor for the Western Hemisphere*

Juan-Pablo Villasmil, *Associate Editor for the Western Hemisphere*

Eva Siegman, *Associate Editor for Biosecurity & Health*

Ilana Krill, *Associate Editor for Gender & Identity*

Christian Trotti, *Associate Editor for Defense*

Thekla Ketcher, *Associate Editor for Race & Security*

Danny Smith, *Associate Editor for Technology*

Nikitha Rai, *Associate Editor for Technology*

Zoë Kern, *Associate Editor for Terrorism & Transnational Threats*

Angela Yu, *Associate Editor for Geoeconomics and Resource Competition*

PEER REVIEW STAFF

Dylan Gooding, *Senior Peer Reviewer*

Samantha Olsen, *Senior Peer Reviewer*

Rudy Antoncic, *Peer Reviewer*

Hannah Wallinger, *Peer Reviewer*

Leo McMahon, *Peer Reviewer*

Alicia Liu, *Peer Reviewer*

Olivia Sessum, *Peer Reviewer*

Zeynep Ozharat, *Peer Reviewer*

Annabel Doherty, *Peer Reviewer*

Emily Kunasek, *Peer Reviewer*

Iselin Brady, *Peer Reviewer*

Lauren Akgerman, *Peer Reviewer*

Jolisse Gray, *Peer Reviewer*

A Note from the Editors

The world finds itself in times of monumental upheavals. Nations are taking divergent paths, and the established world order is in question. In these uncertain times, we cannot underestimate the importance of scholarship that seeks to illuminate the past and present, helping policymakers better understand the world. *The Georgetown Security Studies Review* aims to contribute to this endeavor. In many ways, Georgetown University is the city on the hill. It overlooks Washington, D.C., a seat of immense power, and its classrooms contain an international cross-section of people dedicated to public service, academic thought, and global affairs. The *Georgetown Security Studies Review* takes the responsibility endowed by this privileged position seriously. We hope to use these pages to uplift an array of voices from across the international security community.

The articles featured in this issue cover a variety of topics, but three overarching themes emerge: nuclear weapons, great power competition, and the continued threat of terrorism. The 2022 full-scale invasion of Ukraine by the Russian Federation and the continued escalation between Israel and Iran have propelled nuclear weapons and the threat of their use to the forefront of global attention. As the world marks the somber third anniversary of Russia's invasion of Ukraine, conflict rages on against the backdrop of intensifying great power competition and an increasingly reticent United States. Rising powers, principally the Russian Federation and the People's Republic of China, profoundly challenge the established world order led by the United States. These upheavals impact global security dynamics in myriad ways, some of which are discussed in this edition of *The Georgetown Security Studies Review*. The contributions to this issue are grouped according to the overarching themes.

The Editorial Team would like to thank the contributors for their dedication, rigor, and commitment to the highest academic standards. Further, the Editorial Team would like to thank all staff members involved in realizing this issue, who have not only poured time and effort into this journal but have ensured that the contributions submitted to the GSSR are held to the highest academic standard. The staff's commitment to the *Georgetown Security Studies Review* makes this journal possible, and no words can express the gratitude, appreciation, and commendation each staff member deserves.

The Editorial Team would like to call upon you, readers, thinkers, and community members, to heed the warnings presented by these articles, whether they concern the intensification of great power competition, lessons from the past, or the rising proliferation of nuclear weapons. We urge you to contemplate what this upheaval means for the security of people across the globe and to consider paths forward that prioritize peace, security, prosperity, and human dignity. We ask those in positions of power to reject the call for isolation in these tumultuous times. Instead, extend a hand to the global community shaped by the challenges of centuries past.

Sincerely,

Sarah Cope, *Editor-in-Chief*,

Jakob Grein, *Deputy Editor-in-Chief*

The *Georgetown Security Studies Review* is the official academic journal of Georgetown University's Security Studies Program. Founded in 2012, the GSSR has also served as the official publication of the Center for Security Studies and publishes regular columns in its online Forum and occasional special edition reports.

Access the *Georgetown Security Studies Review* online at
<https://georgetownsecuritystudiesreview.org>

Contact the Editor-in-Chief at gssr@georgetown.edu

This page is intentionally left blank.

TABLE OF CONTENTS

Great Power Competition

China and Russia in a Heterogeneous Arctic: Building Purview with “Sharp” Instruments.....1-36
By Laurel Baker

Don’t Look Up: Deterrence and Prospects for Arms Control in the New Era of the Space Race.....37-52
By Mariam Kvaratskhelia

The Russian Invasion of Ukraine and Lessons for the Future of Air Superiority.....53-63
By Talha Madni

Reviving Alliances: The Risks of Egypt's Growing Partnership with Russia.....64-80
By Sebastian Bienkowski

Nuclear Weapons

Missing the Soviet Union’s Nuclear Test “First Lightning”: A Case Study of U.S. Intelligence Failure and Lessons Learned.....81-97
By Mariam Halstian

The Global Shift to Tactical Nuclear Weapons.....98-122
By Tin Pak & Sam Lee

Terrorism

Lessons for Counterterrorism: China and the East Turkistan Movement (ETIM).....123-139
By Apurva Ramakrishnan

Applying Counterfactual Analysis to the Study of Terrorism.....140-157
By Chris Quillen

The People's Republic of China and Russia in a Heterogeneous Arctic: Building Purview with 'Sharp' Instruments

Laurel Baker

The Arctic, like most other regions of major geopolitical consequence, is increasingly vulnerable to irregular activity, which this study aims to define more rigorously. In doing so, it reviews susceptibilities within the Arctic's heterogeneous governance architecture through the lens of 'sharp power'—that which undermines faith in or the function of institutions. Sharp power lies on a spectrum between 'soft power,' which is attractive and non-militaristic, and 'hard power,' which is militaristic. It describes coercive actions short of war, and may be employed independently or in support of existing soft or hard power operations. This article argues that 'purview building,' or the process of states encroaching on extranational spaces through national jurisdiction, is the most concerning and relevant effect of 'sharp' actions. This investigation unfolds through the case studies of Russia's and the People's Republic of China's (PRC) Arctic activity. Drawing from a rich body of literature, it ultimately demonstrates that sharp power is not an equally powerful explanatory tool for the two states' behavior in the region. The Russian state clearly and repeatedly attempts to extend its influence in the Arctic beyond its borders, to the detriment of the region's administration. The Chinese state, while politically and economically ambitious early in its Arctic tenure, is not yet a 'revisionist' or uniquely subversive Arctic actor, nor does it overtly intend to undermine Arctic institutions. However, Beijing has attempted to renegotiate the geographic (and thus, influential) boundaries of the Arctic by identifying the PRC as a "near-Arctic state." Hence, both governments are building their extranational purview, but with different instruments and to different ends. The two states cannot be conflated because, despite superficial alignments in what they jointly stand against, there is not enough political synergy between the two to constitute a 'bloc' or 'axis,' at least in the Far North. This analysis is important for evolving Western approaches to Arctic governance; policymakers should be careful of misdiagnosing independent or joint Russian and PRC efforts and subsequently prescribing ineffective policies. In particular, authoritarian states are capable of dynamic and even contradictory approaches to 'world order,' which complicates how Western democracies should interface with perceived challengers, especially in the global commons. Furthermore, it problematizes scholars' ability to predict and preempt a state's behavior by extrapolating from previous conduct elsewhere. This article thus posits separate conclusions about the Sino-Russian relationship and its ramifications for future Arctic governance.

Introduction

It is almost a truism among Arctic scholars that what happens in the Arctic does not stay there. As a climatic bellwether and resource hub, the region's character increasingly reflects intersecting global and national security interests, resulting in mounting concerns over the Arctic's "spillover" effects.¹ The inverse is also true; the Arctic's security parameters are changing from the outside in. Globalization has enlarged a

formerly littoral agenda, meaning external states' geopolitical entanglements and ambitions will increasingly infiltrate the Arctic.² Consequently, the Arctic is ever more vulnerable to unconventional kinetic and non-kinetic threats. This study defines these threats more rigorously by investigating the *who, what, where, when, and why* of one kind of irregular activity—'sharp power'—against the backdrop of Russia's and the PRC's extensive irregular apparatuses.³ Most importantly, it illuminates why the Sino-

Russian relationship renders the Arctic a more dynamic security setting.⁴

Methodology

This qualitative inquiry progresses over three parts. First, it lays out why PRC and Russian actions should prompt scholars to consider how prepared the Arctic's layered governance landscape is to counter of political and legal subversion.

Second, it reviews how Arctic governance's heterogeneous features make it vulnerable to unconventional threats. In doing so, it introduces the lens of sharp power—that which undermines faith in or the function of institutions, one of many terms outlining irregular activity. Because sharp power endeavors to erode institutional integrity, states with sharp intents assault multilateral regimes by building purview, or unduly inserting through legal, economic, and political manipulation their *national* jurisdiction into *extranational* spaces like the global commons. That is, rather than engaging in good faith to gain respect and influence over time, sharp actions seek to expedite achieving power through backchannels or proxies. This distinction is critical in the Arctic context because its diffuse administration, and thus uncomprehensive oversight mechanisms, could make these contingencies easier to realize.

Third, it demonstrates that sharp power is not an equally useful lens to describe Moscow's and Beijing's behavior in the Arctic. The Russian state clearly and repeatedly attempts to extend its Arctic influence beyond its borders, usually to the detriment of the region's smooth administration.⁵ The Chinese state, while politically and economically ambitious early in its Arctic tenure, is not yet 'revisionist' or uniquely subversive, and does not overtly intend to undermine Arctic institutions.⁶ However, Beijing has attempted

to renegotiate the geographic (and thus, influential) boundaries of the Arctic by identifying the PRC as a "near-Arctic state."⁷ Hence, both governments build purview, but with different instruments and to different ends. Onlookers should not conflate them because, despite nominal alignments in what they stand *against*, they lack sufficient strategic synergy to constitute a 'bloc' or 'axis.'⁸

This analysis is important for evolving Western approaches to Arctic governance, though it is not a prescriptive exercise. By applying the sharp power lens at the multinational level, this article advances existing bilateral literature and reinforces arguments that authoritarian states can adopt dynamic, even contradictory approaches to "order," complicating their interactions both with each other and within international structures.⁹ This nuanced approach goes beyond typical cautionary arguments against confusing PRC and Russian ambitions to offer a conceptual gradient on which actions can be plotted as 'softer' or 'harder.' This 'sharp' framework acts as a quasi-forensic methodology that helps retrace state motivations. Revealing how internal dynamics and shifting external statuses hinder scholars' ability to predict or preempt behavior based solely on precedent elsewhere introduces nuances to addressing challengers in the global commons. This article accordingly posits distinct conclusions about the Sino-Russian relationship and its unique ramifications for Arctic governance.

Chapter 1: Setting the Stage: The PRC and Russia Spark an Unconventional Security Dilemma

The Sino-Russian Quandary

Why feature the PRC and Russia in a study about irregular Arctic activity? The Sino-Russian relationship has been a subject of hot and even overwrought debate for several

years.¹⁰ PRC President Xi Jinping's and Russian President Vladimir Putin's affectionate political gestures since the turn of the 2020s have prompted labels like "authoritarian axis."¹¹ Conversely, skewed trade ratios and Russia's loss of face from the Ukraine war produced names like "marriage of convenience" and 'asymmetric' relationship with equal gusto.¹² Few agree on whether Russia and the PRC represent a true political and possibly military nexus or a tepid and temporary alignment. Luckily, their Arctic attitudes offer insight.

Though the Arctic already gained traction among defense scholars and practitioners before the 2020s, Russia's illegal invasion of Ukraine in 2022 amplified focus on northern security.¹³ As global irregular activity exponentiated in the latter half of the 2010s and early 2020s, so, too, did unconventional, disruptive acts creep into the Far North.¹⁴ Specifically, a series of nearby alleged, high-profile underwater critical infrastructure sabotage incidents, disinformation operations, dual-use developments, and recent shifts in multilateral, bilateral, and national security authorities—e.g., the Arctic Council (AC) chairmanship and the introduction of new NATO members—should spark reflections on the resilience of the Arctic's multilateral regime against normative and institutional contestation.¹⁵ Relevant to this article is whether Arctic governance allows for or disincentivizes subversive PRC and/or Russian activity.

To take a curious example, in October 2023, Russia's *Sevmorput*, a dual-use tanker, and the PRC's *NewNew Polar Bear*, a small cargo ship, sailed together in the Baltic Sea on a supposed commercial venture. Yet, open-source data suggest that the two contemporaneously crossed the Balticconnector pipeline between Estonia and Finland, in addition to two underwater fiber-optic cables.¹⁶ All three structures sustained damage, and soon after, technical analysis of

a detached anchor and corroborating vessel tracking data demonstrated the *Polar Bear*'s culpability.¹⁷ Coincidental business ties indicated private collaboration.¹⁸ Though not part of the true maritime Arctic, this event significantly instantiated Chinese actors' willingness to overtly contradict international norms far from the PRC's borders and should provoke a reevaluation of the Sino-Russian relationship in the northern context.¹⁹ The ships' successful escape through the Arctic suggests that the region's highly heterogeneous governance system may leave it exposed to unconsidered or unaddressed irregular contingencies.²⁰

Why Sharp Power is a Useful Lens for the PRC and Russia in the Arctic

Conventional political theory frameworks, such as 'soft,' or attractive power, and 'hard,' or militaristic power, have Arctic utility. For example, scholars typically characterize Russia as provocative in the Arctic.²¹ Beyond incendiary messaging, Moscow has committed significant time and resources to revitalizing Arctic military and civilian infrastructure and continues to innovate transportation, weapons, miscellaneous technologies, and tactical training for Arctic conditions.²² Legitimate interests drawn from its massive Arctic border and consequent climatic vulnerability, as well as its sporadic legacy of productive bilateral and regional cooperation, however, complicate that picture.²³ Alternatively, the PRC's characterization is dichotomized by those supporting a staunchly cooperative and unproblematic Arctic presence and those arguing that Beijing is waiting to pounce in its quest for supposed global political and military dominance—i.e., establishing a soft foundation for hard ends.²⁴ Those in between describe Beijing's maneuvers as highly opportunistic but not necessarily nefarious.²⁵ Every view is merited based on precedent, but this article shows that precedent alone does not a complete analysis make.

To break out of this soft/hard binary, scholars have introduced a slew of terms to illustrate everything in between—'hybrid warfare,' 'gray-zone warfare,' and more.²⁶ However, these terms have grown problematic as users stretch and mix their definitions.²⁷ Hybrid warfare, for example, frequently serves as a catch-all term for coercive activity not meeting the threshold of war (better described by the vaguer 'gray-zone activity'), but this distorts its doctrinal definitions, which usually explicitly combine kinetic and non-kinetic (usually information) operations.²⁸ The result is that analyses of hybrid warfare or the 'gray zone' have lost some of their efficacy in telling audiences about how states conceive of themselves internally and in juxtaposition to others, and what irregular activities expose about the governing structures meant to deter them.

Enter sharp power, a recent theoretical revelation so far relegated to discussing democratic decline.²⁹ Fundamentally, sharp power undermines faith in or the function of institutions, showing how (especially but not exclusively authoritarian) states could wield unconventional instruments to extract political favors and erode (usually) democratic ideals and procedures. Sharp behavior is distinct from traditional diplomacy and soft power because it expresses a manipulative intent and a corrosive consequence.³⁰ Well-known examples of sharpness include non-kinetic acts like election interference, information operations, and the subset of gray activities that aim to erode *institutional* legitimacy or authority.³¹

Its potential for low-cost, low-profile applications by both state and non-state actors render it particularly insidious and difficult to combat. Whether sharp power is meant to achieve any one political, economic, or military end (as opposed to more general chaos) depends on the perpetrator. Sharp power is a negative instrument in that it

exploits or creates gaps in governance, eroding victims' political sovereignty. However, its positive effect is not always certain—e.g., what kind of power projection fills those gaps and constitutes purview. This article demonstrates that sharp power affects more than just domestic affairs. Indeed, it penetrates most severely institutions lacking legal authority or internal checks and balances, necessitating further research on how 'sharpness' manifests in often non-binding *multilateral* regimes.

To that end, the following sections pose three claims. First, the Arctic's heterogeneity leaves room for substantial cooperation at the circumpolar, regional, and bilateral levels, but contains loopholes allowing subversive legal, political, economic, and even military activity. These sharp actions erode the Arctic's institutional integrity and accountability, exacerbating anxiety and mistrust and undesirably bifurcating the Arctic security apparatus between the West and 'the rest.'

Second, the PRC and Russia are not equally sharp in the Arctic, meaning they are not equally committed to contesting institutional legitimacy. Scholars worry about Moscow and Beijing because they share authoritarian governments and broadly anti-Western external threat perceptions.³² In doing so, analyses sometimes erroneously blur their ambitions, perhaps leading to blind spots in policymaking.³³ In the Arctic context, this error can miss or stall opportunities for cooperation, stifling Track II dialogues and other informal information-sharing, fracturing critical communications in emergencies, misidentifying motivations and thus proper incentives for collaboration, undermining supranational institutions' respected but non-binding authority, discarding sustainable development to gain strategic edges, and adopting policies that push the PRC closer to Russia by failing to account for disparate domestic exigencies.³⁴

The U.S. and its allies should avoid lending credence to PRC and Russian accusations that the collective ‘West’ is exclusionary, hegemonic, interventionist, and guilty of denying political autonomy.³⁵

Third, Sino-Russian cooperation constitutes neither a purely pragmatic ‘marriage of convenience,’ nor an ‘illiberal axis’ in the Arctic. Their abuse of sharp power (or lack thereof) illuminates nuanced attitudes toward the Arctic regime, other global commons, and the broader international system.³⁶ While this subject requires further research, for now, this article suggests that both use sharp power, but the Chinese state appears to not currently wish to regularly exercise this potential in the Arctic.³⁷ Up to this point, this text has established that the PRC and Russia are worthwhile subjects for exploring irregular Arctic activity and that sharp power is a useful lens for considering multilateral governance issues. Because sharp power uniquely insults institutional processes and norms, the Arctic’s layered, opt-in administration can bring its character into relief.

Chapter 2: Sharp Power in a Heterogeneous Arctic

The Heterogeneous Arctic

Like most other multinational commons, the Arctic contains multilateral structures. Its regime covers fishing management, navigation, mineral and hydrocarbon extraction, Indigenous rights, and environmental protections, among other themes.³⁸ Some prominent organizations include the AC, Arctic Economic Council, and Barents Euro-Arctic Council, each operating primarily through working groups, limited themselves by countries’ voluntary and often incoherent project conduct and funding, as well as *not* possessing legal mandates.³⁹ Conversely, major legal frameworks include the United Nations

Convention on the Law of the Sea (UNCLOS)—e.g., Articles 76, 82, 122, 123, 234, and others—the Polar Code and the larger International Maritime Organization, and the 1920 Svalbard Treaty, though other minor international treaties also exist.⁴⁰ Legal discourse primarily addresses navigation, shipping, continental shelf delimitation, and resource management and extraction.⁴¹ Overall, this patchwork is a microcosm of the greater ‘order’ shaped by the end of the Cold War. Whether ‘rules-based’ or ‘liberal,’ this order is essentially a set of occasionally permeable legal parameters—enhanced by norms—binding state behavior and making it more predictable.⁴²

Most work in the Arctic is carried out by policymakers, military officials, academics, scientists, businesspeople, and Indigenous representatives attending these circumpolar and regional forums, or at the bilateral or national level.⁴³ The preeminent ‘governing’ entities are arguably UNCLOS, the associated bodies of which manage territorial disputes and conduct on the high seas, and the AC, which has permanent members and Observers, reaches decisions by consensus, and hosts a rotating chair.⁴⁴ This administrative mosaic boasts rich dialogue and considerable sub-state cooperation. However, most legal regulations pool at the state level, leaving room for cynical unilateral agendas at the international echelon⁴⁵—especially as so-called ‘great powers’ once again turn to the Arctic to gain a gravitational edge.⁴⁶

Other authors have thoroughly defined the Arctic’s administrative architecture and why, despite concerns laid out below, its multilateral structures remain remarkably resilient.⁴⁷ For this article’s limited purposes, suffice to say that the Arctic is heterogeneous because there is no codified process to appeal to an overarching authority; national, bilateral, mini-multilateral, and circumpolar

legal or normative mandates often are distinct, rarely overlapping under one roof.⁴⁸

Why Heterogeneity Matters for Sharp Power

Heterogeneity matters in governance because sharp power's institutional orientation feeds off administrative weaknesses; because they usually lack umbrella institutions at the regional level, international law's and treaties' efficacy in the decentralized, flatly governed global commons is highly consequential.⁴⁹ Gray areas between where legal dominion ends and normative observance begins cannot simply be adjudicated at the level of the United Nations or International Court of Justice.⁵⁰ Committing sharp power acts in the Arctic, Antarctic, or high seas is different in principle from assailing a highly bureaucratic government or organization, begging important questions around escalation—e.g., to what extent is any individual state responsible for deterring or responding to aggression without an obvious chain of command?

Inquiries into the lack of hard circumpolar security provisions are summed by many as the Arctic's 'security dilemma,' the premise being that the Arctic's structures, while typically well-adhered to, offer little in the way of standard responses to and judicial retribution against unwelcome kinetic and non-kinetic maneuvers.⁵¹ Rather, the Arctic's volitional security mechanisms historically focused on sustainable development, human security and Indigenous rights, and "reinforcing sovereignty and territorial integrity" between each state to prevent escalation.⁵² So, the danger is that states can disregard or secede from military-relevant cooperative layers, such as arms control doctrines or regulations around navigation, espionage, dual-use activities, and more without recognized regional arbitration. The following discussion assesses if such

kaleidoscopic administration is sufficient to deter disengagement.

Problematizing Arctic Security

Both physical and administrative realities shape the Arctic's security apparatus. This section discusses how the former informs the latter and how their synthesis impacts sharp security issues. First, the Arctic hosts unique physical and geographic challenges. Specifically, it has a harsh climate and few people, meaning that projects are costly and often sequestered to sparsely populated and far-removed coasts, and that critical infrastructure oversight is poor.⁵³ Hence, damage to Arctic infrastructure may go unnoticed or untreated for longer than in more populous areas, with responsible entities potentially going unobserved. That being said, these same elements may discourage sharp activity due to inaccessibility or high risks of accidents, but the comparatively low cost of sharp power maneuvers compared to conventional posturing slightly undercuts this point.⁵⁴

Second, the Arctic possesses two major operational theaters—the North Atlantic/Barents Sea and the North Pacific. The North Pole remains a secondary but rising concern. While Arctic scholars debate the extent to which the hard security dilemma applies equally across these sub-regions, they widely agree that the North Atlantic and Barents region hosts the Arctic's most robust and cohesive governance structures, not least because of its relatively dense population, established infrastructure, and historical military significance.⁵⁵ The Barents Euro-Arctic Council, until recently including the eight Arctic Council Permanent Members, mirrors the Arctic Council's 'paradiplomatic' character, facilitating collaboration through working groups and private entities.⁵⁶ This structure has enabled governance successes, such as the Russo-Norwegian Barents Sea delimitation agreement for fisheries

management.⁵⁷ Sweden's and Finland's recent NATO accessions may shift the region's cooperative dynamics, creating a more exclusive environment that could stifle sub-state diplomatic gains.⁵⁸ Overall, however, the North Atlantic benefits from established strategic precedents and cooperative frameworks dating back to the Cold War, when regional stability and security found more prolific expression at the sub-state level.⁵⁹

The North Pacific poses different security challenges. Ringed by Japan, North and South Korea, Russia, and the United States, it often sees joint or unilateral military exercises and proximate territorial disputes, such as the Kuril Islands issue between Russia and Japan.⁶⁰ Thinly populated, it endures less oversight of maritime traffic, critical infrastructure, and extractive projects, often lacks material provisions for local communities, is starved of anti-escalatory regulations, and is home to several Western adversaries. However, its conditions are extremely unforgiving and thus more resistant to rapid militarization and other hard activity. Unlike the North Atlantic, which hosts NATO members and a substantial portion of Russia's nuclear triad, the North Pacific's most recent military legacy is grounded in Cold-War-era strategic bomber patrols and submarine warfare and espionage.⁶¹ Even recent upticks in military activity here, discussed later, do not match the depth and breadth of maneuvers farther west. In brief, these two theaters are composed of dissimilar forces and are subject to unique threats, requiring tailored contingency plans and tactical subtleties.⁶² Policymakers must disabuse themselves of the notion of a monolithic Arctic.

Third, the Arctic's circumpolar, sub-regional, and national forums offer differing security provisions. The result is a tapestry of sometimes-overlapping mandates in which some areas of activity are thoroughly

governed, whereas others are largely left to capable nations or small coalitions—e.g., search and rescue (SAR) operations.⁶³ Because the Arctic's multilateral forums mostly deliberate, not litigate, functional *circumpolar* security cooperation requires all parties to be on the same page.⁶⁴ Arctic states mutually incentivize honest participation and transparency because not doing so would undermine their own national security—a reality now that Russia does not substantially contribute to the AC.⁶⁵ Sharp actions in this voluntary architecture could serve to complicate legal debates, disrupt votes or consensus, distort information environments, slow military or civilian operations, engender distrust between littoral Arctic and non-Arctic actors, and distract from other pertinent security issues. Consequently, a heterogeneous Arctic, while endowed with a legacy of normative achievement, offers few circumpolar resolutions to emerging and sharp threats.⁶⁶

Moreover, opportunities for political and commercial gains in the Arctic may be most prolific at the sub-state, or paradiplomatic level, where oversight channels are weakest but fruitful results remain high. Sub-state actors like corporations, business political delegations, tourists, Indigenous populations, scientists, and working groups may be responsible for resolving threats (e.g., fiber-optic cable manufacturing, monitoring, and repair), requiring strategic integration of the public and private sectors on both defensive and offensive fronts.⁶⁷ Past Arctic cooperation, especially between Russia and the Nordic states, largely operated under mutual goodwill and the honor system; as the geopolitical environment deteriorates, Arctic governments will likely double down on surveilling these soft security profiles, becoming especially vigilant about paradiplomatic bodies' contacts and activities.⁶⁸

With this para-diplomatic context in mind, states can project sharp power into interstate structures in two ways: at the bilateral level, pursuing political leverage within a state that it hopes will be expressed in multilateral regimes—i.e., a proxy—or directly into multilateral organizations—i.e., withholding participation or manipulating discourse—to degrade its institutional authority, contort its agenda, or inculcate new norms.⁶⁹ In response, Arctic states must defer procedurally to disparate authorities or find a circumpolar solution to combating subversion. As put elegantly by Ernie Regehr,

As Arctic accessibility increases, the potential for irregular immigration, contraband, and non-state group operations ... will demand increased monitoring and control. Add threats of cyber-attacks on public infrastructure and ... [clearly] Arctic states face northern security agendas for which civilian departments and agencies have primary responsibility, but ... [they] need the kinds of complex coordination, technical expertise, and logistic services that military forces ... keep available.⁷⁰

In light of its inhospitable geography, the Arctic's stratified administration is a historical blessing and possibly a future curse. On one hand, it may be prudent for Arctic actors to not burden circumpolar governance structures with "contentious security agendas."⁷¹ At the same time, genuine normative assets—e.g., information-sharing and horizontal diplomatic engagement—shared by diverse Arctic stakeholders do not entirely decode persistent and fundamental issues underlying Arctic-wide governance, de-escalation, and conflict resolution, such as who or what *can* and *should* be where, when, why, and how.

Hence, the Arctic's administrative structure and geographic idiosyncrasies leave open four areas for sharp power projection, each threatening some level of state capture or destabilization of the security status quo: legal, political, economic, and militaristic. Legal subversion exploits ambiguity or a lack of codified recursive mechanisms. Political subversion includes undermining a state's institutional autonomy and normative fabric, e.g., through corruption or dis-/misinformation campaigns. Economic subversion could manifest as covert or overt coercion and capture, or flooding an entity with aid or investment incentives to gain influence.⁷² Military subversion could comprise a variety of dual-use or paramilitary activities, low-intensity spats between adversarial entities, such as maritime harassment, or sabotage of military-relevant infrastructure and cyberattacks, habituating actors to new norms around conventional or non-kinetic force displays.⁷³ Each of these sharp iterations are complicated and caveated by the fact that all powerful states engage in covert activities at least at the *bilateral* level, requiring some analytical agnosticism about whether certain sharp actions are just an expected and even acceptable form of statecraft. For its narrow purpose, this article assumes that these four themes are united in eroding procedures, values, and institutional legitimacy within *multilateral-forward* spaces.

Indeed, these distinctions are somewhat arbitrary because they rarely occur in isolation. Actors could engage in sharp actions like bribery, signal jamming, data manipulation, information campaigns, or infrastructure sabotage to, for example, target UNCLOS' territorial and freedom of navigation provisions, erode mini-multilateral security networks like that between the Norwegian and Russian Coast Guards or SAR teams, as well as broader legal instruments related to SAR or pollution event responses, or undercut the AC's

deliberative and Observer accession processes.⁷⁴ Through at least these four mechanisms, state and non-state entities can manifest national security and/or jurisdictional gains without inciting open military conflict. Put briefly, this section clarified *why* sharp power is relevant to questions of Arctic governance and the security dilemma. The following discussion elucidates PRC and Russian sharp modalities and motivations. The sharp frame reveals insights into how each state conceptualizes itself, its relation to the other, and its status within a normative and institutional superstructure scholars characterize as order.

Chapter 3: The PRC and Russia as Sharp Arctic Actors

So far, this article established that the Arctic's heterogeneous governance leaves open the question of how prepared its states are to face sharp threats. Now, it dives deeper into why the PRC and Russia matter when discussing sharp power in the Arctic. Below is a non-exhaustive account of the most salient behaviors falling under legal, political, economic, or military subversion.

Russia

Russia is not totally revisionist in the Arctic—nor is it totally benign. There are several recent examples of Moscow conducting observable sharp power operations, though it is not so much a pariah in this region as it is a provocateur.⁷⁵

Legal: Legal subversion is deeply intertwined with all the categories outlined in this article, streamlining administrative corrosion. Fundamentally, sharp power acts that target legal ambiguity set a precedent of incapacitation or inaction in the face of flagrant institutional abuse or disregard. To that end, the Russian state takes full advantage of its superior Arctic domain awareness to exploit vagueness in maritime

legal codes, weaponize or manipulate its own judicial system, and evade sanctions affecting the Arctic.⁷⁶ The most prominent examples of legal mischief are Moscow's repeated alleged critical infrastructure sabotage, GPS jamming of civilian aircraft, and, along with threatening withdrawal from UNCLOS, promoting contested conceptions of its internal waters and thus legitimate national security interests.⁷⁷

Political: Putin has actively sought to redefine the Russian state in nearly all respects—geographically, religiously, culturally, linguistically, ethnically, and politically. He has leaned into long-standing narratives about Russia's singular northern identity and self-sufficiency through the broader 'Russkiy Mir.'⁷⁸ This maximalist assertion motivates his administration's political subterfuge. Russian mis- or disinformation campaigns in Northern Europe, the United States, and elsewhere display that Moscow has developed a tried-and-true, but adaptable toolkit to encumber other countries' domestic institutions and bolster its political purchase.⁷⁹ These actions distract from a state's standing security concerns, sap resources, manipulate information ecosystems to cause "decisions disadvantageous to their own national, regional, or collective security," and ultimately undermine a government's autonomy to gain political capital.⁸⁰

Economic: Many scholars have addressed Moscow's evasion of sanctions to undermine their public support and legal potency in the West; indeed, sanctions have so far failed to debilitate the Russian economy—just render it more uniform.⁸¹ Many others have outlined Moscow's ravenous appetite for Arctic resources.⁸² Yet, less-discussed but equally insidious is Russian industry's disregard for the Arctic's marine and terrestrial environments, which will have cascading effects on the human populations in northern Russia, the rest of the Arctic, and eventually,

	Russian Sharp Power Activity
Legal	- The Arctic's geography informed probable critical infrastructure sabotage—e.g., SvalSat cable, where alleged Russian actors escaped through plausible deniability.⁸³ - Moscow frequently engages in civilian and military Global Positioning System (GPS) jamming in the Arctic and sub-Arctic—affected states must parse the “fog of uncertainty” around whether these outages are deliberate or a spillover effect from the Ukraine.⁸⁴ This is just one example of how non-kinetic activity can inhabit a legal gray zone.⁸⁵ - Moscow claims the Northern Sea Route (NSR) is within its de facto waters.⁸⁶ Foreign cargo ships must obtain permission, pay fees, and give a 45-day notice before passage. Russian authorities frequently inspect and supervise ships, eroding the authority of international law by exercising <i>national</i> rights in either contested territory or areas entitled to freedom of navigation.⁸⁷ - Moscow holds disputed continental shelf claims with Canada and Denmark up through the North Pole—this remains up to legal arbitration.⁸⁸ However, Russian representatives frequently reference the U.S.' refusal to ratify UNCLOS as grounds for rejecting the Convention, casting doubt on Moscow's future respect for formal delineations and other UNCLOS-managed activities.⁸⁹
Political	- Russian authorities purposefully weaponized third-country asylum-seekers traveling through Russia to reach Finland, repeatedly disregarding domestic laws about migrants' internal movements and shuttling them from third countries to both the southern and northern Finnish borders, stressing Finnish security forces.⁹⁰ - Russia's invasion of Ukraine and the AC Permanent Members' consequent unwillingness to interact with Moscow effectively stalled the AC for over a year, at least at the circumpolar level, stymieing critical information-sharing related to Arctic science and security.⁹¹ - Russia maintains its symbolic and largely unprofitable commercial and touristic outposts on Svalbard, Pyramiden, and Barentsburg, as footholds in NATO territory, exacerbating local tensions and sustaining commercial networks with potential for infrastructure sabotage or dual-use operations.⁹² In 2024, the Svalbard Tax Administration counted the inhabitants of the two settlements as part of the Svalbard population register, granting them legal privileges. The same goes for inhabitants of small, research-oriented settlements. While perhaps currently unlikely, it is feasible to imagine Moscow taking advantage of this change by encouraging Russian immigration to the archipelago.⁹³ - A Russian submarine infamously planted a flag on the North Pole in 2007, and a Russian flag was unveiled on Arctic sea ice during a scientific expedition in 2023, which some claim visibly asserts aspiring jurisdiction.⁹⁴ - Russian conducts information influence operations across the Nordic-Baltic (Arctic/sub-Arctic) region to sow distrust in local institutions, undermine democratic or 'Western' values, deter support for Ukraine by framing NATO as fractious and overwhelmed by U.S. direction, and divide Arctic states; the ultimate effect is to reinforce the Kremlin's domestic legitimacy, even when external impact is limited.⁹⁵

Economic	- Moscow incentivized residents to move to remote locations like Pevek to increase its human presence in remote NSR nodes.⁹⁶ - Moscow evades sanctions through Arctic shipping routes using obscured domestic or foreign companies—especially difficult to combat in the opaque North Pacific.⁹⁷ In 2024, much has been made of the “shadow fleet” of often unmarked, decrepit tankers Russia has employed to maintain its oil trade.⁹⁸ These largely unregulated, uninsured, illicit boats pose a significant environmental and legal hazard, especially given the delicate marine ecosystems that call the Arctic home.⁹⁹ Transparency and oversight of related hydrocarbon projects reduced as France’s TotalEnergies and other companies wound down investments in Russia’s Arctic extractive enterprises.¹⁰⁰
Militaristic	- Moscow encouraged (admittedly uneven) expansion of military bases and Arctic capacities across Russia’s northern coast, creating new bases and revitalizing Soviet infrastructure, notably including anti-ship missile systems.¹⁰¹ This undercuts Arctic governing entities’ discouragement of other states’ preemptive northern militarization. - In addition to joint exercises and patrols with the PRC in the Arctic and sub-Arctic, Moscow has independently ramped up its otherwise routine bomber and naval patrols, especially around Alaska, in 2024.¹⁰² This may indicate a broader attempt to accustom the U.S. and its allies to incursions, molding acceptable escalation avenues. - Most scholars suspect that virtually all Russian Arctic science is dual-use—this tempers Western enthusiasm for otherwise critical engagement with Russian researchers.¹⁰³ - Since the Cold War, Arctic features have been used as testing grounds and harbors for nuclear and conventional arms.¹⁰⁴ Along with controversial, alleged weapons tests, Putin has threatened or followed through with rescinding participation in several nuclear treaties, fulcrums of Arctic strategic deterrence.¹⁰⁵ Saber-rattling may shape NATO’s nuclear umbrella, the sustainable maintenance of which lies largely outside region-specific regulatory structures.¹⁰⁶

Fig. 1: Russian Sharp Power in the Arctic

the world’s oceans.¹⁰⁷ Russia itself is at great risk of ecological disasters caused by melting permafrost, disappearing habitats, and nuclear and extractive contamination and pollution.¹⁰⁸ Since other AC Permanent Members ceased cooperating with the Russian state after the full-scale invasion of Ukraine in 2022, it has also struggled to hold up its end of Arctic or broader environmental agreements.¹⁰⁹ Russia’s territorial breadth and reliance on fossil fuel exports for economic sustenance make its disobedience of these protective and sustainable practices a real threat to the greater executability of environmental accords.

Militaristic: The Russian state, whether imperial or Soviet, has always prioritized the Arctic as a security arena due to its extensive northern coastline and because Moscow bases much of its nuclear arsenal on the Kola Peninsula.¹¹⁰ Some highlights of Russia’s Arctic military presence include nuclear first- and second-strike capabilities, anti-access/area-denial assets, intelligence, surveillance, and reconnaissance capacities, joint or solo exercises, and sorties by bombers and anti-submarine warfare aircraft. Moscow is upgrading Arctic military infrastructure to account for potential confrontations with NATO in the North Atlantic and protecting Russia’s commercial interests through rapid

response capabilities.¹¹¹ Yet, the increasingly attritional war in Ukraine will shape Russia's instruments and capacity available for the Far North.¹¹² So, one might expect that Moscow's sharp power acts could increasingly rely on resource-light non-military or paramilitary actors to assert Russia's dominance.¹¹³

The Soviet Union and current Russian Federation boast a long history of sharp power operations in and outside of the Arctic.¹¹⁴ Despite its current antagonism, the long-term Russian case differentiates between power *projection* vs. demonstration.¹¹⁵ Put practically, Moscow's main goal in the Arctic is not to completely shut out other actors, rather to develop and sustain multi-domain denial mechanisms—revitalizing the 'Bastion Defense' program practiced during the Cold War.¹¹⁶ This strategy likely aims to divert Arctic stakeholders' attention from domestic and war-related difficulties in Russia and demonstrate visibly through a combination of conventional and unconventional posturing that Russia deserves the status of a regional hegemon and near-unilateral governor of the Eurasian Arctic.¹¹⁷ Any operations it would jointly pursue with the PRC could not undermine Russia's perceived right to dominance.¹¹⁸ Indeed, the most profound and stable of Putin's axioms are his anti-Western orientation and his advocacy for a prominent Russian anchor in a multipolar world.¹¹⁹

The PRC

The PRC's case is even more complex than Russia's because its leadership's motivations are more obscure. A literature review can suggest whether PRC leadership *intends* for Beijing to adopt a revisionist or subversive stance in the Arctic.

Trends present in the PRC's Arctic scholarship generally coincide with PRC policymakers' broader strategic postures.¹²⁰ The PRC became interested in Arctic research

in the 1980s, but there was little impetus to become more involved in governance until a Russian submarine planted a flag on the North Pole in 2007. The Chinese academic space's expressive reaction to the incident suggests that security and geopolitics—not just science—incentivized joining the AC and moving forward commercially.

Legal: Though not necessarily nefarious, the PRC's principal sharp strategy has been a relatively pacifistic renegotiation of what geographically constitutes the Arctic and to what extent non-littoral states should have a hand in shaping the fundamentals of the region's administration.¹²¹

In the 2010s, more hawkish academics advocated for framing the PRC geographically as a "near-Arctic" state, whereas moderates preferred more neutral and elastic terms like "Arctic stakeholder."¹²² Many scholars analyzed legal conflicts between littoral Arctic states, and, regarding broader maritime law, appeared preoccupied with continental shelf delimitation, the PRC's rights in the Arctic as provided by UNCLOS, and flaws in UNCLOS.¹²³ Most scholars held no delusions about the PRC being able to actually acquire Arctic territory, and most agreed that the state could only gain a foothold in the region through robust bilateral and multilateral cooperation.¹²⁴ Several Chinese scholars explicitly suggested that Arctic international law was too stringent to be conducive to PRC interests, and that the PRC should work with partners like Russia to build exclusive legal codes and obtain more legal leeway than it would otherwise enjoy.¹²⁵

The contemporary Chinese state walks the line between occupying a 'developing' and 'developed' status, leaning into either identity's regulatory advantages in various contexts.¹²⁶ Elsewhere, this attitude manifests as resource hunger, hypocrisy on climatic commitments, and expansionist military and economic campaigns.¹²⁷ Though some of

these trends are also visible in the Arctic, the PRC presents itself as a developed, valuable, and even essential contributor to especially Arctic science, and, in high-profile venues, adopts a docile and increasingly active comportment regarding respect for international codes.¹²⁸ Beijing's contradictory bearings in the Arctic and the Indo-Pacific may be explained by the CCP's framing of the latter as within the PRC's domestic jurisdiction, or 'backyard.' Complicating matters is branding the PRC a "near-Arctic" state, perhaps inaugurating an interventionist precedent in what Beijing views as a growing and legitimate sphere of influence.¹²⁹ It's worth noting, however, that public-facing "near-Arctic" language has dwindled in response to backlash from the littoral states.¹³⁰

Otherwise, Arctic states' concerns largely surround how Beijing may exploit 'lawfare' to bolster its telecommunications and other data-transmission influence, access to transportation corridors and associated critical infrastructure, and foreign investment—the consequences ostensibly including greater intelligence collection, escalation risks, or political/economic capture.¹³¹ More broadly, the PRC may employ legal warfare in tandem with 'public opinion warfare' and 'psychological warfare' to abrade opponents' information integrity and willpower, ultimately enfeebling the scope or enforcement of any one nation's legal authority, as well as international treaties and customary law.¹³² These worries find special expression in the maritime domain, as the PRC has been implicated in northern infrastructure sabotage and regularly disguises its maritime militia with commercial boats in the Indo-Pacific.¹³³ Provocation and other gray activities that strain legal recourse at sea (or elsewhere) represent the "area of China's foreign policy where [Beijing is] most directly in conflict" with its neighbors—and increasingly, with Arctic states.¹³⁴

Political: In the mid-2010s, PRC scholars catered to popular political theory concepts recited by Xi Jinping, such as the "common destiny of all mankind," "win-win cooperation," and the incorporation of the "Polar" or "Ice Silk Road" into the broader Belt and Road Initiative.¹³⁵ These concepts frame the PRC as a benevolent but enthusiastic participant in Arctic governance and promote projecting the state's ideals into global commons. Some PRC scholars argued that these terms could extend the country's "gravity," changing states' perceptions of how close the PRC was to the territorial Arctic (i.e., 'geo-setting'), its inevitability as a commercial partner, and the CCP's right to sit at the region's governance table.¹³⁶ To that end, PRC officials seemingly realized they could pursue two options in tandem: gain Arctic access through proxy states, in which sub-state actors could gain commercial (and subsequently political) footholds, and through multilateral forums like the AC.¹³⁷

Economic: Because of its limited ability to gain unilateral access to Arctic resources, the PRC has so far pursued economic goals through proxies.¹³⁸ So, infrastructure projects and FDI are a conceptual threat insofar as either money or migration might cause political capture, especially because the Arctic has comparatively small populations, and thus often slim election margins.¹³⁹ However, many overstate this threat. For example, the PRC invested heavily in Canadian mining projects in the early 2010s, most of which inevitably fell through or were unprofitable.¹⁴⁰ Chinese investors cited dissatisfaction over being misled regarding the risks and challenges of mining in the Arctic or purposefully thwarted.¹⁴¹ Thus, despite Western anxiety, most small-to-mid-scale extractive projects PRC companies pursued in the Arctic, be they in Canada, Iceland, Greenland, or the Nordic states, have offered mediocre strategic value.¹⁴² Indeed, the PRC called off projects it thought might be unlucrative despite causing setbacks in the

	PRC Sharp Power Activity
Legal	- Through Russian cooperation, Beijing has gained outsized access to Arctic resource development and general discourse compared to other AC Observers.¹⁴³ Likewise, the Chinese Communist Party (CCP) has supported conceptual renegotiations of the Arctic's territorial boundaries through its "near-Arctic" dialogue, shaping the region's interplay with Beijing's national interests.¹⁴⁴ - 'Legal warfare' is one of the People's Liberation Army's (PLA) "Three Warfares," through which Beijing may subvert international or unduly wield domestic legal mechanisms to exact its interests (e.g., resource acquisition and navigational entitlements).¹⁴⁵ The concept's repeated codification in PLA doctrine suggests it may inform potential attempts to trump (especially other non-Arctic) states' leverage in legally relevant disputes or bids, as has been the case farther south.¹⁴⁶
Political	- Beijing retaliated to Norway offering the Nobel Peace Prize to a Chinese dissident, freezing diplomatic ties from 2010-2016.¹⁴⁷ Similar condemnations of Nordic countries' diplomatic postures have injured the PRC's cultural outreach.¹⁴⁸ - As exemplified by PRC scholars' and officials' reported endorsement of pro-Greenlandic-independence narratives to pursue Beijing's political objectives, targeted information/communication campaigns may encourage Western "contradictions" in and outside of circumpolar forums.¹⁴⁹
Economic	- Beijing flooded Iceland with foreign direct investment (FDI) following the 2008 financial crisis before pivoting to Greenland, where state incentives encouraged Chinese investors to pursue extractive projects and expand Beijing's infrastructural footprint, sometimes through third parties.¹⁵⁰ - Though unfruitful, PRC delegations visited and businessmen attempted to buy land for commercial/tourism efforts in several remote Arctic locales, perhaps eventually indebting remote communities to Chinese tourist or labor flows.¹⁵¹ This concern remains unrealized. - The PRC's increasingly heavy use of the NSR with non-ice-class vessels risks spills and other accidents, contradicting Beijing's commitments to combating climate change and abiding by circumpolar environmental protections.¹⁵²
Militaristic	- Beijing allegedly sends PLA personnel on commercial passages and to scientific stations, facilitating dual-use efforts and rejecting transparency and good faith cultivated between littoral states.¹⁵³ - Beijing conducts suspected dual-use aerospace and maritime science, exploiting especially satellite access and acoustic monitoring. For example, BeiDou-3's Svalbard node can orient missiles and is critical to "Beijing's cyber warfare and C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) capabilities."¹⁵⁴ - The PRC State Oceanic Administration technically supported artificial island militarization in the South China Sea (SCS) and is active in Arctic research.¹⁵⁵ Its oceanographic surveys and acoustic modeling in the Arctic and SCS help the PLA Navy operate effectively, but are also critical to the PRC's understanding of the Arctic's climatic role.¹⁵⁶

Fig. 2: PRC Sharp Power in the Arctic

state's economic presence in the region.¹⁵⁷ Nonetheless, even accounting for currently modest extractive portfolios across the Western Arctic, the PRC's general strategy of investing in third-party stakeholders to maintain a foothold in the region will likely continue.¹⁵⁸

PRC policymakers realized early that the Far North could bear economic fruit, and between 2008-2012, Chinese scholars explicitly considered gaining proxy influence through avenues in Greenland and Iceland.¹⁵⁹ After the 2008 financial crisis, the PRC stepped in to help Iceland in a manner few Western actors were willing or able to match; lucrative bilateral currency swaps and energy and telecommunications deals continued through the 2010s with varied success.¹⁶⁰ In 2017, the PRC sent a delegation of over a hundred scientists and businesspeople (including Chen Yan, a PLA Navy official) to celebrate the launch of a satellite ground station in Greenland—Nuuk only found out a year later.¹⁶¹ In Greenland, former Premier Aleqa Hammond explicitly acknowledged to *The Wire* that local politicians figured they could “play [Washington and Beijing] against each other” to reap better deals for Greenlanders.¹⁶² PRC scholars echo the political utility of advocating for Indigenous voices across the region, but the state has only found mixed success in communities' embracement of Chinese delegations, labor, financial offerings, commercial projects, and tourists.¹⁶³

The PRC's domestic conditions will also mitigate the extent to which it can support an Arctic presence, much less actively subvert its regime. The CCP currently faces overwhelming financial exigencies, environmental pressures, and demographic duress, requiring a more productive and, despite contrary trends, *globally integrated* economy.¹⁶⁴ The material demands on the Chinese state are so vast that the CCP cannot afford to ignore any large cluster of resources,

so the Arctic is not insignificant for Beijing.¹⁶⁵ In the future, global commons are increasingly likely to host resource competition and litigation. The poles, international waters, the deep seabed, space, and cyberspace are “strategic new frontiers” precisely because conduct within them is more ambiguously regulated than elsewhere.¹⁶⁶ The Arctic's strategic position and wealth of resources are conducive to the CCP's wish to build administrative resilience against systemic risk.¹⁶⁷

Militaristic: PRC security scholarship on the Arctic is brazen, but open sources suggest the PLA has been less willing to actually allocate resources toward a major military presence in the region.¹⁶⁸ For example, the PRC still lacks much of the technology that would make significant Arctic shipping and scientific research possible—precursors for a justified security presence.¹⁶⁹ Instead, the PLA focused on building a hard presence through “military-civil fusion,” explicitly endorsing sending military personnel on research expeditions and shipping voyages.¹⁷⁰ Furthermore, many scholars, PLA-affiliated or otherwise, expressed dismay at the U.S., NATO, and even Russia for “securitizing” the Arctic at the expense of multilateral cooperation.¹⁷¹ Less clear is whether Chinese scholars feel strongly about the merits—not just the image—of diplomatic cooperation, or whether both Western and Russian militarization may limit a future PLA presence. Simply put, the PLA has not substantiated its somewhat hawkish rhetoric on the Arctic. Considering the significant attention directed to the SCS and broader Indo-Pacific, Arctic military scholarship is comparatively meager.¹⁷²

Still, the PLA's focus on military-civil fusion has built a complicated dual-use apparatus.¹⁷³ According to the Center for Strategic and International Studies, the PRC's dual-use capabilities could include monitoring the marine environment, the polar magnetic field,

and space weather, surveilling space-based assets in astrophysics assessments, and creating polar transportation and logistics technology and infrastructure.¹⁷⁴ Some cite satellite access and buoy deployment for acoustic monitoring as especially worrisome.¹⁷⁵ So, dual-use science remains the most widespread and active mechanism the CCP could wield for sharp gains.

Chinese scholarship further indicates that the PRC's outward ambition peaked in the early-to-mid 2010s, but after fumbling in their efforts to gain Western proxies, academics curtailed their opportunistic messaging in favor of vaguer language. However, there are several sharp avenues PRC leadership may pursue in the future. First, PRC leadership could more credibly argue that their research facilities should enjoy PLA supervision if NATO members or Russia independently ramp up their military presence. Second, the PRC may engage in more infrastructure sabotage since retributive avenues are still under development.¹⁷⁶ Third, the PRC's alleged dual-use apparatus offers subsea and aerospace advantages, which are most threatening when shared with Russia.¹⁷⁷ Fourth, Chinese companies curtailed investment primarily because of Western hesitation, not lack of enthusiasm—renewed openness to Chinese investment could encourage PRC leadership to gain political favor. Beijing's Arctic strategy, like its greater foreign policy, is a slow burn to “minimize and manage threats” and “maximize opportunities for economic growth and modernization.”¹⁷⁸

Thus, this review of open-source information corroborates previous findings by *The Wire*, who reported that, “In public, Chinese diplomats and climate negotiators stridently deny ... any link between climate change and geopolitics. But ... [they hold] a deeply cynical consensus that climate change creates geopolitical opportunities that China ... must exploit before its rivals do.”¹⁷⁹ Chinese

intellectuals demonstrate awareness of tension between opening Arctic waterways and the governing “club's” exclusivity.¹⁸⁰ Hence, it is difficult to square Beijing's measured entry into Arctic affairs and nominally anti-interventionist attitude with its representatives' enterprising and occasionally incendiary language.¹⁸¹

The PRC demonstrates that authoritarian regimes—even under a single leader's tenure—can dynamically approach international structures. That is, they can engage more or less cooperative in various thematic or regional orders, complicating the characterization of their overall approach to a rules-based order.¹⁸² Given Beijing's comparatively constructive stance in the Arctic relative to its immediate neighborhood, states like the U.S. may struggle to know *what* to anticipate and *when*. Deterrents farther south may not be fit for purpose in the north; remaining clear about where revisionism has and has not materialized could avoid indiscriminate ostracization that embitters good-faith diplomatic commitments.

Discussion

PRC and Russian Sharp Power in the Arctic Context

This article highlights how the Russian state under Putin and the Chinese state under Xi build purview through sharp power. Historically, both states are guilty of multilateral subversion, manipulating extranational spaces by justifying national jurisdiction. Putin's Russia has effected numerous disinformation operations and employed economic coercion throughout North America and Europe with the intent of destabilizing Western unity.¹⁸³ Similarly, Xi's PRC repeatedly pursues political, economic, and diplomatic manipulation in the Indo-Pacific, such as imposing sanctions on and offering bribes to Southeast Asian states,

	Joint Sino-Russian Activity
Legal	- The <i>New Polar Bear</i> was implicated in the Balticconnector incident and subsequently evaded Finnish authorities in international waters and the Russian-controlled NSR.¹⁸⁴ - The PRC-flagged <i>Yi Peng 3</i> was similarly implicated in another cable damage episode in the Baltic Sea in November 2024, the legal implications of which are still developing as of January 2025.¹⁸⁵ Notably, Russia's <i>Eagle S</i> was allegedly tied to yet another cable incident at the end of December 2024.¹⁸⁶ This emerging pattern of alleged Sino-Russian cable interference in the sub-Arctic has put NATO members on high alert. - The Russian Federal Security Service/PRC Coast Guard Memorandum of Understanding on maritime law enforcement undermines UNCLOS' freedom of navigation provisions and embeds the PRC into a limited Arctic security mandate.¹⁸⁷ A recent Sino-Russian Coast Guard training mission was conducted in the Bering Sea, Chukchi Sea, and Arctic Ocean—the farthest north the two forces have ever operated together.¹⁸⁸
Political	- Russia and the PRC offer each other at least superficial regime support and alternatives to circumpolar forums, potentially skirting statutes and norms cultivated to impede securitization and sanctions evasion.¹⁸⁹
Economic	- Dereliction of corporate and state environmental standards may degrade Indigenous communities' quality of life and the vitality of marine flora and fauna, threatening climate disasters outside of the Arctic's geographic bounds.¹⁹⁰ - Increasingly indiscriminate use of the NSR by PRC, Russian, and other commercial vessels will increase the risk of accidents and pollution, potentially stressing cleanup resources.¹⁹¹ - Russia likely circumvents sanctions through Chinese vessels using the NSR and investing in Arctic extractive enterprises.¹⁹² Beijing thus continues to prop up the Russian war machine, contributing to Russia's contestation of Ukrainian sovereignty through hydrocarbon purchases, the extraction and transport of which involves the Arctic.¹⁹³ For example, Beijing allegedly used the NSR to deliver critical components and infrastructure for Russia's Arctic LNG 2.¹⁹⁴ - In 2024, a PRC delegation visited Russian officials on Svalbard to discuss jointly building a research center in Pyramiden. The visit accompanied reported interest from Chinese investors in acquiring land, including for a laser research station. Norwegian officials suspect that the two want to establish a greater political and economic footprint on the archipelago, as well as conduct espionage.¹⁹⁵
Militaristic	- The PRC and Russian militaries frequently perform joint drills in and outside of the Arctic but have become more provocative in their choices of location and maneuvers. Over the past two years, the Arctic and sub-Arctic have seen a distinct uptick in joint patrols by strategic bombers (e.g., an incursion into the Alaskan air defense identification zone) and naval and coast guard vessels (e.g., sailing by the Aleutians), causing U.S. interceptions and troop reinforcements.¹⁹⁶ Similar incursions happen regularly around Japan.¹⁹⁷ In theory, Arctic-specific military codes of conduct may push back against Russia and the PRC inculcating this norm. - The PRC continues to provide Russia with dual-use technologies despite sanctions and a broader effort to remain diplomatically 'neutral' or as an arbiter in the Ukraine conflict.¹⁹⁸ Shared dual-use technology and intelligence channels negate transparency norms, including in the research-heavy Arctic.¹⁹⁹

Fig. 3: Russian and PRC Sharp Power in the Arctic

Pacific micronations, and Taiwan to pursue military and political goals.²⁰⁰ Less clear is whether these precedents and the two states' cooperation suggest shared sharp ambitions. The following table interprets Beijing's and Moscow's more suspicious actions through a sharp lens.

Why would Beijing and Moscow pursue sharp power operations instead of conventional soft and hard power projection? Academics have introduced a variety of terms to discuss historical renegotiations of the Arctic's geographic boundaries. Terms like 'region-building' and later iterations like 'geo-setting' try to describe how states geographically conceptualize their political identity.²⁰¹ The idea is that states can express a desire to be included in a territorial club cartographically.²⁰² States may lean on cherry-picked elements of their geography to substantiate and legitimize inclusion in such clubs.²⁰³ Summing the more corrosive, operationalized regional molding efforts not only as sharp power but as 'purview building' accounts for how geographic ideations relate to a state's self-perceived governance mandate. Purview building demonstrates how sharp power interfaces with global commons, as states extend their national governance mandate to impinge on ostensibly international spaces—i.e., a more concerted influence effort than soft operations, without rising to the level of hard aggression.

Sharp power is intimately tied to purview building because it allows for a state's jurisdiction to broaden not through legitimate diplomatic avenues, but through backchannels and coercion, *in addition* to paramilitary or hybrid forces. This kind of obscured encroachment is difficult to combat, as over-exercising caution could prevent good-faith cooperation with adversarial entities. Perhaps unique to the Arctic is that countries do not merely pursue a regional

presence due to secondary or tertiary commercial or scientific interests, but that several (and most prominently, the PRC) have at times tried to brand themselves as possessing an Arctic *identity*.²⁰⁴ In theory, this identity legitimates having an outsized role in the region's governance and norm-setting than would otherwise be justified by external interest. This approach—redefining the Arctic's geographical limits a discrete administrative region—differs from most other global commons, like the Antarctic and high seas.²⁰⁵

What Sharp Power Suggests About the Sino-Russian Relationship

Despite not surveying the entire timeline and intricacies of Sino-Russian cooperation and competition in the Arctic, this article's observations about sharp power offer insight into their relationship. So far, there is limited evidence that Russia and the PRC are *jointly* pursuing covert and repeated operations intending to undermine individual Arctic democracies or weaken the Arctic's multilateral institutions. However, the various alleged sub-Arctic sabotage incidents offer a fascinating and novel counterpoint. For now, one can confidently say that Beijing and Moscow at least share the desire that Western states not limit their individual quests for extra-territorial authority and that their domestic regimes remain in power.²⁰⁶ Moreover, observable (albeit inconclusive) strategic affinities, including post-Western and multipolar sentiments, suggest an association somewhere in between an entente and an axis.²⁰⁷

A potent counterargument is that Sino-Russian military cooperation has undoubtedly grown since the late 2010s and has become more prevalent than ever for the Arctic and its immediate periphery in the mid-2020s.²⁰⁸ Exercises like *Vostok-2022*

highlighted attempted command integration and multi-domain communication coordination, reflecting a deliberate shift toward greater tactical cohesion and interoperability, though true command-and-control integration still appears distant.²⁰⁹ However, while these exercises and patrols do signal a shift toward harder posturing on the sharp spectrum, attempting to accustom states to their overt military presence (especially in contested spaces) without escalation to hot conflict, displays of joint strength do not necessarily indicate a mutual commitment to fight together against any Arctic or sub-Arctic state or coalition.²¹⁰

From an economic lens, cooperative large-scale infrastructure projects largely remain slow or stagnant (e.g., Power of Siberia 2 pipeline) because of lingering asymmetries, inefficiencies, and distrust between sub-state actors.²¹¹ While the PRC's economy is more vibrant and diverse, Russia maintains superiority in domain awareness, military assets, ice-class commerce, financial footholds, and Arctic-oriented extractive technology.²¹² Russian corporations continue to hold majority stakes in all major Arctic infrastructure projects and Moscow continues to resist allowing a flood of Chinese laborers to enter remote eastern Siberia.²¹³ Nonetheless, the war in Ukraine weakened Russia's ability to independently project Arctic commercial and military power, leaving the two states mutually entangled. So, scholars should not speak prematurely of a new authoritarian sub-order with defined rules and processes. The Arctic case demonstrates that even where synergies outweigh roadblocks, the PRC is not bound irreversibly to Russia—rather, Beijing considers itself a center of geopolitical gravity that should draw other countries into its commercial orbit, making the character and balance of the PRC and Russian 'poles' in a multipolar order unclear.²¹⁴

Thus, despite the PRC's possible recent foray into Arctic disruption, evidence suggests the Chinese state is less prone to contesting the institutional authority of Arctic actors than its northern neighbor.²¹⁵ For the most part, its sharp power operations seem more narrowly aimed at individual states that *happen* to be part of the Arctic, like Norway, rather than *because* of their Arctic status. Even if Putin and Xi enjoy a real personal friendship, the CCP cannot afford to entirely abandon or supplant the current regional order because, at least in terms of long-term reputation, it has much to lose.²¹⁶ At the same time, for a variety of economic, political, and national security reasons, Beijing cannot afford a collapsed Russian state.²¹⁷ Meanwhile, Putin is willing to economically, culturally, and politically disassociate from the West, pursuing alternative structures to transcend Russia's vestigial stakes in the rules-based order.²¹⁸

Sharp Effects on Arctic Governance

In sum, the main sharp threats to the Arctic include critical infrastructure sabotage, political or economic capture through corruption or information campaigns, environmental neglect, non-kinetic antagonism, and dual-use science paving the way for militarization of research assets, perturbation of state and sub-state cooperation mechanisms, and reduced circumpolar transparency. These examples suggest that sharp power is less an explicit strategy and more so an emergent set of tactics to contest institutional solvency that states possess few national or supranational mechanisms to combat, the takeaway being that Arctic governance needs more potent deterrents against such coercion.

This article offers some conclusions about how sharp purview building interacts with the Arctic's governance architecture. First, because the Arctic has relatively few legal bodies or authorities and relatively many

delegated forums, sharp power acts are more likely to target non-state or sub-state entities. Hence, most vulnerabilities occur at the paradiplomatic level, where potentially provocative states like the PRC and Russia can capitalize on areas lacking oversight or outside of a state's explicit jurisdiction.

Second, sharp power interfaces acutely with the Arctic security dilemma. Because it is less costly than conventional confrontation, states like the PRC and Russia may use sharp power to skirt existing hard security regulations and exploit opportunities for covert coercion; resulting information deficits encourage distrust, weakened interstate coordination, and escalation, instead of deferring to legal arbitration. The Arctic's harsh geography and centrality to the climate crisis make it especially ripe for on-the-ground mishaps and diplomatic disintegration, the poor handling of which may have far-reaching consequences, inciting a race to the bottom of Arctic human and environmental safety.

Third, the Arctic's norm-centric governance style incentivizes cooperation because maintaining resource access and managing the effects of Arctic climate change are in countries' best interests. Conversely, its lack of codified punitive mechanisms for misbehavior disincentivizes refraining from exploiting areas with insufficient oversight. Moscow and Beijing may continue to occasionally antagonize Western actors in retaliation to postures unrelated to the Arctic, encouraging capitulation to earn their cooperation.

Fourth, NATO expansion further into the Nordics will undoubtedly encourage more frequent and disruptive sharp power acts in the Arctic Ocean and proximate seas.²¹⁹ Among other enhanced capabilities, Sweden's naval prowess and Finland's extension of NATO's air defense will hinder Russia's attempts to deny Western countries'

freedom of navigation—the 2024 Nordic Response exercise supports this point.²²⁰

Fifth, the Arctic example emphasizes that Western Arctic states' primary challenge in facing Russia and the PRC is deciding how to extrapolate from previous behavior. For example, does the PRC's disobedience of UNCLOS and covert coercion in the SCS predict its trajectory in the Far North? What Arctic implications should policymakers glean from Russia's full-scale invasion of Ukraine, given its history of substantive bilateral cooperation in the Barents region? These questions illustrate difficulties in responsibly approaching dynamic states housing many sub- or non-state actors. As the last several years demonstrated, circumpolar initiatives excluding Russia are slowly reemerging after a lame period, but the Russian and Chinese states entrenching themselves into commercial and scientific enterprises makes shutting them out of this climate change locus geopolitically costly.²²¹ Couched in this observation are the realities that Western governments (themselves imperfect) must engage at least at the sub-state level with adversarial regimes and that authoritarians' presumed and realized statuses in a greater order help incentivize compliance or disobedience.²²² So, in the interest of not becoming overly isolationist themselves, Western governments should remain cautious of compartmentally antagonistic states while not barring them from constructive dialogue or interstate participation. Proportionality, adaptability, and judiciousness are critical.

While this article is purposefully non-prescriptive and certainly not exhaustive, it proposes a few forward-looking themes that Western policymakers and military strategists may consider. Overall, though ratification remains purely aspirational, the U.S. and its ratified allies should reinforce the sanctity of UNCLOS and other legal mechanisms governing the Arctic. Moreover, the Arctic

littoral states might establish more robust surveillance and transparency protocols for monitoring military and non-military activities in the Arctic, such as dual-use scientific research. Improving intelligence-sharing and coordination between Arctic states would help detect and counteract subversive actions early. Additionally, these governments might focus on securing critical infrastructure and supporting sub-state entities, such as Indigenous groups and private enterprises, which could be targeted by sharp power operations. Finally, further research and policy options are needed for counteracting sharp acts within multilateral structures, especially regarding whether response options should be diffused between stakeholders or concentrated within a single entity.

Conclusion

This article investigated through Russian and PRC case studies how the Arctic's heterogeneous governance architecture, while largely an asset, contains unique vulnerabilities to unconventional threats, narrowly characterized here as institution-oriented sharp power. States may pursue sharp power acts, which inhabit a liminal zone between soft and hard power, covertly or overtly. They may work directly within multilateral organizations or through proxies to achieve political ends.

Moscow's and Beijing's histories of real geopolitical disruption make it difficult to responsibly preempt real threats without exacerbating security dynamics. Russia's brutal war in Ukraine and the PRC's true revisionism in the Indo-Pacific are recent examples of this potential. Nonetheless, so far, their joint activities in the Arctic do not represent a concerted effort to overturn the regional order—an illustrative cross-section of the lauded rules-based order—rather take advantage of complementary political and economic conditions. So, policymakers must

deal with this specter of escalation without themselves preemptively undermining the integrity of Arctic governance, defined primarily by cooperation and respect for non-binding norms.

Most importantly, this article illuminates how scholars and policymakers can remain clear-eyed about the real threats to the Arctic's administration posed by great powers while refraining from exaggeration. It shows that authoritarian states are multidimensional in the interstate space, often creating conditions in which their absence within or subversion of a cooperative framework bears steep costs for themselves or others. In this way, states build their purview by entrenching themselves in spaces where they *either* would not be obvious players—and, in the process, arguing that their identity naturally *fits* within a given community—or bloating nascent or justified influence to gain an outsized role in multilateral governance.

In brief, scholars interested in evolving global commons' governance should continue to track developing irregular threats in the Arctic—be they gray, hybrid, or sharp. The area's post-Cold War heterogeneity remains mostly untested by the magnitude of emerging security problems like accelerating climate change, the critical minerals rush, NATO expansion, and a creeping push toward great power multipolarity.

About the Author: *Laurel Baker currently works for Pacific Northwest National Laboratory (PNNL) as a National Nuclear Security Administration Graduate Fellow. She previously conducted diverse research at a variety of think tanks and non-governmental organizations, such as the Hoover Institution, Institute for the Study of War, The Arctic Institute, the Wilson Center, and the National Academy of Sciences. Laurel holds an MA in Russian, East European, and Eurasian Studies from*

Stanford University, where she focused on irregular warfare and Sino-Russian cooperation and competition. Laurel's views are her own and do not represent those of PNNL or the U.S. government.

¹ Aurée Lemieux et al., “Viral Spillover Risk Increases with Climate Change in High Arctic Lake Sediments,” *Proceedings of the Royal Society B: Biological Sciences* 289, no. 1985 (October 19, 2022), <https://doi.org/10.1098/rspb.2022.1073>.

² Andreas Østhagen, *Norway's Arctic Policy: Geopolitics, Security and Identity in the High North*. (Cheltenham, UK: Edward Elgar Publishing, 2023), 27.

³ Victor Cha, “Examining China’s Coercive Economic Tactics,” Testimony before the U.S. House of Representatives’ Committee on Rules, May 10, 2023, https://csis-website-prod.s3.amazonaws.com/s3fs-public/2023-05/ts230510_Cha_China_Coercive.pdf; Samuel Charap et al., *Understanding Russian Coercive Signaling*. (Santa Monica, CA: RAND Corporation, 2022), https://www.rand.org/pubs/research_reports/RRA198-9.html; https://www.rand.org/pubs/research_reports/RRA198-9.html; Anthony Cordesman and Grace Hwang, “Chronology of Possible Russian Gray Area and Hybrid Warfare Operations,” Center for Strategic and International Studies (CSIS), October 26, 2022, <https://www.csis.org/analysis/chronology-possible-russian-gray-area-and-hybrid-warfare-operations>.

⁴ In fact, the Arctic never stopped being a security arena. It was a former nuclear hot-spot and still possesses significant nuclear detection and deployment systems—e.g., Russia’s Kola Peninsula and the U.S.’ “Distant Early Warning Line.” Indeed, some scholars still contend that all Arctic military security is “driven from the nuclear strategic level.” Rasmus Bertelsen in Matthias Finger and Gunnar Rekvig, eds., *Global Arctic*. (Cham: Springer Nature Switzerland, 2022), 469, <https://doi.org/10.1007/978-3-030-81253-9>.

⁵ Heather Conley, Matthew Melino, and Jon Alterman, “The Ice Curtain: Russia’s Arctic Military Presence,” CSIS, December 5, 2022, <https://www.csis.org/analysis/ice-curtain-russias-arctic-military-presence>.

⁶ Pavel Devyatkin, “China and the Arctic in 2023: Final Remarks,” The Arctic Institute, December 14, 2023, <https://www.thearcticinstitute.org/china-arctic-2023-final-remarks/>.

⁷ Lan Xinzheng and Ma Teng et al., “Geo-Setting in the Arctic and Countermeasures of China: A Case Study of the ‘Polar Silk Road,’” *Journal of Regional Development and Planning* (November 1, 2021), <https://doi.org/10.13284/j.cnki.rddl.003403>.

⁸ Philipp Ivanov, “Together and Apart: The Conundrum of the China-Russia Partnership,” Asia Society, October 2023, <https://asiasociety.org/policy-institute/together-and-apart-conundrum-china-russia-partnership>; Shane Mason, “China’s Strategic Assessment of Russia: More Complicated than You Think,” *War on the Rocks*, March 4, 2022, <https://warontherocks.com/2022/03/chinas-strategic-assessment-of-russia-more-complicated-than-you-think/>.

⁹ Alastair Iain Johnston, “China in a World of Orders: Rethinking Compliance and Challenge in Beijing’s International Relations,” *International Security* 44, no. 2 (October 1, 2019): 9–60, https://doi.org/10.1162/isec_a_00360.

¹⁰ Alexander Gabuev, “What’s Really Going on between Russia and China: Behind the Scenes, They Are Deepening Their Defense Partnership,” *Foreign Affairs*, July 13, 2023, <https://www.foreignaffairs.com/united-states/whats-really-going-between-russia-and-china>.

¹¹ Iain Duncan Smith, “The New Authoritarian Axis: The Growing Threat to the Free World from China, Russia, and Iran,” interview by Nile Gardiner, The Heritage Foundation, November 28, 2023, <https://www.heritage.org/defense/event/the-new-authoritarian-axis-the-growing-threat-the-free-world-china-russia-and-iran>; Richard J. Ellings and Robert G. Sutter, *Axis of Authoritarians: Implications of China-Russia Cooperation*. (Seattle, WA: National Bureau of Asian Research, 2018), <https://www.nbr.org/publication/axis-of-authoritarians-implications-of-china-russia-cooperation/>.

¹² Michał Lubina, *Russia and China: A Political Marriage of Convenience—Stable and Successful*. (Opladen; Berlin; Toronto: Verlag Barbara Budrich, 2017), <https://doi.org/10.2307/j.ctvdf0314>; Alexander Gabuev, “China and Russia: An Alliance, an Alignment or a Marriage of Convenience?” Carnegie Endowment for International Peace, April 7, 2023, <https://carnegieendowment.org/publications/89493>.

¹³ Colin Wall and Njord Wegge, “The Russian Arctic Threat: Consequences of the Ukraine War,” CSIS, January 26, 2023, <https://www.csis.org/analysis/russian-arctic-threat-consequences-ukraine-war>.

¹⁴ Elisabeth Braw, “Defending the Seas: Gray-Zone Threats in the Maritime Domain,” American Enterprise Institute (AEI), January 26, 2021, <https://www.aei.org/events/defending-the-seas-gray-zone-threats-in-the-maritime-domain/>; Malte Humpert, “Nord Stream Pipeline Sabotage Mirrors Svalbard Cable Incident,” *High North News*, September 29, 2022, <https://www.highnorthnews.com/en/nord-stream-pipeline-sabotage-mirrors-svalbard-cable-incident>.

¹⁵ Wall and Wegge, “The Russian Arctic Threat: Consequences of the Ukraine War.”

¹⁶ Thomas Nilsen, “Russian, Chinese Ships Spotlighted by Finnish Police after Pipeline,” *The Independent Barents Observer*, October 18, 2023, <https://thebarentsobserver.com/en/security/2023/10/russian-chinese-ships-spotlighted-finnish-police-after-gas-pipeline-damage>.

¹⁷ Helen Wright, ed., “Anchor Found next to Balticconnector Belongs to NewNew Polar Bear,” *ERR*, November 10, 2023, <https://news.err.ee/1609161313/anchor-found-next-to-balticconnector-belongs-to-newnew-polar-bear>; Finbarr Bermingham, “Beijing admits Hong Kong-flagged ship destroyed key Baltic gas pipeline ‘by accident’,”

South China Morning Post, August 12, 2024, <https://www.scmp.com/news/china/diplomacy/article/3274120/china-admits-hong-hong-flagged-ship-destroyed-key-baltic-gas-pipeline-accident>.

¹⁸ Kristina Spohr with Laurel Baker, “Sanctions, Shipping, and Sabotage: China and Russia Enter the ‘Gray Zone’ in the Baltic Sea,” *Polar Perspectives*, no. 14 (November 2023), <https://www.wilsoncenter.org/publication/polar-perspectives-no-14-sanctions-shipment-and-sabotage-china-and-russia-enter-gray>.

¹⁹ Whitney Lackenbauer, Adam Lajeunesse, and Ryan Dean, “Why China is not a Peer Competitor in the Arctic,” *Journal of Indo-Pacific Affairs*, October 3, 2022, <https://www.airuniversity.af.edu/JIPA/Display/Article/3172586/why-china-is-not-a-peer-competitor-in-the-arctic/>.

²⁰ Anne Kauranen and Simon Johnson, “Finland Says China Promised Full Cooperation in Pipeline Probe,” *Reuters*, November 8, 2023, <https://www.reuters.com/world/europe/finland-says-it-has-informed-russia-about-its-baltic-sea-gas-pipe-probe-2023-11-08/>.

²¹ There are a few exceptions. See, for example, Elizabeth Buchanan, *Red Arctic: Russian Strategy Under Putin*. (Washington, D.C.: Brookings Institution Press, 2023).

²² Malte Humpert, “From Ukraine to the Arctic: Russia’s Capabilities in the Region and the War’s Impact on the North,” *High North News*, September 22, 2022, <https://www.highnorthnews.com/en/ukraine-arctic-russias-capabilities-region-and-wars-impact-north>; Rolf Folland, “Arctic Strategy: Deterrence and Détente,” *Journal of Indo-Pacific Affairs*, October 3, 2022, <https://www.airuniversity.af.edu/JIPA/Display/Article/3173373/arctic-strategy-deterrence-and-dtente/>; Conley, Melino, and Alterman, “The Ice Curtain.”

²³ Elizabeth Buchanan, “The Punishment Paradox: Understanding the Unintended Consequences of Suspending Arctic Cooperation with Russia,” *Modern War Institute*, October 24, 2022, <https://mwi.westpoint.edu/the-punishment-paradox-understanding-the-unintended-consequences-of-suspending-arctic-cooperation-with-russia/>.

²⁴ For moderate Chinese scholars, see Wang Biao et al., “Arctic Marine Environment Military Utilization and Its Strategic Thinking,” *Heilongjiang Science and Technology Information* 18 (2016): 109-10. Also see He Guangqiang’s, Ruan Jianping’s, and Song Xuiju’s scholarship. More pessimistic voices on China include Roger Robinson and Daniel Kochis, for example. See also Drew Hargraves, Timothy Chess, and Armin Blueggel, “A Crowded North: NATO Considerations for China’s Arctic Ambition,” *Campaigning: The Journal of the Joint Forces Staff College*, October 28, 2021, <https://jfsc.ndu.edu/Portals/72/Documents/campaigning/RA%20Hargraves%20Chess%20Blueggel%2029%20October%202021.pdf>; Peter Dutton, Isaac Kardon, and Conor Kennedy, “Djibouti: China’s First Overseas Strategic Strongpoint,” *China Maritime Report*, no. 6. (2020), <https://digital-commons.usnwc.edu/cmsi-maritime-reports/6>.

²⁵ On the Western side, scholarship includes that by Whitney Lackenbauer, Elizabeth Wishnick, Adam Lajeunesse, Eyck Freymann, Jim Townsend, and Andrea Kendall-Taylor, for example.

²⁶ “Adding Color to the Gray Zone: Establishing a Strategic Framework for Hybrid Conflict,” Atlantic Council, March 17, 2023, <https://www.atlanticcouncil.org/programs/scowcroft-center-for-strategy-and-security/forward-defense/adding-color-to-the-gray-zone-establishing-a-strategic-framework-for-hybrid-conflict/>.

²⁷ Elisabeth Braw, *The Defender’s Dilemma: Identifying and Deterring Gray-Zone Aggression*. (Washington, D.C.: American Enterprise Institute Press, 2022).

²⁸ Mason Clark, “Russian Hybrid Warfare,” Institute for the Study of War, September 2020, <https://www.understandingwar.org/report/russian-hybrid-warfare>; Nils Peterson, “The Chinese Communist Party’s Theory of Hybrid Warfare,” Institute for the Study of War, November 2023, <https://www.understandingwar.org/backgrounder/chinese-communist-partys-theory-hybrid-warfare>.

²⁹ Christopher Walker, “What Is ‘Sharp Power’?” *Journal of Democracy* 29, no. 3 (2018): 9–23, <https://doi.org/10.1353/jod.2018.0041>; Christopher Walker, “Rising to the Sharp Power Challenge,” *Journal of Democracy* 33, no. 4 (2022): 119–32, <https://doi.org/10.1353/jod.2022.0051>; Christopher Walker and Jessica Ludwig, *A Full-Spectrum Response to Sharp Power: The Vulnerabilities and Strengths of Open Societies*. (Washington D.C.: National Endowment for Democracy, 2021); Christopher Walker and Jessica Ludwig, “The Meaning of Sharp Power,” *Foreign Affairs*, November 16, 2017, <https://www.foreignaffairs.com/articles/china/2017-11-16/meaning-sharp-power>; Christopher Walker, Shanthi Kalathil, and Jessica Ludwig, “The Cutting Edge of Sharp Power,” *Journal of Democracy* 31, no. 1 (2020): 124–37, <https://doi.org/10.1353/jod.2020.0010>.

³⁰ Laurel Baker, “Breaking the Ice: Russian and Chinese Sharp Power in the Interstate System” (MA Thesis, Stanford University, 2023), <https://doi.org/10.25740/rj336xn7639>.

- ³¹ Rachele Faust, “Sharp Power: Rising Authoritarian Influence: New Forum Report,” National Endowment for Democracy, June 21, 2021, <https://www.ned.org/sharp-power-rising-authoritarian-influence-forum-report/>.
- ³² Tiago Tecelão Martins, “Arctic Ambitions: China’s Engagement with the Northern Sea Route,” *The Diplomat*, November 23, 2023, <https://thediplomat.com/2023/11/arctic-ambitions-chinas-engagement-with-the-northern-sea-route/>.
- ³³ Chels Michta, “The China-Russia Axis Moves into High Gear,” Center for European Policy Analysis (CEPA), December 12, 2023, <https://cepa.org/article/the-china-russia-axis-moves-into-high-gear/>.
- ³⁴ Elizabeth Buchanan, “Why Russia and China Won’t Go the Distance in the High North,” Royal United Services Institute, May 8, 2024, <https://rusi.org/explore-our-research/publications/commentary/why-russia-and-china-wont-go-distance-high-north>.
- ³⁵ Xie Chang, “Research on Non-State Actors Under Sino-Russian Arctic Cooperation Based on Investigations of Indigenous Peoples and Scientists,” (MA Thesis, 2021), <https://doi.org/10.27167/d.cnki.gjinu.2021.000645>; Woon Chih Yuan, “Framing the Polar Silk Road: Critical Geopolitics, Chinese Scholars and the (Re)Positionings of China’s Arctic Interests,” *Political Geography* 78 (April 2019), <https://doi.org/10.1016/j.polgeo.2019.102141>.
- ³⁶ Baker, “Breaking the Ice,” 47.
- ³⁷ Whitney Lackenbauer and Ryan Dean in Kristina Spohr, Daniel Hamilton, and Jason Moyer, eds., *The Arctic and World Order* (Washington, D.C.: Brookings Institution Press, 2021), 339–341.
- ³⁸ Interviews with Nordic scholars, July 2023.
- ³⁹ Erin Parsons, *Relations on Thin Ice: A Narrative Analysis of Chinese Governance in the Arctic*. (CIDOB: Barcelona Centre for International Affairs, 2022).
https://www.cidob.org/en/publications/publication_series/documents_cidob/relations_on_thin_ice_a_narrative_analysis_of_chinese_governance_in_the_arctic; Oran Young, “The Arctic Council at Twenty: How to Remain Effective in a Rapidly Changing Environment,” *UC Irvine Law Review* 6, no. 1 (2016): 115, <https://escholarship.org/content/qt5fh7r71t/qt5fh7r71t.pdf?t=qx22ma>.
- ⁴⁰ Iglesias Berlanga in Elena Conde and Sara Iglesias Sánchez, eds., *Global Challenges in the Arctic Region: Sovereignty, Environment and Geopolitical Balance* (London: Routledge, 2019), 204.; Hong Nong, *China’s Role in the Arctic*. (London: Routledge, 2022); David Auerswald in Joachim Weber, ed. “Arctic Narratives and Geopolitical Competition,” in *Handbook on Geopolitics and Security in the Arctic*. (Springer International Publishing, 2020), 251–271, https://doi.org/10.1007/978-3-030-45005-2_15; Oran Young, “Governing the Arctic Ocean,” *Marine Policy* 72, no. 72 (2016): 271–77, <https://doi.org/10.1016/j.marpol.2016.04.038>; Ashley Postler, “UNCLOS in the Arctic: A Treaty for Warmer Waters,” *Georgetown Security Studies Review*, February 24, 2020, <https://georgetownsecuritystudiesreview.org/2020/02/24/unclos-in-the-arctic-a-treaty-for-warmer-waters/>.
- ⁴¹ Cécile Pelaudieux and Christoph Humrich in Finger and Rekvig, *Global Arctic*, 448–449. A primary example of Arctic actors’ moderate and largely preemptive approach is the Central Arctic Ocean Fisheries Agreement. See “The Central Arctic Ocean Fisheries Agreement – What It Is, Is Not, and Might Be,” WWF Global Arctic Programme, December 7, 2023, <https://www.arcticwwf.org/newsroom/features/the-central-arctic-ocean-fisheries-agreement-what-it-is-is-not-and-might-be/>. This caution is usually wisely exercised, but this article demonstrates that the “wait and see” approach carries some perils.
- ⁴² Baker, “Breaking the Ice,” 29.
- ⁴³ Piotr Graczyk and Timo Koivurova in Leif Christian Jensen and Geir Hønneland, eds., *Handbook of the Politics of the Arctic*. (Cheltenham, UK: Edward Elgar Publishing, 2015).
- ⁴⁴ Koivurova and Gosia Smieszek in Finger and Rekvig, *Global Arctic*, 419.
- ⁴⁵ Parsons, “Relations on Thin Ice,” 15.; Vesa Väättänen and Kaj Zimmerbauer, “Territory–Network Interplay in the Co-Constitution of the Arctic and ‘to-be’ Arctic States,” *Territory, Politics, Governance* 8, no. 3 (2019): 383, <https://doi.org/10.1080/21622671.2018.1559759>.
- ⁴⁶ Bertelsen in Finger and Rekvig, *Global Arctic*, 463.; Marc Lanteigne in Spohr and Hamilton, *The Arctic and World Order*, 380.
- ⁴⁷ Abbie Tingstad, Stephanie Pezard, and Yuliya Shokh, *China-Russia Relations in the Arctic: What Are the Northern Limits of Their Partnership?* (Santa Monica, CA: RAND Corporation, 2024), 11, <https://www.rand.org/pubs/perspectives/PEA2823-1.html>.
- ⁴⁸ Mariia Kobzeva in Finger and Rekvig, *Global Arctic*, 316.; Oran Young in Spohr and Hamilton, *The Arctic and World Order*, 51. For example, cables are largely governed and fixed by private corporations and what are essentially freelance cable repair vessels. An outage in a particularly remote but critical area for military intelligence could be disastrous.
- ⁴⁹ Katrin Bennhold and David Sanger, “Sabotaged Pipelines and a Mystery: Who Did It? (Was It Russia?),” *The New York Times*, September 28, 2022, <https://www.nytimes.com/2022/09/28/world/europe/pipeline-sabotage-mystery-russia.html>.

⁵⁰ Paul Stronski and Richard Sokolsky, "Multipolarity in Practice: Understanding Russia's Engagement with Regional Institutions," Carnegie Endowment for International Peace, January 8, 2020, <https://carnegieendowment.org/2020/01/08/multipolarity-in-practice-understanding-russia-s-engagement-with-regional-institutions-pub-80717>; Young, "The Arctic Council at Twenty," 112.

⁵¹ Bertelsen in Finger and Rekvig, *Global Arctic*, 467-469.

⁵² Ernie Regehr in Spohr and Hamilton, *The Arctic and World Order*, 203; Bertelsen in Finger and Rekvig, *Global Arctic*, 467-469.

⁵³ Andreas Østhagen, interview by author, Oslo, Norway, July 21, 2023; Scott Savitz, "Strategic Competition in the Arctic" in Stephen Barnard, ed., "Combined Special Issue," *European Security & Defence/Maritime Defence Monitor*, October 2022, 36-37, https://euro-sd.com/wp-content/uploads/2022/10/ESD_MDM_Combined-Issue_October-2022.pdf.

⁵⁴ Interview with Østhagen.

⁵⁵ Young, "Governing the Arctic Ocean."; Young, "The Arctic Council at Twenty."; Sandra Cassotta et al., "Climate Change and China as a Global Emerging Regulatory Sea Power in the Arctic Ocean: Is China a Threat for Arctic Ocean Security?" *Beijing Law Review* 06, no. 03 (January 1, 2015): 199-207, <https://doi.org/10.4236/blr.2015.63020>; Gunnar Rekvig, interview by author, Tromsø, Norway, July 30, 2023; Interview with Østhagen.

⁵⁶ "Russia Quits Barents Euro-Arctic Council in Spat over Presidency," *Bloomberg*, September 18, 2023, <https://www.bloomberg.com/news/articles/2023-09-18/russia-quits-barents-euro-arctic-council-in-spat-over-presidency>; Mariano Alvarez, "The Rise of Paradiplomacy in International Relations," *E-International Relations*, March 18, 2020, <https://www.e-ir.info/2020/03/17/the-rise-of-paradiplomacy-in-international-relations/>; Astri Edvardsen, "Finland Withdraws From the Barents Euro-Arctic Council," *High North News*, November 21, 2024, <https://www.highnorthnews.com/en/finland-withdraws-barents-euro-arctic-council>.

⁵⁷ Interview with Rekvig; Nordic military personnel, interview by author (on background), Oslo, Norway, July 20, 2023; Øystein Jensen, "Current Legal Developments, The Barents Sea: Treaty Between Norway and the Russian Federation Concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean," *International Journal of Marine and Coastal Law* 26, no. 1 (2011): 151-168, <https://www.fni.no/getfile.php/131499-1467549392/Filer/Publikasjoner/OYJ-ESTU-2011.pdf>.

⁵⁸ Interview with Rekvig; Nicholas Lokker et al., "How Finnish and Swedish NATO Accession Could Shape the Future Russian Threat," Center for a New American Security, January 24, 2023, <https://www.cnas.org/publications/reports/how-finnish-and-swedish-nato-accession-could-shape-the-future-russian-threat>.

⁵⁹ Clifton Parker, "Russia's Arctic Military Build-up Explained," Freeman Spogli Institute for International Studies, January 30, 2017, <https://fsi.stanford.edu/news/russias-arctic-military-build>; Astri Edvardsen, "After 30 Years, the Barents Cooperation Faces an Uncertain Future," *High North News*, January 10, 2023, <https://www.highnorthnews.com/en/after-30-years-barents-cooperation-faces-uncertain-future>.

⁶⁰ Cristian Martini Grimaldi, "Japan's Tangled Territorial Dispute with Russia," *The Diplomat*, June 6, 2022, <https://thediplomat.com/2022/05/japans-tangled-territorial-dispute-with-russia/>.

⁶¹ Barrett Martin, Michael Tovo, and Devin Kirkwood, "The Unconventional Approach to Arctic Security," *Journal of Indo-Pacific Affairs* (September-October 2022): 131. https://media.defense.gov/2022/Sep/28/2003087091-1/-1/1/09%20MARTIN_VIEW.PDF; Sherry Sontag and Christopher Drew, *Blind Man's Bluff: The Untold Story of American Submarine Espionage*. (New York: PublicAffairs, 2008).

⁶² Interview with Østhagen; Katarzyna Zysk, interview by author, Oslo, Norway, July 25, 2023.

⁶³ Regehr in Spohr and Hamilton, *The Arctic and World Order*; Interview with Østhagen.

⁶⁴ Indeed, Arctic civil society historically has been flexible, keeping up with geopolitical moods—first, to reintegrate the circumpolar attitude after the end of the Cold War, then, to manage the quickly proliferating interests that non-Arctic actors expressed in the region.

⁶⁵ Gloria Dickie, "Russian Officials Call Arctic Council Boycott 'Regrettable,'" *Reuters*, March 4, 2022, <https://www.reuters.com/world/europe/russian-officials-call-arctic-council-boycott-regrettable-2022-03-04/>.

⁶⁶ Young, "The Arctic Council at Twenty," 111.

⁶⁷ Jill Gallagher and Nicole Carter, "Protection of Undersea Telecommunication Cables: Issues for Congress," Congressional Research Service, August 7, 2023, <https://crsreports.congress.gov/product/pdf/R/R47237>; William Yuen Yee, "Laying down the Law under the Sea: Analyzing the US and Chinese Submarine Cable Governance Regimes," The Jamestown Foundation, August 4, 2023, <https://jamestown.org/program/laying-down-the-law-under-the-sea-analyzing-the-us-and-chinese-submarine-cable-governance-regimes/>.

⁶⁸ Kobzeva in Finger and Rekvig, *Global Arctic*, 324.

⁶⁹ Baker, “Breaking the Ice,” 24.

⁷⁰ Regehr in Spohr and Hamilton, *The Arctic and World Order*, 204.

⁷¹ Regehr in Spohr and Hamilton, *The Arctic and World Order*, 206.

⁷² Adam Satariano, “At the Edge of the World, a New Battleground for the U.S. and China,” *The New York Times*, December 21, 2019, <https://www.nytimes.com/2019/12/20/technology/faroe-islands-huawei-china-us.html>; “Chinese Investment May Help Greenland Become Independent from Denmark,” *The Economist*, May 3, 2018, <https://www.economist.com/europe/2018/05/03/chinese-investment-may-help-greenland-become-independent-from-denmark>; Elisabeth Braw, “Chinese-Made Wind Farms Could Become a New Sabotage Risk,” *Financial Times*, November 22, 2023, <https://www.ft.com/content/eb1bb373-07a8-48f8-b5e6-aa3c9ed98e64>.

⁷³ Hannah Beech, “Blasting Bullhorns and Water Cannons, Chinese Ships Wall Off the Sea,” *The New York Times*, September 23, 2023, <https://www.nytimes.com/2023/09/23/world/asia/china-sea-philippines-us.html>.

⁷⁴ Pelaudieux and Humrich in Finger and Rekvig, *Global Arctic*, 456-457.; Sanna Kopra, “China and a New Order in the Arctic,” *Power Transition in the Anarchical Society* (2022): 312, https://doi.org/10.1007/978-3-030-97711-5_13.

⁷⁵ Pavel Devyatkin and Nikita Lipunov, “The Arctic in the 2023 Russian Foreign Policy Concept,” The Arctic Institute, May 30, 2023, <https://www.thearcticinstitute.org/arctic-2023-russian-foreign-policy-concept/>.

⁷⁶ Alexandra Coultrup, “Arctic Circle GPS Jamming - Aerospace Security Project,” CSIS, September 1, 2022, <https://aerospace.csis.org/data/gps-jamming-in-the-arctic-circle/>.

⁷⁷ Elizabeth Buchanan in Paul Dickson et al., “Hybrid CoE Security and Hybrid Threats in the Arctic: Challenges and Vulnerabilities of Securing the Transatlantic Arctic,” Hybrid CoE, December 2021, 34-35.; Mathieu Boulègue, “Russia's Arctic Military Posture in the Context of the War against Ukraine,” October 31, 2024, <https://www.thearcticinstitute.org/russias-arctic-military-posture-context-war-against-ukraine/>.

⁷⁸ Kateryna Stepanenko, “Putin’s Speech at the World Russian People’s Council - ISW Briefing Room Ep. 26,” Institute for the Study of War (YouTube), November 30, 2023, <https://www.youtube.com/watch?v=dWazqN0moz0>; DW Documentary, “Putin’s Advances in the Arctic.”

⁷⁹ Thomas Kellogg, “China and Russia’s Game of Distortion,” *Washington Post*, October 28, 2021, <https://www.washingtonpost.com/news/theworldpost/wp/2018/02/15/china-russia/>.

⁸⁰ Elisabeth Braw, “Gray-Zone and Non-Kinetic Threats: A Primer” AEI, October 23, 2020.; Ahonen et al., *Russia’s Information Influence Operations in the Nordic – Baltic Region*, 146.

⁸¹ David McHugh, “Russia’s Economy Holds up, but Growing Challenges Test Putin,” *AP News*, March 14, 2023, <https://apnews.com/article/russian-economy-ukraine-war-putin-sanctions-0231252b7a145040530245b58590f7f0>.

⁸² Julia Hager, “Russia’s Claim to North Pole Territory Officially Confirmed,” *Polar Journal*, February 21, 2023, <https://polarjournal.ch/en/2023/02/21/russias-claim-to-north-pole-territory-officially-confirmed/>.

⁸³ “Russia Cripples NATO’s Undersea Communications,” Warsaw Institute, February 21, 2022, <https://warsawinstitute.org/russia-cripples-natos-undersea-communications/>.

⁸⁴ Shaun Waterman, “Russian Jamming Is Wreaking Havoc on GPS in Eastern Europe. But Is It Hybrid Warfare?” *Air & Space Forces Magazine*, July 10, 2024, <https://www.airandspaceforces.com/russian-gps-jamming-nato-ukraine/>.

⁸⁵ Thomas Nilsen, “More Russian GPS Jamming than Ever Across Border to Norway,” *The Independent Barents Observer*, July 9, 2022, <https://thebarentsobserver.com/en/security/2022/07/more-russian-gps-jamming-ever-across-border-norway>; Marta Kepe, “NATO’s North,” U.S. Department of State, June 25, 2024, <https://www.state.gov/briefings-foreign-press-centers/fpc-nato-series/natos-north>.

⁸⁶ Atle Staalesen, “Moscow Aims for Another Grab: Navy Chief Says Russia Will Expand Into Arctic Ocean,” *The Independent Barents Observer*, December 7, 2023, <https://thebarentsobserver.com/en/arctic/2023/12/moscow-aims-another-grab-navy-chief-says-russia-will-expand-arctic-ocean>.

⁸⁷ Auerswald, “Arctic Narratives and Geopolitical Competition,” 266.; Andrey Todorov, “New Russian Law on Northern Sea Route Navigation: Gathering Arctic Storm or Tempest in a Teapot?” Belfer Center for Science and International Affairs, March 9, 2023, <https://www.belfercenter.org/publication/new-russian-law-northern-sea-route-navigation-gathering-arctic-storm-or-tempest-teapot>; Buchanan, *Red Arctic*, 92.

- ⁸⁸ Martin Breum, "Russia Extends Its Claim to the Arctic Ocean Seabed," *ArcticToday*, April 5, 2021, <https://www.arctictoday.com/russia-extends-its-claim-to-the-arctic-ocean-seabed/>; Andrey Todorov, "Russia's Reaction to the US Continental Shelf Announcement: Political Posturing or Setting the Stage for a Big Move?" *The Arctic Institute*, April 9, 2024, <https://www.thearcticinstitute.org/russias-reaction-us-continental-shelf-announcement-political-posturing-setting-stage-big-move/>.
- ⁸⁹ Elizabeth Buchanan, "Russia's Gains in the Great Arctic Race," *War on the Rocks*, May 4, 2023, <https://warontherocks.com/2023/05/russias-gains-in-the-great-arctic-race/>; Andrey Todorov, "Russia's Reaction to the US Continental Shelf Announcement: Political Posturing or Setting the Stage for a Big Move?," *The Arctic Institute*, April 9, 2024, <https://www.thearcticinstitute.org/russias-reaction-us-continental-shelf-announcement-political-posturing-setting-stage-big-move/>.
- ⁹⁰ Elisabeth Braw, "Russia Taunts Finland with Migrant Maneuvers," *CEPA*, November 28, 2023, <https://cepa.org/article/russia-taunts-finland-with-migrant-maneuvers/>; Arkady Moshes, "Closure of Russia-Finland Border Heralds End of Pragmatic Cooperation," *Carnegie Endowment for International Peace*, December 12, 2023, <https://carnegieendowment.org/politika/91227>; Nelli Saarinen, "Finland Closes Its Border with Russia Again, Claims Moscow Is Orchestrating a 'Hybrid Operation,'" *ABC News*, December 18, 2023, <https://www.abc.net.au/news/2023-12-18/finland-closes-border-to-russia-hybrid-threat-operation/103238032>.
- ⁹¹ Brett Simpson, "The Rise and Sudden Fall of the Arctic Council," *Foreign Policy*, June 2, 2023, <https://foreignpolicy.com/2023/05/31/arctic-council-russia-norway/>.
- ⁹² "Putin's Advances in the Arctic," DW Documentary, November 29, 2023, <https://www.youtube.com/watch?v=W9wyajjYBUc>; Holly Williams and Analisa Novak, "Russia Ramps up Its Military Presence in the Arctic Nearly 2 Years into the Ukraine War," *CBS News*, December 18, 2023, <https://www.cbsnews.com/news/russia-arctic-military-presence-ukraine-war-nears-two-year-mark/>; Miranda Bryant, "Barentsburg: The Norwegian Town Feeling the Chill of the Ukraine War," *The Guardian*, October 11, 2023, <https://www.theguardian.com/world/2023/oct/10/barentsburg-the-norwegian-town-feeling-the-chill-of-the-ukraine-war>.
- ⁹³ Astri Edvardsen and Birgitte Annie Molid Martinussen (translator), "Inhabitants of Russian settlements to be registered in the population register of Svalbard," *High North News*, October 4, 2024, <https://www.highnorthnews.com/en/inhabitants-russian-settlements-be-registered-population-register-svalbard>.
- ⁹⁴ Tom Parfitt, "Russia Plants Flag on North Pole Seabed," *The Guardian*, April 12, 2017, <https://www.theguardian.com/world/2007/aug/02/russia.arctic>; Elizaveta Vereykina, "Gigantic Russian Flag Unveiled in the Arctic Ocean. 'It's a Sign of Dominance and Defiance', Geopolitics Professor Explains," *The Independent Barents Observer*, August 22, 2023, <https://thebarentsobserver.com/en/2023/08/gigantic-russian-flag-unveiled-arctic-ocean-its-sign-dominance-and-defiance-uit-professor>.
- ⁹⁵ Anneli Ahonen et al., *Russia's Information Influence Operations in the Nordic – Baltic Region*. (Riga: NATO STRATCOM Center of Excellence: 2024), 146-147, <https://stratcomcoe.org/pdfs/?file=/publications/download/RUS-Info-Influence-Operations-in-Nordic-Baltic-DIGITAL-V2.pdf?zoom=page-fit>.
- ⁹⁶ Andrew E. Kramer, "How Russia Is Cashing in on Climate Change," *The New York Times*, November 10, 2021, <https://www.nytimes.com/2021/10/22/world/europe/russia-arctic-climate-change-putin.html>.
- ⁹⁷ Ariel Cohen, "Russia Uses New Arctic LNG to Dodge Energy Sanctions," *Forbes*, October 31, 2023, <https://www.forbes.com/sites/arielcohen/2023/10/31/russias-uses-lng-to-dodge-energy-sanctions/?sh=17fa1e972178>; Sergey Vakulenko, "Double Win: How Russian Oil Companies Defied Sanctions and Paid Less Tax," *Carnegie Endowment for International Peace*, February 15, 2023, <https://carnegieendowment.org/politika/89052>; "Cracking Down on Third-Party Intermediaries Used to Evade Russia-Related Sanctions and Export Controls," U.S. Department of Justice, March 2, 2023.
- ⁹⁸ Alan Rappeport, "Russian Oil Flows Through Western 'Price Cap' as Shadow Fleet Grows," *The New York Times*, October 14, 2024, <https://www.nytimes.com/2024/10/14/us/politics/russian-oil-price-cap-shadow-fleet.html>; "Letter to Congressional Leadership on the Debt Limit," U.S. Department of the Treasury, January 10, 2025, <https://home.treasury.gov/news/press-releases/jy2777>.
- ⁹⁹ Hanne Cokelaere, Costanza Gambarini, Louise Guillot, Victor Jack, and Karl Mathiesen, "Revealed: Putin's sanctions-busting shadow fleet is spilling oil all over the world," *The New York Times*, October 17, 2024, <https://www.politico.eu/article/revealed-putins-sanctions-busting-shadow-fleet-is-spilling-oil-all-over-the-world/>.
- ¹⁰⁰ Stanley Reed, "TotalEnergies, a French Oil Company, Will Limit Its Investment in Russia," *The New York Times*, March 1, 2022, <https://www.nytimes.com/2022/03/01/business/totalenergies-oil-russia.html>; Malte Humpert, "TotalEnergies Withdraws from Novatek Board Taking \$3.7bn Loss As Novatek Announces Discovery of New Arctic Gas Field," *High North News*, December 15, 2022, <https://www.highnorthnews.com/en/totalenergies-withdraws-novatek-board-taking-37bn-loss-novatek-announces-discovery-new-arctic-gas>; Stephen Stapczynski and Anna Shiryayevskaya, "Russia Arctic LNG 2 Project Supply Halted by US Sanctions," *Bloomberg*, December 21, 2023, <https://www.bloomberg.com/news/articles/2023-12-21/novatek-declares-force-majeure-on-arctic-lng-2-amid-us-sanctions>; DW Documentary, "Putin's Advances in the Arctic."

¹⁰¹ Heiner Kubny, “Nuclear Submarines to Protect the Northern Sea Route,” *Polar Journal*, August 5, 2022, <https://polarjournal.ch/en/2022/08/05/nuclear-submarines-to-protect-the-northern-sea-route/>.

¹⁰² Ryan Chan, “US-Russia Rivalry Heats Up in Arctic Arena,” *Newsweek*, September 18, 2024, <https://www.newsweek.com/us-news-russia-rivalry-heats-arctic-arena-alaska-1955016>.

¹⁰³ Interviews with Nordic scholars.

¹⁰⁴ “2024 Arctic Strategy,” U.S. Department of Defense, June 21, 2024, <https://media.defense.gov/2024/Jul/22/2003507411/-1/-1/0/DOD-ARCTIC-STRATEGY-2024.PDF>.

¹⁰⁵ Riley Mellen, “Russia May Be Planning to Test a Nuclear-Powered Missile,” *The New York Times*, October 2, 2023, <https://www.nytimes.com/2023/10/02/video/russia-nuclear-missile.html>; Julian Borger, “Russia Will Revoke Ratification of Nuclear Test Ban Treaty, Envoy Says,” *The Guardian*, October 7, 2023, <https://www.theguardian.com/world/2023/oct/06/nuclear-watchdog-russia-putin-testing-treaty>; Eugene Rumer, “The Method behind Putin’s New START Madness,” Carnegie Endowment for International Peace, February 28, 2023, <https://carnegieendowment.org/2023/02/28/method-behind-putin-s-new-start-madness-pub-89161>; Andrew Osborn, “Putin Revokes Russian Ratification of Global Nuclear Test Ban Treaty,” *Reuters*, November 2, 2023, <https://www.reuters.com/world/europe/putin-revokes-russias-ratification-nuclear-test-ban-treaty-2023-11-02/>.

¹⁰⁶ Ayna Fink, “U.S. Extended Deterrence and Regional Nuclear Capabilities,” Congressional Research Service, August 8, 2024, <https://crsreports.congress.gov/product/pdf/IF/IF12735>.

¹⁰⁷ Charles Digges, “Industrial Pollution in the Russian Arctic Is an Environmental Nightmare: A List of the Dirtiest Places,” *Bellona*, December 7, 2023, <https://bellona.org/news/industrial-pollution/2023-11-industrial-pollution-in-the-russian-arctic-is-an-environmental-nightmare-a-list-of-the-dirtiest-companies>.

¹⁰⁸ Thane Gustafson, *Klimat: Russia in the Age of Climate Change*. (Cambridge, MA: Harvard University Press, 2021).

¹⁰⁹ Ed Struzik, “How Tensions with Russia Are Jeopardizing Key Arctic Research,” *Yale E360*, February 7, 2023, <https://e360.yale.edu/features/russia-ukraine-war-arctic-research>.

¹¹⁰ Jeremy Greenwood, “Great Power Competition and Overseas Basing in the Arctic,” Brookings Institute, February 8, 2023, <https://www.brookings.edu/articles/great-power-competition-and-overseas-basing-in-the-arctic/>.

¹¹¹ Eugene Rumer, Richard Sokolsky, and Paul Stronski, “Russia in the Arctic—A Critical Examination,” Carnegie Endowment for International Peace, March 29, 2021, 6, <https://carnegieendowment.org/2021/03/29/russia-in-arctic-critical-examination-pub-84181>.

¹¹² Rumer et al., “Russia in the Arctic,” 14.

¹¹³ Elizabeth Wishnick and Cameron Carlson, “The Russian Invasion of Ukraine Freezes Moscow’s Arctic Ambitions,” *Journal of Indo-Pacific Affairs*, October 3, 2022, <https://www.airuniversity.af.edu/JIPA/Display/Article/3172713/the-russian-invasion-of-ukraine-freezes-moscows-arctic-ambitions/>.

¹¹⁴ Taras Kuzio and Paul D’Anieri, “The Soviet Origins of Russian Hybrid Warfare,” *E-International Relations*, June 17, 2018, <https://www.e-ir.info/2018/06/17/the-soviet-origins-of-russian-hybrid-warfare/>.

¹¹⁵ Interview with Østhagen.

¹¹⁶ Interview with Nordic military personnel.; Joseph Bermudez Jr., Heather Conley, and Matthew Melino, “Ice Curtain: S-400 Deployments and Enhanced Defense of Russia’s Western Arctic,” CSIS, October 28, 2022, <https://www.csis.org/analysis/ice-curtain-s-400-deployments-and-enhanced-defense-russias-western-arctic-rogachevo-air>; Regehr in Spohr and Hamilton, *The Arctic and World Order*, 189.

¹¹⁷ Rumer et al., “Russia in the Arctic,” 10.

¹¹⁸ Murray Brewster, “Canada’s ‘Tenuous Hold’ in Arctic Could Be Challenged by Russia, China, Says Top Soldier,” *CBC News*, October 18, 2022, <https://www.cbc.ca/news/politics/wayne-eyre-arctic-russia-china-defence-1.6621040>.

¹¹⁹ Maria Snegovaya, Michael Kimmage, and Jade McGlynn, “Putin the Ideologue: The Kremlin’s Potent Mix of Nationalism, Grievance, and Mythmaking,” *Foreign Affairs*, November 16, 2023, <https://www.foreignaffairs.com/russian-federation/putin-ideologue>.

¹²⁰ To that end, the topic is mostly concentrated in a few academic hubs and circulates between a relatively small community. Often, prominent scholars act as regional nodes on Arctic scholarship, attracting likeminded peers and students. Prominent political scholars and institutions include Li Zhenfu, Sun Kai, and Sun Tianyu, and Jilin University, Wuhan University, the PLA National Defense University, Dalian Maritime University, and Ocean University of China. Naturally, PRC engineering and naval universities are responsible for most empirical Arctic research. Shanghai is an active locus for Arctic enthusiasts and sub-state

cooperation, hosting both the China-Nordic Arctic Research Center and the Polar Research Institute of China. Students' master's and doctoral dissertations tend to be more overtly opportunistic or hawkish than their mentors' work, like early official stances espoused by the CCP. Dissertations frequently earnestly suggested that the PRC take advantage of flexible international law and bilateral cooperation opportunities to gain an early foothold in the Arctic's international regime.

¹²¹ Li Zhenfu and Han Chunmei, "The Concept and Scope of 'Near Arctic Countries,'" *Theory Horizon* 06, no. 011 (2022): 77–83, <https://doi.org/10.13221/j.cnki.lljj.2022.06.011>; He Guangqiang, "Representation and Analysis of China-Arctic Relationship: From the Perspective of the World Map," *The Journal of International Studies* 03 (2017): 38–61.

¹²² For a hawkish view, see, for example, Wan Xiangchun, "Research on Maritime Security Concept with Chinese Characteristics" (Thesis, Shanghai Normal University, n.d.). For moderates, see, for example, Dong Limin, "The Construction of China's Identity of 'Arctic Stakeholder,'" *Pacific Journal* 06, no. 006 (2017): 65–77, <https://doi.org/10.14015/j.cnki.1004-8049.2017.6.006>; Ruan Jinping, "'Near-Arctic State' or 'Arctic Stakeholder'? –Thinking about China's Identity in Participation in Arctic Affairs," *International Forum* 01, no. 007 (2016): 47–52, <https://doi.org/10.13549/j.cnki.cn11-3959/d.2016.01.007>; Wang Xinhe, "China's Arctic Identities from the Perspective of National Interests," *Pacific Journal* 05, no. 008 (2013): 81–89, <https://doi.org/10.14015/j.cnki.1004-8049.2013.05.008>.

¹²³ Bai Jiayu and Wang Chenxing, "Research on the Legal System about Arctic Cooperation with the Good Governance Ideal: A View for China's Effective Participation," *Study & Exploration* 02 (2017): 7–26; Wuhan University, "Studies on Fundamental Legal Problems of the UNCLOS Applying in Arctic," *CNKI*, n.d.

¹²⁴ Wang Mengna and Zhang Liping, "Arctic Strategies of Arctic Countries and Their Reference Value to China," *China Collective Economy* 03 (2016): 163–64; Li Zhenfu, "Research on the Network of the Large Arctic Countries and the Strategies for China," *Northeast Asia Forum* 02, no. 003 (2015): 31–44, <https://doi.org/10.13654/j.cnki.naf.2015.02.003>.

¹²⁵ Cai Gaoqiang and Zhu Danya, "The Protection of International Law in the Arctic Energy Cooperation between China and Russia under the Background of the 'Ice Silk Road,'" *Journal of Xi'an Shiyong University (Social Science Edition)* 03 (2021): 84–91.

¹²⁶ Courtney Fung, *China and Intervention at the UN Security Council: Reconciling Status*. (Oxford: Oxford University Press, 2019).

¹²⁷ Mark Green, "China Still Gets 'Developing Nation' Preferential Treatment," The Wilson Center's *Stubborn Things*, June 20, 2023, <https://www.wilsoncenter.org/blog-post/china-still-gets-developing-nation-preferential-treatment>.

¹²⁸ Lanteigne in Spohr and Hamilton, *The Arctic and World Order*, 387.

¹²⁹ Li Zhenfu, "Study on Multi-Dimension Features of Arctic Geopolitics—Also on the Essential Differences Between the Arctic Issue and the South China Sea," *Northeast Asia Forum* 02, no. 003 (2021): 38–61, <https://doi.org/10.13654/j.cnki.naf.2021.02.003>.

¹³⁰ "Military and Security Developments Involving the People's Republic of China: 2024," U.S. Department of Defense, December 18, 2024, 145, <https://media.defense.gov/2024/Dec/18/2003615520/-1/-1/0/MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA-2024.PDF>.

¹³¹ Pezard et al., *China's Economic, Scientific, and Information Activities in the Arctic*, 59–61.

¹³² "Military and Security Developments Involving the People's Republic of China: 2023," U.S. Department of Defense, October 19, 2023, 71, 156, <https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>.

¹³³ Reid Standish, "Hunt for Answers Continues over Chinese Ship's Suspected Role in Damaging Baltic Pipeline," *Radio Free Europe/Radio Liberty*, November 2, 2023, <https://www.rferl.org/a/china-baltic-pipeline-damaged-russia-newnew-polar-bear/32667867.html>; Huizhong Wu and Johnson Lai, "Taiwan Suspects Chinese Ships Cut Islands' Internet Cables," *AP News*, April 18, 2023, <https://apnews.com/article/matsu-taiwan-internet-cables-cut-china-65f10f5f73a346fa788436366d7a7c70>; Philip Heijmans, "China Militia Presence Increases in South China Sea, Report Says," *Bloomberg*, February 28, 2024, <https://www.bloomberg.com/news/articles/2024-02-29/china-militia-presence-increases-in-south-china-sea-report-says>.

¹³⁴ Bonnie Glaser and Isaac Kardon, "China's Law of the Sea: The New Rules of Maritime Order," National Committee on United States-China Relations, May 8, 2023, <https://www.ncusr.org/podcast/chinas-law-of-the-seas/>.

¹³⁵ Liu Lihua, "Research on Construction A 'Polar Silk Road' — Focus on Industrial Cooperation," *CNKI* (Jilin University, 2019), <https://doi.org/10.27162/d.cnki.gilin.2019.000112>; Zhai Li, "The Ice Silk Road — A Study of China's Geopolitical Interests in the Arctic," *CNKI*, 2020, <https://doi.org/10.27456/d.cnki.gyindu.2020.000269>.

¹³⁶ Huang Qingbo et al., "Spatiotemporal Evolution and Influencing Factors of Trade Pattern between China and Arctic Countries," *Journal of Central China Normal University (Natural Sciences)* 01, no. 011 (2023): 105–16,

<https://doi.org/10.19603/j.cnki.1000-1190.2023.01.011>; Zhang Ying and Yang Wei, “The Trade Potentialities Between China and the Arctic Countries Under the Background of the Opening of the Arctic Waterway: An Empirical Test Based on Extended Gravity Model,” *Ocean Development and Management* 12, no. 003 (2021): 18–25, <https://doi.org/10.20016/j.cnki.hykyfgy.2021.12.003>; Ma et al., “Geo-Setting in the Arctic.”

¹³⁷ Li Jingyu and Zhan Longlong, “My Country’s Strategic Thinking.”; Wang Mengna and Zhan Liping, “Arctic strategies of Arctic countries and their reference value to China.”; Zhi Gangyi, “China-Greenland Cooperation Under Complicated Geopolitical Background,” *Journal of Eastern Liaoning University (Social Sciences)* 05, no. 03 (2019): 14–23, <https://doi.org/10.14168/j.issn.1672-8572.2019.05.03>.

¹³⁸ Zeuthen, “Part of the Master Plan?”; Chapters 4 and 5 in Dams, von Schaik, and Stoetman, “Presence Before Power.”; “China, Russia Agree to Jointly Build ‘Ice Silk Road,’” *Xinhua*, July 2017, http://www.xinhuanet.com/english/2017-07/04/c_136417241.htm.

¹³⁹ Rosen and Thuringer, “Unconstrained Foreign Direct Investment,” 59-60.

¹⁴⁰ “Oteluk 20+ Billion Ton Iron Deposit Is Available for Option,” *IssueWire*, December 2, 2019, <https://www.issuewire.com/quebecs-advanced-lac-oteluk-20-billion-ton-iron-deposit-is-available-for-option-1651643950943373>; Shuji Nakayama and Shunsuke Tabeta, “Chinese Gold Miner’s Arctic Ambitions Face Chill in Canada,” *Nikkei Asia*, September 16, 2020, <https://asia.nikkei.com/Politics/International-relations/Chinese-gold-miner-s-Arctic-ambitions-face-chill-in-Canada>; Jackie Hong, “Yukon Zinc Corp. Sold,” *Yukon News*, January 11, 2019, <https://www.yukon-news.com/news/yukon-zinc-corp-sold-6997209>.

¹⁴¹ Dan Healing, “Sale Shows Big Loss in Investment Value of China-Backed Alberta Oil Project,” *CBC News*, June 2, 2019, <https://www.cbc.ca/news/canada/calgary/china-alberta-oil-1.5159407>.

¹⁴² Dean Beeby, “Chinese Mining Companies Feel Misled by Canada, Report Says,” *CBC News*, June 7, 2016, <https://www.cbc.ca/news/politics/china-mining-ambassador-investors-infrastructure-1.3619228>.

¹⁴³ Austin Ramzy, “China Is Gaining Long-Coveted Role in Arctic, as Russia Yields,” *The Wall Street Journal*, October 2, 2023, <https://www.wsj.com/world/china-is-gaining-long-coveted-role-in-arctic-as-russia-yields-f5397315>; Pavel Devyatkin, “China and the Arctic: Reflections in 2023,” *The Arctic Institute*, November 9, 2023, <https://www.thearcticinstitute.org/china-arctic-reflections-2023/>.

¹⁴⁴ Matthew Stephen, and Kathrin Stephen, “The Integration of Emerging Powers into Club Institutions: China and the Arctic Council,” *Global Policy* 11 (S3, 2020): 51–60, 52, 55-58, <https://doi.org/10.1111/1758-5899.12834>.

¹⁴⁵ Christopher Barich, “The Three-Fold Path of the Snow Dragon: China’s Influence Operations in the Arctic,” *Journal of Indo-Pacific Affairs*, October 3, 2022, <https://www.airuniversity.af.edu/JIPA/Display/Article/3171142/the-three-fold-path-of-the-snow-dragon-chinas-influence-operations-in-the-arctic/>.

¹⁴⁶ Jordan Foley, “Multi-Domain Legal Warfare: China’s Coordinated Attack on International Rule of Law,” *Lieber Institute’s Articles of War*, May 28, 2024, <https://lieber.westpoint.edu/multi-domain-legal-warfare-chinas-coordinated-attack-international-rule-law/>.

¹⁴⁷ Nordic scholars expressed that this embargo acted as a huge wakeup call for Norwegian politicians enthused by China’s profitable market. This early mistake came at a huge reputational cost for the PRC. See Lieke Bos, “Norway-China Relations ‘Unfrozen,’” *The Diplomat*, December 22, 2016, <https://thediplomat.com/2016/12/norway-china-relations-unfrozen/>; Sewell Chan, “Norway and China Restore Ties, 6 Years after Nobel Prize Dispute,” *The New York Times*, December 19, 2016, <https://www.nytimes.com/2016/12/19/world/europe/china-norway-nobel-liu-xiaobo.html>; Interviews with Nordic scholars.

¹⁴⁸ Stephanie Pezard et al., *China’s Economic, Scientific, and Information Activities in the Arctic: Benign Activities or Hidden Agenda?* (Santa Monica, CA: RAND Corporation, 2025), 55, https://www.rand.org/pubs/research_reports/RRA2823-1.html.

¹⁴⁹ Eyck Freymann, “Pole Position,” *The Wire China*, August 14, 2022, <https://www.thewirechina.com/2022/08/14/pole-position/>; Anna Jarmuth, “A Touch of Frost: Danish Concerns over Chinese Investment to Greenland,” *Institute for Security and Development Policy*, August 16, 2019, <https://www.isdp.eu/danish-concerns-chinese-investment-greenland/>; Pezard et al., *China’s Economic, Scientific, and Information Activities in the Arctic*, 58.

¹⁵⁰ Mark Rosen and Cara Thuringer, “Unconstrained Foreign Direct Investment: An Emerging Challenge to Arctic Security,” *CNA Analysis and Solutions*, November 2017, https://www.cna.org/archive/CNA_Files/pdf/cop-2017-u-015944-1rev.pdf; Heidi Holz et al., “Exploring the Relationship between China’s Investment in the Arctic and Its National Strategy,” *CNA Analysis and Solutions*, January 2022, <https://www.cna.org/reports/2022/01/exploring-the-relationship-between-chinas-arctic-investment-and-its-national-strategy.pdf>; Jesper Zeuthen, “Part of the Master Plan? Chinese Investment in Rare Earth Mining in Greenland” in *Arctic Yearbook*, 2017, <https://arcticyearbook.com/arctic-yearbook/2017/2017-scholarly-papers/231-part-of-the-master-plan-chinese-investment-in-rare-earth-mining-in-greenland>; Mia Bennett, “The Controversy over Greenland Airports Shows China Isn’t Fully Welcome in the Arctic — Yet,” *ArcticToday*, September 26, 2018, <https://www.arctictoday.com/controversy-greenland->

[airports-shows-china-still-unwelcome-arctic/](#); Martin Breum, “Chinese-Linked Australian Mining Company Sues Greenland for \$11bn over Lost Revenue,” *ArcticToday*, October 27, 2023, <https://www.arctictoday.com/chinese-linked-australian-mining-company-sues-greenland-for-billions-of-usd-over-lost-revenue/>.

¹⁵¹ Auerswald, “Arctic Narratives and Geopolitical Competition,” 265.; Andrew Higgins, “A Rare Arctic Land Sale Stokes Worry in Norway,” *The New York Times*, September 27, 2014, <https://www.nytimes.com/2014/09/28/world/europe/a-rare-arctic-land-sale-stirs-concerns-in-norway.html>; Andrew Higgins, “Teeing Off at Edge of the Arctic? A Chinese Plan Baffles Iceland,” *The New York Times*, March 22, 2013, <https://www.nytimes.com/2013/03/23/world/europe/iceland-baffled-by-chinese-plan-for-golf-resort.html>; Ulrik Gad et al., “Imagining China on Greenland’s Road to Independence” in *Arctic Yearbook*, 2018, https://curis.ku.dk/ws/portalfiles/portal/208569746/Gad_et_al._2018_Imagining_China_on_Greenland_s_Road_to_Independence.pdf; Arctic scholar, interview by author (on background), Zoom, August 10, 2023.

¹⁵² Malte Humpert, “China Pushes Northern Sea Route Transit Cargo to New Record,” *High North News*, December 18, 2023, <https://www.highnorthnews.com/en/china-pushes-northern-sea-route-transit-cargo-new-record>.

¹⁵³ Interviews with Nordic scholars.

¹⁵⁴ Paul Dickson et al., “Hybrid CoE Security and Hybrid Threats in the Arctic,” 45.

¹⁵⁵ Usha Sahay, “China Welcomes Its Newest Armed Force: The Coast Guard,” *War on the Rocks*, April 5, 2018, <https://warontherocks.com/2018/04/china-welcomes-its-newest-armed-force-the-coast-guard/>; Ties Dams, Louise Von Schaik, and Adája Støetman, “Chapter 2,” in *Presence Before Power: China’s Arctic Strategy in Iceland and Greenland*. (The Hague: Clingendael, June 2020).

¹⁵⁶ Interview with Arctic scholar.

¹⁵⁷ Marc Lanteigne, “Stumbling Block: China-Iceland Oil Exploration Reaches an Impasse,” *Over the Circle*, February 27, 2022, <https://overthecircle.com/2018/01/24/stumbling-block-china-iceland-oil-exploration-reaches-an-impasse/>.

¹⁵⁸ Piotr Szymański, “Wrestling in Greenland. Denmark, the United States and China in the Land of Ice,” OSW: Centre for Eastern Studies, March 2, 2021, <https://www.osw.waw.pl/en/publikacje/osw-commentary/2021-03-02/wrestling-greenland-denmark-united-states-and-china-land-ice>.

¹⁵⁹ Li Zhenfu, “Research on the Network of the Large Arctic Countries and the Strategies for China,” *Northeast Asia Forum* 02, no. 003 (2015): 31–44, <https://doi.org/10.13654/j.cnki.naf.2015.02.003>.

¹⁶⁰ David Auerswald, “China’s Multifaceted Arctic Strategy,” *War on the Rocks*, May 24, 2019, <https://warontherocks.com/2019/05/chinas-multifaceted-arctic-strategy/>; Valur Ingimundarson, “The Geopolitical Framing of Chinese-Icelandic Relations,” *London School of Economics China Dialogue Blog*, September 18, 2024, <https://blogs.lse.ac.uk/cff/2024/09/18/the-geopolitical-framing-of-chinese-icelandic-relations/>.

¹⁶¹ In general, Chinese officials invited perhaps unnecessary suspicion by keeping several land sale bids under wraps. “Defence Ministry blocked Chinese plans for research airbase in Lapland,” *YLE News*, March 2021, <https://yle.fi/news/3-11820411>; Freymann, “Pole Position.”

¹⁶² Freymann, “Pole Position.”

¹⁶³ Xie Chang, “Research on Non-State Actors Under Sino-Russian Arctic Cooperation — Based on Investigations of Indigenous Peoples and Scientists,” *CNKI*, 2021, <https://doi.org/10.27167/d.cnki.gjinu.2021.000645>; Joaquim Gagnard, “China, Circumpolar Indigenous People and the Colonial Past of the Arctic,” *The Arctic Institute*, November 1, 2022, <https://www.thearcticinstitute.org/china-circumpolar-indigenous-people-colonial-past-arctic/>; Interviews with Nordic scholars and military personnel. Among Indigenous groups, this pattern does not indicate political sympathy with China so much as dissatisfaction with federal (or, in Greenland’s case, overseas) governments. Freymann, “Pole Position.”

¹⁶⁴ Michael Pettis, “China’s Economy Needs Institutional Reform Rather than Additional Capital Deepening,” *Carnegie Endowment for International Peace*, July 24, 2020, <https://carnegieendowment.org/chinafinancialmarkets/82362>.

¹⁶⁵ Interview with Arctic scholar.

¹⁶⁶ Mao Lei and Zhang Yang, “Draft National Security Law Enters Third Trial,” *PRC National People’s Congress*, June 2015, http://www.npc.gov.cn/zgrdw/npc/xinwen/lfgz/2015-06/25/content_1939399.htm.

¹⁶⁷ Zhang Jing, Guo Xingnan, and He Wei, “Resilience Policies in China: An Analysis of Central-Level Policies,” *Policy Studies* (July 2024): 1–21, <https://doi.org/10.1080/01442872.2024.2381536>.

¹⁶⁸ Interview with Arctic scholar.

¹⁶⁹ Interview with Arctic scholar.

¹⁷⁰ Alex Stone and Peter Wood, “China’s Military-Civilian Fusion Strategy: A View from Chinese Strategists,” China Aerospace Studies Institute, June 15, 2020, https://www.airuniversity.af.edu/Portals/10/CASI/documents/Research/Other-Topics/2020-06-15%20CASI_China_Military_Civil_Fusion_Strategy.pdf; “In Their Own Words: Foreign Military Thought,” China Aerospace Studies Institute, 2013, <https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2021-02-08%20Chinese%20Military%20Thoughts-%20In%20their%20own%20words%20Science%20of%20Military%20Strategy%202013.pdf>; “In Their Own Words: Foreign Military Thought,” China Aerospace Studies Institute, 2020, <https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2022-01-26%202020%20Science%20of%20Military%20Strategy.pdf>; “Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2019,” Office of the Secretary of Defense, 2019, https://media.defense.gov/2019/may/02/2002127082/-1/-1/1/2019_china_military_power_report.pdf.

¹⁷¹ Sun Tianyu, “Study on the Securitization of the Arctic Region and the Conception of Arctic Circumpolar Super Complex,” CNKI, 2020, <https://doi.org/10.27162/d.cnki.gilin.2020.000526>; Liu Sisi, “The Trump Administration’s Securitization of Arctic Affairs and Its Practice,” *The Chinese Journal of American Studies* 03 (2021): 99–115.

¹⁷² Interview with Arctic scholar.

¹⁷³ John Grady, “Chinese Arctic Research Expeditions Inform Military, Economic Goals, Say Experts,” *USNI News*, December 12, 2024, <https://news.usni.org/2024/12/12/chinese-arctic-research-expeditions-inform-military-economic-goals-say-experts>.

¹⁷⁴ Matthew Funaiole, Brian Hart, Joseph Bermudez Jr., and Aidan Powers-Riggs, “Frozen Frontiers: China’s Great Power Ambitions in the Polar Regions,” *CSIS Hidden Reach*, April 18, 2023, <https://features.csis.org/hiddenreach/china-polar-research-facility/>.

¹⁷⁵ Rush Doshi, Alex Dale-Huang, and Zhang Gaoqi, “Northern Expedition: China’s Arctic Activities and Ambitions,” Brookings Institute, April 2021, 182, https://www.brookings.edu/wp-content/uploads/2021/04/FP_20210412_china_arctic.pdf.

¹⁷⁶ Eoin Micheál McNamara, “Reinforcing resilience: NATO’s role in enhanced security for critical undersea infrastructure,” NATO Review, August 28, 2024, <https://www.nato.int/docu/review/articles/2024/08/28/reinforcing-resilience-natos-role-in-enhanced-security-for-critical-undersea-infrastructure/index.html>.

¹⁷⁷ Kanishka Singh and Michael Martina, “US Intelligence Report Says China Likely Supplying Tech for Russian Military,” *Reuters*, July 27, 2023, <https://www.reuters.com/world/us-intelligence-report-says-china-likely-supplying-tech-russian-military-2023-07-27/>.

¹⁷⁸ Thomas Fingar and Jean C. Oi, *Fateful Decisions: Choices That Will Shape China’s Future*. (Stanford, California: Stanford University Press, 2020), 225.

¹⁷⁹ Freymann, “Pole Position.”

¹⁸⁰ Wang Huanqiu “China Becomes a Member of the Arctic Club,” *Huanqiu*, May 16, 2013, <https://world.huanqiu.com/article/9CaKrnJAwvc>

¹⁸¹ Fung, *China and Intervention at the UN Security Council*, 2–3. It is also hard to judge the extent to which Chinese scholars shape China’s official Arctic policies. Even if one cannot draw a direct link between prominent scholars’ more ambitious takes and China’s push into the Arctic, scholarship enriches what is otherwise a very opaque policymaking mechanism. Beyond approaches to governance and China’s Arctic identity, Chinese academics also discussed economic opportunities in the Arctic and maritime military strategy. See Liu Dahai et al., “Managing and Planning the Atlantic: From Regional to Global Maritime Strategy,” *Ocean Development and Management* 08, no. 001 (2016): 3–7, <https://doi.org/10.20016/j.cnki.hykyfzgl.2016.08.001>; Li Jingyu and Zhan Longlong, “My Country’s Strategic Thinking on Developing the Northeast Passage in the Arctic,” *Journal of the Party School of the Central Committee of the C.P.C.* 06, no. 001 (2013): 108–12, <https://doi.org/10.14119/j.cnki.zgxb.2013.06.001>; Wang Biao et al., “Arctic Marine Environment Military Utilization and Its Strategic Thinking.”

¹⁸² Johnston, “China in a World of Orders.”

¹⁸³ Maggie Tennis, “Russia Ramps up Global Elections Interference: Lessons for the United States,” *CSIS Strategic Technologies Blog*, July 20, 2020, <https://www.csis.org/blogs/strategic-technologies-blog/russia-ramps-global-elections-interference-lessons-united-states>; Julio Terracino and Craig Matasick, “Disinformation and Russia’s War of Aggression Against Ukraine,” Organization for Economic Cooperation and Development, November 3, 2022, <https://www.oecd.org/ukraine-hub/policy-responses/disinformation-and-russia-s-war-of-aggression-against-ukraine-37186bde/>; Julia Payne, “EU States Push against ‘No Russia Clause’ in Sanctions Package - Sources,” *Reuters*, November 30, 2023, <https://www.reuters.com/world/europe/eu-states-push-against-no-russia-clause-sanctions-package-sources-2023-11-30/>.

¹⁸⁴ Spohr with Baker, “Sanctions, Shipping, and Sabotage.”

- ¹⁸⁵ Miranda Bryant, “Sweden says China denied request for prosecutors to board ship linked to severed cables,” *The Guardian*, December 23, 2024, <https://www.theguardian.com/world/2024/dec/23/china-refused-investigation-into-ship-linked-to-severed-baltic-cables-says-sweden>; Sophia Besch and Erik Brown, “A Chinese-Flagged Ship Cut Baltic Sea Internet Cables. This Time, Europe Was More Prepared,” *Carnegie Endowment Emissary*, December 3, 2024, <https://carnegieendowment.org/emissary/2024/12/baltic-sea-internet-cable-cut-europe-nato-security?lang=en>.
- ¹⁸⁶ Rebecca Rosman, “What to know about Finland, Russia's 'shadow fleet' and a severed undersea cable,” *National Public Radio*, December 31, 2024, <https://www.npr.org/2024/12/31/nx-s1-5243302/finland-russia-severed-undersea-cable-shadow-fleet>.
- ¹⁸⁷ Thomas Nilsen, “Russia’s Coast Guard Cooperation with China Is a Big Step, Arctic,” *The Independent Barents Observer*, April 28, 2023, <https://thebarentsobserver.com/en/security/2023/04/russias-arctic-coast-guard-cooperation-china-big-step-expert>; Meia Nouwens and Veerle Nouwens, “China-Russia Coast Guard Cooperation: A New Dimension of China-Russia Relations?” *CSIS ChinaPower*, October 16, 2024, <https://chinapower.csis.org/analysis/china-russia-coast-guard-cooperation/>.
- ¹⁸⁸ Ryan Chan, “China Releases Footage of Pacific and Arctic Training With Russia,” *Newsweek*, October 17, 2024, <https://www.newsweek.com/china-news-releases-footage-pacific-arctic-training-russia-coast-guard-1970564>.
- ¹⁸⁹ Marcin Maczmarski in Emel Parlar Dal and Emre Ersen, eds., *Russia in the Changing International System*. (Switzerland: Palgrave Macmillan, 2020), 95.; Ian Bond in David Cadier and Margot Light, eds., *Russia’s Foreign Policy: Ideas, Domestic Politics and External Relations*. (Basingstoke: Palgrave Macmillan, 2015).
- ¹⁹⁰ Marisol Maddox and Lyston Lea, “The Intelligence Community Must Evolve to Meet Arctic Change,” *Polar Perspectives*, no. 13 (May 2023), <https://www.wilsoncenter.org/publication/polar-perspectives-no-13-intelligence-community-must-evolve-meet-reality-arctic-change>.
- ¹⁹¹ Kristina Spohr, “Assessing China’s and Russia’s Arctic Ambitions,” interview by Mercy Kuo, *The Diplomat*, December 21, 2023, <https://thediplomat.com/2023/12/assessing-chinas-and-russias-arctic-ambitions/>; “Are We Prepared for a Radiation Emergency in the Arctic?” Arctic Council, April 29, 2021, <https://arctic-council.org/news/are-we-prepared-for-a-radiation-incident-in-the-arctic/>.
- ¹⁹² Tiago Tecelão Martins, “Arctic Ambitions: China’s Engagement with the Northern Sea Route,” *The Diplomat*, November 23, 2023, <https://thediplomat.com/2023/11/arctic-ambitions-chinas-engagement-with-the-northern-sea-route/>; Humpert, “China Pushes Northern Sea Route Transit Cargo to New Record.”
- ¹⁹³ Malte Humpert, “China-Russia Announce Plans for Five Ice-Capable Containerships for Year Round Arctic Service,” *High North News*, October 15, 2024, <https://www.highnorthnews.com/en/china-russia-announce-plans-five-ice-capable-containerships-year-round-arctic-service>.
- ¹⁹⁴ Malte Humpert, “Inside the Elaborate Scheme to Transport a Chinese Power Plant to Russia’s Arctic Undetected,” *High North News*, October 1, 2024, <https://www.highnorthnews.com/en/inside-elaborate-scheme-transport-chinese-power-plant-russias-arctic-undetected>.
- ¹⁹⁵ Georgi Kantchev, “Russia and China Defy the West Deep in the Arctic,” *The Wall Street Journal*, September 28, 2024, <https://www.wsj.com/world/svalbard-russia-china-arctic-trade-e6187bd8>.
- ¹⁹⁶ William Mauldin, Alan Cullison, and Angela Owens, “America’s Military Trails Russia and China in Race for the Melting Arctic,” *The Wall Street Journal*, July 30, 2023, <https://www.wsj.com/articles/americas-military-falls-behind-russia-china-race-for-melting-arctic-2a71dfac>; Mark Thiessen, “US moves Soldiers to Alaska Island amid Russian Military Activity Increase in the area,” *AP News*, September 17, 2024, <https://apnews.com/article/alaska-russia-china-military-planes-aleutians-e47f7cf0e6f0618e2b6387505f393c34>; Kari Bingen, Lachlan MacKenzie, and Heather Williams, “Why Did China and Russia Stage a Joint Bomber Exercise near Alaska?” *CSIS Critical Questions*, July 30, 2024, <https://www.csis.org/analysis/why-did-china-and-russia-stage-joint-bomber-exercise-near-alaska>.
- ¹⁹⁷ Dzirhan Mahadzir, “U.S. Fighters Intercept Russian Military Intelligence Aircraft Near Alaska, Japan Says Chinese and Russian Military Aircraft Violate Territory,” *USNI News*, September 24, 2024, <https://news.usni.org/2024/09/24/u-s-fighters-intercept-russian-military-intelligence-aircraft-near-alaska-japan-says-chinese-and-russian-military-aircraft-violate-territory>.
- ¹⁹⁸ Singh and Martina, “US Intelligence Report Says China Likely Supplying Tech for Russian Military.”
- ¹⁹⁹ Mariia Kobzeva, “Strategic Partnership Setting for Sino-Russian Cooperation in Arctic Shipping,” *The Polar Journal* 43, no. 52 (2020): 1–19, 9-10, <https://doi.org/10.1080/2154896x.2020.1810956>.
- ²⁰⁰ Zhang Ketian, “Chinese Coercion in the South China Sea: Resolve and Costs,” Policy Brief in *International Security*, January 2020, https://www.belfercenter.org/sites/default/files/files/publication/KetianZhang_PolicyBrief_January2020.pdf; “Micronesia Leader Accuses China of Bribery, Threats in Taiwan Bid,” *Al Jazeera*, March 10, 2023, <https://www.aljazeera.com/news/2023/3/10/micronesia-leader-accuses-china-of-bribery-threats-in-taiwan-bid>;

“US Says China Intimidates Philippine Vessels in South China Sea,” *Al Jazeera*, April 30, 2023, <https://www.aljazeera.com/news/2023/4/30/us-says-china-intimidates-philippine-vessels-in-south-china-sea>.

²⁰¹ Väättänen and Zimmerbauer, “Territory–Network Interplay in the Co-Constitution of the Arctic.”

²⁰² Stephen and Stephen. “The Integration of Emerging Powers into Club Institutions,” 58–59.

²⁰³ Stephen and Stephen. “The Integration of Emerging Powers into Club Institutions,” 58–59.; Liu Sisi, “Subarctic Mechanism and China’s Participation in the Arctic Region,” *Journal of Social Sciences* 10 (2012): 26–34.

²⁰⁴ See scholarship by Li Zhenfu, Lan Xinzhen, and Liu Sisi, as well as Zhang Ying’s and Yang Wei’s “extended gravity” argument.

²⁰⁵ Marc Lanteigne, “The Polar Policies in China’s New Five-Year Plan,” *The Diplomat*, March 12, 2021, <https://thediplomat.com/2021/03/the-polar-policies-in-chinas-new-five-year-plan/>.

²⁰⁶ Robert Daly and William Pomeranz, “The China-Russia Relationship: Implications for the Current Wars and Beyond,” The Wilson Center, October 27, 2023, <https://www.wilsoncenter.org/video/china-russia-relationship-implications-current-wars-and-beyond>; Rasmus Bertelsen, interview by author, Zoom, July 13, 2023.

²⁰⁷ Alexander Gabuev, “Friends with Benefits? Russian-Chinese Relations after the Ukraine Crisis,” in Jo Inge Bekkevold and Bobo Lo, eds., *Sino-Russian Relations in the 21st Century* (Moscow: Springer, 2019), 64.; “Section 2: An Uneasy Entente: China-Russia Relations in a New Era of Strategic Competition with the United States,” in “2019 Annual Report to Congress,” U.S.-China Economic and Security Review Commission, November 2019, <https://www.uscc.gov/sites/default/files/2019-11/Chapter%204%20Section%202%20-%20An%20Uneasy%20Entente%20-%20China-Russia%20Relations%20in%20a%20New%20Era%20of%20Strategic%20Competition%20with%20the%20United%20States.pdf>.

²⁰⁸ Simone McCarthy, “China and Russia are Ramping up Joint Military Drills. What’s Their End Goal?” *CNN*, September 17, 2024, <https://www.cnn.com/2024/09/17/china/china-russia-military-drills-analysis-intl-hnk/index.html>; Mark Green, “China and Russia: Quietly Going Steady?” The Wilson Center’s *Stubborn Things*, October 29, 2024, <https://www.wilsoncenter.org/blog-post/china-and-russia-quietly-going-steady/>.

²⁰⁹ Vladimir Isachenkov, “Russia Launches War Games with China Amid Tensions with US,” *AP News*, September 1, 2022, <https://apnews.com/article/russia-ukraine-china-japan-moscow-baecc4c1a068a5f96bcff66ed873b7f0>; Oriana Mastro, “Sino-Russian Military Alignment and Its Implications for Global Security,” *Security Studies* 33, no. 2 (2024): 254–290, <https://doi.org/10.1080/09636412.2024.2319587>.

²¹⁰ Dmitry Antonov, “Russia Says it Could ‘Combine’ with China if They Faced a Threat,” *Reuters*, September 11, 2024, <https://www.reuters.com/world/russia-says-it-could-combine-with-china-if-they-faced-threat-2024-09-11/>.

²¹¹ Joseph Webster, “Will Russia and China Agree to the Power of Siberia 2?” *The Diplomat*, September 30, 2023, <https://thediplomat.com/2023/09/will-russia-and-china-agree-to-the-power-of-siberia-2/>; Yana Leksyutina, “Russia’s Cooperation with Asian Observers to the Arctic Council,” *The Polar Journal* 11, no. 1 (2021): 1–24, 147, <https://doi.org/10.1080/2154896x.2021.1892833>; Kandy Wong, “Exclusive: China Wielding ‘Bargaining Power’ with Russia over Power of Siberia 2 Natural Gas Pipeline,” *South China Morning Post*, November 24, 2023, <https://www.scmp.com/economy/global-economy/article/3242612/china-wielding-bargaining-power-russia-over-power-siberia-2-natural-gas-pipeline>.

²¹² Thomas Nilsen, “FSB Signs Maritime Security Cooperation with China in Murmansk,” *The Independent Barents Observer*, April 25, 2023, <https://thebarentsobserver.com/en/security/2023/04/fsb-signs-maritime-security-cooperation-china-murmansk>.

²¹³ Elizabeth Wishnick, “Will Russia Put China’s Arctic Ambitions on Ice?” *The Diplomat*, June 5, 2021, <https://thediplomat.com/2021/06/will-russia-put-chinas-arctic-ambitions-on-ice/>.

²¹⁴ Daly and Pomeranz, “The China-Russia Relationship.”

²¹⁵ Nengye Liu in Spohr and Hamilton, *The Arctic and World Order*, 298.

²¹⁶ Ryan Evans, “Could the Arctic Be a Wedge between Russia and China?” *War on the Rocks*, March 31, 2022, <https://warontherocks.com/2022/04/could-the-arctic-be-a-wedge-between-russia-and-china/>.

²¹⁷ Lingling Wei, “In China, Worries about a Weakened Russia Prompt a Rethink,” *The Wall Street Journal*, February 20, 2023, <https://www.wsj.com/articles/in-china-worries-about-a-weakened-russia-prompt-a-rethink-dd1a04e5>.

²¹⁸ Richard Sakwa in Dal and Ersen, *Russia in the Changing International System*, 23.

²¹⁹ Julie Wilhelmsen and Anni Roth Hjermann, “Russian Certainty of NATO Hostility: Repercussions in the Arctic,” *Arctic Review on Law and Politics* 13 (March 9, 2022): 114–42, <https://doi.org/10.23865/arctic.v13.3378>.

²²⁰ Aaron Stein, “Getting Sporty in Russia’s Arctic,” *War on the Rocks*, October 23, 2023, <https://warontherocks.com/2023/10/getting-sporty-in-russias-arctic/>.

²²¹ Elisabeth Braw, “Russia Wants China’s Help in Arctic Claims,” *Foreign Policy*, May 15, 2023, <https://foreignpolicy.com/2023/05/15/russia-china-arctic-cooperation-svalbard/>; Jo Inge Bekkevold and Paal Sigurd Hilde, “Europe’s Northern Flank Is More Stable than You Think,” *Foreign Policy*, July 28, 2023, <https://foreignpolicy.com/2023/07/28/arctic-nato-russia-china-finland-sweden-norway-northern-europe-defense-security-geopolitics-energy/>.

²²² Fung, *China and Intervention at the UN Security Council*, 5.

Don't Look Up: Deterrence and Prospects for Arms Control in the New Space Race

Mariam Kvaratskhelia

This article explores the feasibility of arms control measures in the context of the new space race. It argues that pursuing arms control talks in space lacks practicality due to three key challenges: the absence of an internationally accepted common dictionary regarding space objects, the inherent difficulties of verification and compliance, especially in closed political regimes like the People's Republic of China (PRC) and Russia, and the need to situate any space-related arms control agreement within the broader multi-domain military strategy. Given the geopolitical tensions of great power competition (GPC)—characterized by strategic rivalry between the United States, PRC, and Russia—the article posits that space arms control efforts are unlikely to be sustainable in the long term or effective in easing broader great power animosities. Instead, the United States must reinforce its strategic posture in space to safeguard national security interests and dissuade adversaries from aggression through deterrence-by-denial and deterrence-by-punishment. By examining the implications of GPC in space, this article offers insights into U.S. outer space policy and strategy.

Introduction

The technological one-upmanship between the United States and the Soviet Union during the Cold War is widely regarded as the “space race.” Yet today’s shifting strategic landscape calls for a reassessment of this terminology, arguably reframing that period of history as the *first* space race. With growing global reliance on space-based infrastructure, nations are once again turning their focus to the final frontier, setting the stage for a new era of superpower rivalry and marking the dawn of the *second* space race. The following analysis positions the space race challenge within the bigger picture of great power competition (GPC)—defined as increasing strategic rivalry among the United States, PRC, and Russia across military, economic, technological, geopolitical, and ideological domains.¹ This new world order emerged as a result of post-Cold War power shifts that challenged U.S. unipolarity and introduced alternative, often clashing, governance models. Key indicators of GPC include Russia’s interventions in Georgia (2008) and Ukraine (2014, 2022), the PRC’s economic and military rise, its assertive

actions in Taiwan and the South and East China Seas, and the deepening Sino-Russian “no limits” partnership.²

In response, the United States has reassessed its grand strategy and reoriented its defense focus toward competition. The 2022 National Defense Strategy (NDS) explicitly identifies GPC as the defining security challenge of the 21st century, stating that strategic competition with the PRC is “the most comprehensive and serious challenge to U.S. security,” while Russia’s aggressive interventionism poses an “acute threat.”³ For these reasons, the NDS prioritizes integrated deterrence—a “coordinated, multifaceted” approach that leverages all instruments of U.S. national power, alongside those of its allies, to counter the threats of GPC.⁴

The dynamics of GPC can be further understood through the Realist school of international relations. John Mearsheimer’s Offensive Realism argues that great powers constantly “look for opportunities to gain power at each others’ expense,” making strategic competition an inevitable feature of the international system.⁵ In contrast,

Kenneth Waltz's Defensive Realism contends that states are not inherently aggressive but act primarily out of a desire to survive, seeking to maintain, rather than disrupt, the balance of power. While Offensive realism suggests that GPC is an unavoidable by-product of the anarchical order, Defensive Realism posits that anarchy encourages states to pursue security and preserve the status quo. As Mearsheimer succinctly puts it, "for Waltz, balancing checkmates offense."⁶

This article aligns with Mearsheimer's Offensive Realism, viewing the space race as an extension of great power competition where states seek to dominate the international system rather than merely preserve its balance. Against this backdrop, it examines the challenges of arms control in the second space race, arguing that the absence of universally accepted definitions of space objects, coupled with the dual-use nature of most space assets, renders verification and compliance nearly impossible. Furthermore, as space becomes increasingly interconnected with states' terrestrial and cyber operations, this article argues that any future space arms control agreement must be integrated into a broader military strategy.

Political situations that most necessitate arms control are often the ones in which it is least likely to succeed—a paradox that the current geopolitical landscape exemplifies. Much like nuclear arms control during the Cold War, expecting space-related agreements to be sustainable in the long term or to ease existing antagonisms between the United States, the PRC, and Russia is unrealistic. Therefore, the United States must prioritize strengthening its strategic posture in outer space and restoring American leadership at a time when it is contested.

The Outer Space Treaty: Relevance and Challenges

The 1967 Outer Space Treaty (OST), formally known as the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, acts as an international norm-setter for space-related activities. Article IV of the Treaty explicitly prohibits the establishment of "military bases, installations, and fortifications" on celestial bodies and forbids engagement in military operations in outer space.⁷ The document mentions that states are not allowed to place nuclear weapons or other weapons of mass destruction in space and that celestial bodies "shall be used exclusively for peaceful purposes."⁸ The OST does not prohibit the use of military personnel for "scientific research and for any other peaceful purposes," underscoring the importance of free exploration of outer space.⁹ It is essential to remember that the treaty holds binding force solely for signatory states. The lack of enforcement mechanism (i.e., absence of an overarching international authority that "polices" compliance) means that there are no clear repercussions if a state violates the agreement.¹⁰

Goguichvili et al. argue that the OST's vague language allows for a significant leeway, which is why "states have taken it upon themselves to define terms based on their national priorities and interests."¹¹ Ambiguities around terms like "free exploration" and "peaceful purpose" pose a major challenge, as their meanings have evolved with rapid technological advancements and shifting strategic dynamics. The OST does not explicitly prohibit the launch of ballistic missiles capable of delivering warheads—whether conventional, chemical, biological, or nuclear.¹² Nor does the treaty address the

deployment of conventional weapons in space. The absence of precise definitions is particularly problematic in space, where any deployed asset, regardless of its intended purpose, can be repurposed as a weapon.

Despite the definitional ambiguity, the OST, much like the UN Resolution 1962 (which established the Committee on the Peaceful Uses of Outer Space), was created to prevent the militarization of space.¹³ However, over 50 years after its adoption, the underlying “principle of cooperation and mutual assistance” faces significant challenges.¹⁴ Increasing competition between the United States, PRC, and Russia in technology, military prowess, and soft power heightens the risk of treaty violations.

Militarization Versus Weaponization of Space

According to Lieutenant General Balraj Singh Nagal, former Commander-in-Chief of India’s Strategic Forces Command, space was militarized “without overt announcements” the moment military communication satellites were launched.¹⁵ But how does militarization differ from weaponization in space? Militarization refers to the concept of deploying military assets and capabilities in outer space for non-aggressive purposes, such as satellites used for a variety of different reasons, including intelligence, surveillance, and reconnaissance (ISR); navigation for tracing military forces and implementing precision strikes (SATNAV); command, control, and communication satellites (SATCOM); detection of incoming missile attacks using early-warning radar systems and signals and imagery intelligence (SIGINT and IMINT).¹⁶ Satellites also provide critical non-military services, such as internet connectivity, telecommunications, transportation, weather forecasting, atmospheric monitoring, Earth

surface observation, and space debris tracking.

In contrast, weaponization of space refers to the deployment of weapons for offensive or defensive purposes. While militarization of space helps nations in conventional armed conflict, through weaponization, “...outer space itself becomes the battlefield.”¹⁷ Space weaponization extends warfare beyond Earth, surpassing the traditional triad of land, air, and sea. The technologies driving space weaponization, known as counter-space weapons, can be broken down into two broad categories: kinetic and non-kinetic weapons. Kinetic weapons, such as ground-based direct-ascent or co-orbital anti-satellite (ASAT) weapons, are designed to intercept and destroy in-orbit satellites. Non-kinetic weapons, on the other hand, deliver harm to satellites without physical collision or contact. Examples of non-kinetic weapons include directed energy weapons (DEWs), designed to impact target satellites and ground stations through interference and disabling methods that do not involve physical collision. DEWs can be both ground-based and space-based. Examples of such assets are lasers, electromagnetic pulse devices, high-powered microwave weapons, and other radio-frequency assets.¹⁸ Other examples of non-kinetic weapons include ground-based cyber attacks, which disrupt SATCOMs and manipulate other satellite operations, and electronic warfare (EW) tactics, which target data systems and electromagnetic spectrum by interfering (‘jamming’) radio-frequency signals or transmitting (‘spoofing’) false signals in efforts to deceive the adversary.

A third category of counter-space weapons that does not fit neatly into these categories is dual-use technology.¹⁹ A dual-use asset may have both civilian and military applications. These include robotic arms for satellite

servicing, on-orbit maintenance devices, and debris supervision and removal assets. Almudena Azcárate Ortega goes as far as to label infrastructure like Global Navigation Satellite Systems (GNSS) and Earth observation satellites as dual-use assets, demonstrating that even technologies designed strictly for civilian purposes may have dual-use implications.²⁰ This further complicates the process of forming a universally accepted dictionary for space-based assets, thereby hindering regulation and arms control efforts.

Great Power Competition in Space

On October 4, 1957, the Soviet Union launched Sputnik 1—the first-ever artificial Earth-orbiting satellite—kickstarting a new wave of superpower competition during the Cold War. It was soon followed by Sputnik 2 later that year, and the Luna missions in 1959, which included the first spacecraft to reach the Moon. Most notably, this era of space exploration led to Yuri Gagarin’s historic human spaceflight in 1961. In response, the United States accelerated the development of its space programs: it launched Explorer 1 in 1958, created the first weather satellite in 1959, and established the National Aeronautics and Space Administration (NASA) in the same year.²¹ This age of space competition reached its climax in 1969 when the American Apollo 11 became the first spaceflight mission that landed humans on the Moon.

The modern era of great power competition has given rise to the second space race. Unlike the original space race, the second race features two U.S. adversaries—Russia and the PRC—both rapidly expanding their space-based infrastructure and capabilities. As noted by former U.S. Secretary of Defense Lloyd J. Austin, these developments “present serious and growing threats to U.S.

national security interests.”^{22,23} Washington’s increasing dependence on space-based assets for communication and navigation by default becomes a vulnerability, making American space infrastructure a high-priority target for adversaries. The ASAT missile tests carried out by the PRC and Russia over the past decade demonstrate their growing capabilities, whereas their use of non-kinetic means (cyberattacks or radiofrequency jammers) has the potential to severely undermine the Pentagon’s ability to conduct terrestrial missions using satellites.^{24,25,26} All of this reaffirms the need for the United States to maintain a robust strategic posture in space.

Today, outer space is a theater of war just as land, air, and sea, as modern conventional conflicts heavily depend on intelligence gathered by satellites. In fact, conducting military operations without space-based technologies has become nearly impossible. Yet, international space policies remain outdated and do not account for the current scope of competition. For example, CDR Kruppa et al. argue that due to the vagueness of OST’s “peaceful purposes” clause, a state could justify an ASAT missile attack on another nation as a defensive measure against a perceived threat.²⁷ The treaty’s failure to explicitly prohibit the placement of conventional weapons in space further complicates this calculus. The ambiguity of language in international space agreements is dangerous as it enables states to legitimize offensive actions under the guise of self-defense, whether in response to perceived, deliberately exaggerated, or miscalculated threats. Adversaries can exploit these legal loopholes to undermine any potential space arms control efforts.

PRC: Threat Assessment and Philosophy of Deterrence

The PRC has been actively developing and testing counter-space capabilities since 2005 when it first launched its ground-based ASAT missile in low-earth orbit (LEO). According to the Intelligence Community's Annual Threat Assessment, the central goal of these initiatives has been "asymmetrically disrupting U.S. space operations," and matching or surpassing U.S. capabilities in space.^{28,29} Since the early 2000s, the PRC has been developing co-orbital and direct ascent ASAT and precision strike capacities targeting LEO and geostationary-earth orbit (GEO). Additionally, Beijing has been working on DEWs, satellite jammers, EW weapons, and Space Situational Awareness (SSA) abilities. Beijing also added the BeiDou Positioning and Navigation System to its One Belt One Road Initiative. The development of this navigation system significantly reduces the PRC's dependence on American GPS or Russian GLONASS.³⁰ Such self-reliance not only increases the PRC's incentives to jam adversarial systems but also undermines the United States' ability to maintain strategic superiority in space.

Beyond navigation, the PRC is now directly competing with American commercial space companies, namely SpaceX's Starlink, through initiatives like Guowang and Qianfan megaconstellations—each featuring around 13,000 satellites designed to provide internet access to underserved and remote areas worldwide.³¹ Dominance in LEO broadband satellite constellations could provide the PRC digital, informational, and economic leverage in developing countries, directly challenging U.S. commercial and strategic interests.³²

The potential dual-use nature of the PRC's debris removal vehicles and their refueling

operations raise significant concerns. For example, the launching of Aolong-1 in 2016, also known as the Advanced Debris Removal Vehicle, attracted attention from the international community.³³ The 2018 Tongxin Jishu Shiyan (TJS-3) satellite mission to GEO was also controversial because the satellite might have had a military SIGINT mission.³⁴ Moreover, an open-source assessment of global counter-space capabilities indicates that the PRC is potentially developing up to three direct ascent ASAT capabilities.³⁵ Beijing has been testing these interceptors for several years, notably SC-19 (also known as DN-1), which was tested in 2007, 2010, and 2013. The PRC also possesses EW counter-space weapons designed to jam or spoof GPS and GNSS, posing significant risks to military operations and civilian air navigation.³⁶ By jamming and spoofing navigation systems, the PRC can "degrade or disable munitions, redirect drones and missiles and degrade IT systems and other infrastructure."³⁷

In April 2024, the People's Liberation Army (PLA) underwent restructuring, replacing its Strategic Support Force with a new Information Support Force. Such reorganization points to the PRC's shift towards an 'informatized military' (or 'intelligentized warfare'), demonstrating Beijing's recognition of modern warfare tactics and the PLA's increased efforts to integrate electronic warfare capacities with cyber, space, and information domains.³⁸ Dean Cheng notes that the PRC's philosophy of deterrence is "deterrence through space" over "deterrence in space."³⁹ This suggests that Beijing conceives of space as a warfighting domain and is willing to use it for offensive as well as defensive purposes—including in any operations in Taiwan and the South and East China Seas.

Russia: The Cold War Legacy and Current Capabilities

Secure World Foundation's 2023 Open Source Assessment on Global Counter-Space Capabilities found that Russia has been developing its counter-space capabilities since 2010. In November 2021, Russia conducted a direct-ascent ASAT missile test in LEO, creating more than 1,500 pieces of orbital debris, according to the United States Space Command.⁴⁰ General James Dickinson, former Commander of U.S. Space Command, warned that the resulting debris could threaten outer space activities for years, particularly the operations of the International Space Station (ISS).⁴¹ NASA Administrator Bill Nelson reported that ISS astronauts had to take emergency shelter due to the ASAT test debris. Although the ASAT targeted a defunct Russian satellite (a common practice among spacefaring nations), this incident points to Moscow's willingness to jeopardize the space operations of international actors and risk endangering its own cosmonauts as well.⁴²

Russia inherits certain counter-space programs from the Cold War, such as the LEO co-orbital and direct-ascent ASAT projects.⁴³ Aside from these capabilities, it currently possesses terrestrial-based weapons including DEWs, EWs, and SSA assets. Russia demonstrated its EW prowess during the invasion of Ukraine in 2014 when it used advanced jamming techniques to disrupt Ukrainian communication and navigation systems, artillery battery radars, and smartphones, notably during the Battle of Donetsk Airport.⁴⁴ A report by the United States Army Command and General Staff College characterized Russia's contemporary hybrid warfare tactics as a mix of conventional and unconventional forces as well as information, cyber, and electronic operations, resulting in "...an effective effects

package" that gives military advantage to Moscow by undermining the adversary's ability to counterfire.⁴⁵

At the beginning of 2024, reports surfaced about Russia potentially deploying a nuclear weapon in space.⁴⁶ John F. Plumb, former Assistant Secretary of Defense for Space Policy, underlined at the House Armed Services Committee hearing that a Russian high-altitude nuclear detonation (HAND) would "indiscriminately" destroy satellites, causing severe disruptions in U.S. intelligence and command-and-control systems.⁴⁷ A HAND would generate an electromagnetic pulse (EMP), an intense radiation burst capable of disrupting critical satellite infrastructure and, consequently, terrestrial systems such as streetlights and telecommunications. This action would violate not only the OST but also the 1963 Partial Test Ban Treaty (PTBT), also known as the Limited Test Ban Treaty (LTBT)—both of which Russia has signed.⁴⁸ A potential Russian nuclear weapon in space signals Moscow's revised nuclear strategy, which explicitly positions space as a battleground.

The problems associated with dual-use space assets are prominent in this discussion as well. In July 2020, Russia launched an object from Cosmos 2543, which the United States Space Command later described as a "non-destructive test of a space-based anti-satellite weapon."⁴⁹ Russian officials declared that the operation had an "inspector satellite" mission, but U.S. authorities dismissed this claim as yet another example of "Russia's hypocritical advocacy of outer space arms control."^{50,51} While Russian space technologies are mostly used for civilian purposes, there have been instances of satellite deployments that had unusually high velocity, indicating that some Rendezvous and Proximity Operations (RPOs) in LEO

could have had military intentions. “Although not their intended purpose,” Russian ground-based satellite laser ranging facilities could also target the optical sensors of imagery reconnaissance satellites.⁵² Inconsistency of stated objectives of Russian satellite missions also attracted attention from the United States Department of State in 2018.⁵³ All of this highlights that the dual-use nature of most space assets blurs the line between civilian and combat activities in space, a fact that Moscow has used to its advantage.

Arms Control: Definitions, Benefits, and Historical View

Arms control in the context of space weaponization refers to politico-diplomatic efforts aimed at limiting the deployment and proliferation of counter-space weapons and military capabilities in space. While the 1967 OST is a foundational international document that sets broad standards regarding states’ behavior in space, it has significant gaps and does not serve the purpose of an arms control treaty.⁵⁴ There have been efforts to create complementary documents that reaffirm norms outlined in the OST, notably the proposed treaty on the Prevention of an Arms Race in Space (PAROS).⁵⁵ Although PAROS is not an official treaty, it represents continued efforts by the United Nations Committee on Disarmament to establish a legally binding agreement that prevents outer space weaponization. It is crucial to discuss the benefits of arms control and examine why there is significant advocacy for these measures to begin with. Firstly, arms control agreements limit weapons proliferation and, in an ideal world, prevent arms races. Secondly, arms control enhances communication channels and clarifies the intentions of each party involved, reducing the risk of misinterpretation and miscalculations. Lastly, arms control can

increase transparency among military adversaries, acting as a trust-building mechanism between nations. As a result, arms control negotiations can uphold strategic stability by providing pre-written frameworks and guidelines regarding behaviors in peacetime, crisis, and conflict. They may also aid international cooperation by fostering dialogue between nations.⁵⁶

Arms control offers considerable advantages, and some Cold War-era agreements like the Intermediate-Range Nuclear Forces (INF) Treaty did contribute to reductions in key destabilizing weapons and temporarily eased arms race tensions. However, the limited implementation of arms control in the space domain is telling. Historical examples from the Cold War suggest that the theoretical merits of arms control measures are often overshadowed by political realities and the security interests of competing superpowers. Colin Gray observes that the more dramatic military changes an arms control treaty necessitates, the more favorable the political landscape it requires.⁵⁷ Indeed, arms control efforts during the Cold War fell short of upholding strategic stability to the extent that it was anticipated, primarily because broader animosity between the United States and the Soviet Union carried a bigger weight than the ink on diplomatic documents.⁵⁸ Avis Bohlen rightly underlines that much of nuclear arms control during that period amounted to “empty and propagandistic schemes for abolishing the bomb in the context of complete and general disarmament.”⁵⁹ The current geopolitical climate is equally ill-suited for successful space arms control efforts.

The Strategic Limitations of Space-Based Arms Control Agreements

Building on an assessment of the current tripolar security landscape and lessons from

the Cold War, this article posits that pursuing arms control agreements in space is *a priori* a strategically misaligned policy trajectory, as such negotiations are unlikely to ease larger geopolitical frictions between the United States, Russia, and the PRC. This thesis is explored through three sub-arguments, each discussed in detail below.

Lack of a Common Dictionary Regarding Space Objects

The 1991 United Nations Institute for Disarmament Research (UNIDIR) report consistently emphasizes the need for commonly accepted definitions regarding space objects. “It is not surprising—and perhaps might even have been expected” that the UN Committee on Disarmament has not dedicated much time to the definition of outer space (particularly its distinction from air space), the report notes.⁶⁰ The absence of technical definitions gives states the leeway to tailor the characterization of outer space and its objects to their own national security interests. The UNIDIR document is interesting because it acknowledges the need for agreed-upon definitions of key terms as a prerequisite for any international space agreement.⁶¹

How is it possible to negotiate a space arms control deal without a common understanding of what a “space weapon” is? These definitional ambiguities led the United States Ambassador to the Conference on Disarmament, Robert A. Wood, to criticize the 2008 PRC-Russia Draft Treaty on Prevention on the Placement of Weapons in Outer Space and of the Threat or Use of Force against Space Objects (PPWT).⁶² PPTW defines a space weapon as “any device placed in outer space, based on any physical principle, which has been specially produced or converted to destroy, damage or disrupt the normal functioning of objects in outer

space, on the Earth or in the Earth’s atmosphere, or to eliminate a population or components of the biosphere which are important to human existence or inflict damage on them.”⁶³ However, this definition is inadequate for an effective verification process, particularly given the aforementioned difficulty posed by the dual-use nature of most space assets.

The absence of a shared dictionary regarding space objects presents three key challenges for arms control negotiations. Without clear definitions, a space arms control treaty may inadvertently ban peaceful technologies essential for everyday tasks, such as communications and navigation satellites. Conversely, it may fail to restrict harmful dual-use technologies, which can serve both civilian and military purposes. Lastly, a space arms control treaty not based on a shared dictionary could leave counter-space weapons unregulated, because different states have different interpretations of what this term means.

Verification and Compliance Challenges

In his remarks at the 2015 ASEAN Regional Forum Workshop on Space Security, then-Assistant Secretary of the State for Arms Control, Frank A. Rose, posed two critical questions: how can a state ensure compliance with space arms control agreements through monitoring and verification mechanisms? And, even if a viable verification methodology exists, are there sufficient technologies available to materialize it?⁶⁴ Rose raised these concerns specifically in the context of PPWT, which failed to address the challenges of verification and compliance. Rose also noted that, at the time, countries lacked the technological capabilities necessary for a robust verification mechanism. Definitional obscurity presents significant challenges for verification and

compliance processes. Baseley-Walker and Weeden, in their chapter of the UNIDIR report, mention that “if there cannot be consensus on the definition of a space weapon it could be impossible to verify its use.”⁶⁵ The authors emphasize that space verification regimes must account for technical realities and the political environment. Basic compliance tools include monitoring, on-site inspections, open-source data analysis, and civil society engagement. However, in societies like the PRC and Russia, where decision-making is often centralized and lacks transparency, ensuring effective compliance remains particularly difficult. It is important to recognize that the Soviet Union overcame similar challenges during the Cold War, which suggests that, despite geopolitical tensions, robust verification is achievable. Modern advancements in remote sensing, satellite imagery, and data analytics could indeed strengthen verification regimes. Yet, the persistent issue of political trust and the willingness of states to adhere to such agreements remain significant obstacles.

The verification process varies in complexity. Verifying launch is the most straightforward component, thanks to well-tested satellite technologies capable of detecting abnormal thermal energy. The United States has mastered such capabilities since the 1970s through the Defense Support Program (DSP) and its successor, the Space-based Infrared System (SBIRS). Detecting an object's re-entry into Earth's atmosphere presents a greater challenge, but current SSA systems are generally equipped to handle it. Verifying the functions of in-orbit operating space objects is the hardest of the three, given the opacity of dual-use technologies. Baseley-Walker and Weeden note that while determining the functions of in-orbit objects is possible, it requires reliance on either space-based assets or ground-based sensors

and telescopes.⁶⁶ However, identifying the intent of in-orbit space objects goes beyond technical abilities and into the realm of national security. As the authors note, “for verification, the realm of the politically possible is much smaller than the realm of the technically possible.”⁶⁷ Space-related arms control treaties inherently risk encroaching on a country's classified information. Therefore, successful negotiations must strike a near-perfect balance between establishing a robust verification mechanism and respecting the national security boundaries of each party involved. One potential solution is the inclusion of intermediary bodies in these discussions, a role that the International Atomic Energy Agency plays in nuclear weapons verification and compliance.⁶⁸

The adversary's track record of past compliance should also be factored into this discussion, as it impacts the opportunities for healthy cooperation and mutual trust. Russia has a history of cheating on agreements, including the INF Treaty, the Open Skies Treaty, and the Chemical Weapons Convention.⁶⁹ Moscow also has a record of issuing hypocritical statements, including demanding the United States space shuttle program be subject to any arms limitation agreements while simultaneously developing a space shuttle of its own.⁷⁰ Gray brilliantly notes that it is in the Russian mentality “not to permit legal niceties to stand in the way of desired military program deployments.”⁷¹ The United States, on the other hand, has a “no less well-documented history of practical, if not formal, acquiescence in such Soviet cheating.”⁷² Given each nation's heavy dependence on space assets, the potential strategic payoff of noncompliance with space arms control treaties is high. Arms control has an inherent dilemma: when a technology is highly valuable to a state, there is little incentive to abandon it; yet, if a

technology is deemed less critical, it carries no significant vulnerability and attracts little interest from the adversary, rendering limitation talks unnecessary from the outset.

Grand, Not Isolated, Strategy

Space-related arms control efforts would hold little merit if not considered in conjunction with other military domains, such as nuclear and conventional strategies. Given that the second space race has become so integrated with broader great power competition between the United States, the PRC, and Russia, arms control talks would be meaningless if negotiated in isolation. Moreover, while space may not be the only frontier of future conflicts, it will undoubtedly be a critical component of military strategies among major superpowers. The dependence on space-based assets for command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR), combined with growing interoperability demands on the modern battlefield, means that space will remain a key domain in contemporary warfare. Space-related arms control treaties must be comprehensive in their definitions and in addressing a broad range of weapons systems. The OST, for instance, fails to prohibit the deployment of conventional weapons in space, leaving a critical loophole. Similarly, one of the reasons why The New Strategic Arms Reduction Treaty (New START) has been undermined is because it excludes non-strategic nuclear weapons, allowing Russia to gain a ten-to-one advantage over the United States in this capability.⁷³ Trying to capture a wide spectrum of weapons within a single arms control is less likely to succeed. Therefore, space arms control should consist of a series of coordinated and concerted agreements, rather than isolated efforts.

“But what about an arms race?”

The arms race counterargument is often cited to highlight the risks the United States and its Western allies could face in the absence of arms control measures—namely destabilization, escalation to kinetic conflict, and the high costs of competition. Miroslav Tuma, Associate Researcher at the Institute of International Relations, warns that an arms race in space could “dangerously escalate the already tense relations between the major rival space powers.”⁷⁴ Historically, nuclear arms control efforts—from the Cold War to the present day—have sought to mitigate such risks. A recent Senate resolution, referred to the Committee on Foreign Relations in early February 2025, expresses support for continued nuclear arms control, cautioning that the expiration of the New START Treaty in 2026 without a successor agreement would “increase the risk of a costly and unrestrained nuclear arms race.”⁷⁵

At the core of the arms race counterargument is the “action-reaction” premise: the idea that one’s military advancements—whether nuclear capabilities or space-based assets—inevitably provoke a reciprocal response from adversaries. David J. Trachtenberg, Michaela Dodge, and Keith B. Payne challenge this assumption, arguing that there is no historical evidence to support its reverse—the “inaction-inaction” thesis. That is, had the United States refrained from advancing its nuclear and missile defense capabilities during the Cold War, there is no indication that the Soviet Union would have done the same.⁷⁶ The “action-reaction” arms race argument disregards the autonomy of state decision-making and falsely assumes that adversaries’ military developments are purely reactive to U.S. actions rather than being driven by their own strategic imperatives.

The same logic applies to space security. The notion that a space arms control treaty would definitively end an arms race is flawed. The fundamental challenge of defining and verifying space weapons would undermine the effectiveness of any such treaty, as states can exploit loopholes and circumvent restrictions. Experts like Michael P. Gleason argue that advancements in SSA technologies and sophisticated space surveillance systems, such as the nascent Silent Barker and Deep Space Advanced Radar Capability, combined with the availability of more data and integration of Artificial Intelligence (AI) could improve enforceability.⁷⁷

While these tools enhance monitoring and detection, they do not resolve the enforcement challenges, which stem not only from deliberate violations but also from ambiguous treaty language and definitional inconsistencies. Without clear and enforceable provisions, space arms control agreements risk becoming symbolic diplomatic gestures rather than practical policy solutions. Thus, the mere existence of a space arms control treaty does not eliminate the arms race problem.

An alternative solution to limiting an arms race—outside of a multilateral arms control treaty—is unilateral restraint, which the United Nations Institute for Disarmament Research describes as a “positive demonstration of political will, especially in times of uncertainty.”⁷⁸ Yet, the idea that a self-imposed U.S. restraint would prevent an arms race ignores the reality that the PRC and Russia are actively expanding their counter-space capabilities. Unilateral restraint would place the United States at a first-mover disadvantage, allowing adversaries to continue advancing their military capabilities without limitations. Moreover, unilateral measures come with their own set of enforcement and verification challenges;

unless codified into domestic law, they are not legally binding and risk remaining at a “purely declaratory level for propaganda.”⁷⁹

Rather than assuming that U.S. actions in space provoke escalation, policymakers should recognize the importance of deterrence-by-denial and deterrence-by-punishment. This means building resilient space infrastructure to safeguard U.S. assets against adversarial attacks and signaling to the PRC and Russia that aggression in space will result in costly retaliation. For this threat to be credible, the United States must have the capability to back its resolve. Abandoning technologies that provide a competitive edge and serve as key deterrence instruments would be counterproductive and create asymmetric vulnerabilities that adversaries could—and will—exploit.

In the absence of effective space arms control, maintaining counter-space capabilities can serve as a stabilizing force when integrated into a well-calibrated deterrence strategy, as a managed arms race is preferable to the risk of an all-out space war. With both the PRC and Russia viewing space as a competitive warfighting domain, the United States cannot afford a foreign policy that relies on the goodwill of its adversaries. Instead, robust deterrence and technological superiority remain the most viable means of preserving stability in space.

Conclusion

This article identified three critical gaps that halt space arms control talks today. It argued that achieving a successful and sustainable space arms control agreement necessitates, above all, a favorable political climate—a condition unmet today thanks to Russia’s invasion of Ukraine and the PRC’s escalating militarization of the Indo-Pacific. Given that great power competition reduces both the

latitude and incentives for international cooperation, even if such an agreement were negotiated, expecting it to ease broader tensions between superpowers is unrealistic. While this research primarily focused on the tripolar security environment, future research might look beyond great power competition to examine challenges posed by the growing commercialization of space and the increased presence of private assets like SpaceX satellites. Globalization of space also demands further consideration, as more nations and international organizations—such as the European Union, Japan, and India—seek to develop independent space capabilities.

The analysis of Sino-Russian space capabilities and deterrence strategies reveals that traditional U.S. superiority in space is contested. As the stakes grow, so does vulnerability—making it more critical than ever for Washington to formulate a space deterrence strategy that prioritizes American leadership, grounded in a robust strategic posture and readiness to take calculated risks. However, deterrence is not without its dangers. An approach that over-relies on offensive counter-space measures or escalatory rhetoric risks provoking the very instability it seeks to prevent. This is why deterrence should not be an end in itself, but rather a means to preserve U.S. strategic advantage while safeguarding alliances and preventing conflict.

The art of space deterrence lies in striking a delicate balance between projecting strength and preserving strategic stability. With President Trump's return to the White House, such an approach is expected to become a central focus of U.S. national security

strategy. The success of this strategy, however, will depend not only on maintaining technological superiority but also on integrating space deterrence within a broader defense architecture—one that aligns military, economic, and diplomatic efforts to reaffirm American leadership in a domain where it faces growing challenges.

About the Author: *Mariam Kvaratskhelia is a graduate of Georgetown University's Master of Science in Foreign Service program, specializing in transatlantic security and science and technology policy with a focus on nuclear and space security.*

¹ “Great Power Competition: Implications for Defense—Issues for Congress,” *Congressional Research Service*, 2024, <https://crsreports.congress.gov/product/pdf/R/R43838/103>

² Robert D. Blackwill and Richard Fontaine, “No Limits? The China-Russia Relationship and U.S. Foreign Policy,” *Council on Foreign Relations*, 2024, <https://www.cfr.org/report/no-limits-china-russia-relationship-and-us-foreign-policy> ; U.S. Naval Institute Staff, “Report on U.S.-China Strategic Competition in South and East China Seas,” *USNI News*, 2024, <https://news.usni.org/2024/08/28/report-on-u-s-china-strategic-competition-in-south-and-east-china-seas-3>.

³ “2022 National Defense Strategy of the United States of America,” U.S. Department of Defense, 2022, <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.pdf>.

⁴ Ibid.

⁵ John J. Mearsheimer, “The Tragedy of Great Power Politics,” *W. W. Norton & Company*, 2014 (updated), 2001 (original), 5.

⁶ Ibid, 20.

⁷ “Article IV: Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,” The United Nations, 1967.

https://www.faa.gov/about/office_org/headquarters_offices/ast/media/treaty_Princi_Gov_Acti_States_OST.pdf.

⁸ “Article IV: Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.”

⁹ Ibid.

¹⁰ Jill Stuart, “The Outer Space Treaty has been remarkably successful—but is it fit for the modern age?” *The Conversation*, 2017, <https://theconversation.com/the-outer-space-treaty-has-been-remarkably-successful-but-is-it-fit-for-the-modern-age-71381#:~:text=The%20Outer%20Space%20Treaty%2C%20like,who%20sign%20up%20to%20it.>

¹¹ Sophie Goguichvili, Alan Linenberger, Amber Gillette, Alexandra Novak, “The Global Legal Landscape of Space: Who Writes the Rules on the Final Frontier?” *Wilson Center*, 2021, <https://www.wilsoncenter.org/article/global-legal-landscape-space-who-writes-rules-final-frontier#:~:text=The%20OST%27s%20vague%20language%20about,own%20national%20priorities%20and%20interests.>

¹² Daryl Kimball, “The Outer Space Treaty at a Glance,” *Arms Control Association*, 2020, <https://www.armscontrol.org/factsheets/outerspace#:~:text=The%20treaty%20forbids%20countries%20from,%2C%20chemical%2C%20and%20biological%20weapons.>

¹³ “Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space,” United Nations, 1962, https://www.unoosa.org/pdf/gares/ARES_18_1962E.pdf.

¹⁴ “Article IX: Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,” United Nations, 1967, https://www.faa.gov/about/office_org/headquarters_offices/ast/media/treaty_Princi_Gov_Acti_States_OST.pdf.

¹⁵ Balraj Singh Nagal, “Weaponization & Militarization of Space,” *Geospatial World*, 2021, <https://www.geospatialworld.net/prime/prime-opinion/weaponization-militarization-of-space/>.

¹⁶ Nagal, “Weaponization & Militarization of Space.” ; “Military Space Spacecraft, Weapons And Tech,” *Space.com*, <https://www.space.com/tag/military-space#:~:text=Today%27s%20armed%20forces%20rely%20on,X%2D37B%20robotic%20space%20planes.>

¹⁷ Vivek Rajasekharan, “Space Weaponization: All you need to know about,” *ClearIAS*, 2023, <https://www.clearias.com/space-weaponization/>

¹⁸ “Types of Counterspace Weapons,” *SatNews Daily*, 2020, http://www.satnews.com/images/*CSIS/CSISCounterspace_Weapons2.pdf.

¹⁹ National Security Technology Accelerator, “The Future of Space is Powered by Dual Use Technology,” 2023, <https://nstxl.org/the-future-of-space-is-powered-by-dual-use-technology/>

²⁰ Almodena Azcárate Ortega, “Not a Rose by Any Other Name: Dual-Use and Dual-Purpose Space Systems,” *Lawfare*, 2023, <https://www.lawfaremedia.org/article/not-a-rose-by-any-other-name-dual-use-and-dual-purpose-space-systems>.

-
- ²¹ “Space Race Timeline,” Ryal Museums Greenwich, <https://www.rmg.co.uk/stories/topics/space-race-timeline>.
- ²² “Advance Policy Questions for Lloyd J. Austin Nominee for Appointment to be Secretary of Defense,” Senate Armed Services Committee, 56, https://www.armed-services.senate.gov/imo/media/doc/Austin_APQs_01-19-21.pdf.
- ²³ “Advance Policy Questions for Lloyd J. Austin.”
- ²⁴ Joseph J. Kruppa, Kristina Sanders, and Maj Michael Martinez, “Achieving Space Superiority in an Era of Great Power Competition,” *The Journal of the Joint Forces Staff College*, 2021, <https://jpsc.ndu.edu/Portals/72/Documents/campaigning/RA%20Kruppa%20Sanders%20Martinez%2022%20October%202021.pdf>.
- ²⁵ Ryan Morgan, “China, Russia attacking US satellites ‘every single day,’ Space Force general says,” *American Military News*, 2021, <https://americanmilitarynews.com/2021/12/china-russia-attacking-us-satellites-every-single-day-space-force-general-says>
- ²⁶ Kruppa, Sanders, and Martinez, “Achieving Space Superiority in an Era of Great Power Competition.”
- ²⁷ Kruppa, Sanders, and Martinez, “Achieving Space Superiority in an Era of Great Power Competition.”
- ²⁸ Oscar Glaese, “China’s Directed Energy Weapons and Counterspace Applications,” *The Diplomat*, June 2022, <https://thediplomat.com/2022/06/chinas-directed-energy-weapons-and-counterspace-applications/>.
- ²⁹ “Annual Threat Assessment of the U.S. Intelligence Community,” ODNI, 2023, <https://www.dni.gov/files/ODNI/documents/assessments/ATA-2023-Unclassified-Report.pdf>.
- ³⁰ Namrata Goswami, “The Economic and Military Impact of China’s BeiDou Navigation System,” *The Diplomat*, 2020, <https://thediplomat.com/2020/07/the-economic-and-military-impact-of-chinas-beidou-navigation-system/>.
- ³¹ Simone McCarthy, “China launches satellites to rival SpaceX’s Starlink in boost for its space ambitions,” 2024, <https://www.cnn.com/2024/08/09/china/china-satellite-qianfan-g60-starlink-intl-hnk/index.html>.
- ³² Andrew Jones, “China kicks off Guowang megaconstellation with Long March 5B launch,” *SpaceNews*, 2024, <https://spacenews.com/china-kicks-off-guowang-megaconstellation-with-long-march-5b-launch/>.
- ³³ Brian Weeden and Victoria Samson, “Global Counterspace Capabilities: An Open Source Assessment,” *Secure World Foundation*, 2020, https://swfound.org/media/206970/swf_counterspace2020_electronic_final.pdf.
- ³⁴ Gunter D. Krebs, “TJS 3 / TJS 3 Subsatellite,” *Gunter’s Space Page*, 2018, https://space.skyrocket.de/doc_sdat/tjs-3.htm
- ³⁵ Weeden and Samson, “Global Counterspace Capabilities: An Open Source Assessment.”
- ³⁶ Forum Staff, “PRC jamming and spoofing endanger shipping, threaten civilian air navigation,” *Indo-Pacific Defense Forum*, 2021, <https://ipdefenseforum.com/2021/12/prc-jamming-and-spoofing-endanger-shiping-threaten-civilian-air-navigation/>.
- ³⁷ Dana A. Goward, “America is at risk of high impact GPS jamming and spoofing from space,” *SpaceNews*, 2024, <https://spacenews.com/america-risk-high-impact-gps-jamming-spoofing-from-space/>.
- ³⁸ Chia Shimin and James Char, “Honing the PLA’s capacity for information warfare is not without precedence,” *East Asia Forum*, 2024, <https://eastasiaforum.org/2024/09/24/honing-the-plas-capacity-for-information-warfare-is-not-without-precedence/>.
- ³⁹ Dean Cheng, “Are we ready to meet the Chinese space challenge?,” *SpaceNews*, 2017, <http://spacenews.com/op-ed-are-we-ready-to-meet-the-chinese-space-challenge/>.
- ⁴⁰ Kylie Atwood, Jim Sciutto, Kristin Fisher and Nicole Gaouette, “US says it ‘won’t tolerate’ Russia’s ‘reckless and dangerous’ anti-satellite missile test,” *CNN*, 2021, <https://www.cnn.com/2021/11/15/politics/russia-anti-satellite-weapon-test-scn/index.html>.
- ⁴¹ “Russian direct-ascent anti-satellite missile test creates significant, long-lasting space debris,” *960th Cyberspace Wing*, 2021, <https://www.960cyber.afrc.af.mil/News/Article-Display/Article/2844494/russian-direct-ascent-anti-satellite-missile-test-creates-significant-long-last/>.
- ⁴² Hanneke Weitering, “NASA chief Bill Nelson condemns Russian anti-satellite test,” *Space.com*, 2021, <https://www.space.com/nasa-chief-condemns-russian-anti-satellite-test#>.
- ⁴³ Weeden and Samson, “Global Counterspace Capabilities: An Open Source Assessment.”

⁴⁴ Major Amos C. Fox, “Cyborgs at Little Stalingrad”: A Brief History of the Battles of the Donetsk Airport,” *The Institute of Land Warfare at the Association of the United States Army*, 2019, <https://www.ausa.org/sites/default/files/publications/LWP-125-Cyborgs-at-Little-Stalingrad-A-Brief-History-of-the-Battle-of-the-Donetsk-Airport.pdf>.

⁴⁵ Major Amos C. Fox, “Hybrid Warfare: The 21st Century Russian Way of Warfare,” *School of Advanced Military Studies, United States Army Command and General Staff College*, 2017, <https://apps.dtic.mil/sti/pdfs/AD1038987.pdf>.

⁴⁶ Christian Davenport, Ellen Nakashima, Abigail Hauslohner and Shane Harris, “With a dire warning, concerns rise about conflict in space with Russia,” 2024, <https://www.washingtonpost.com/technology/2024/02/15/space-weapons-russia-china-starlink/>.

⁴⁷ Unshin Lee Harpley, “DOD Official Confirms Russia Is Developing an ‘Indiscriminate’ Space Nuke,” *Air and Space Forces*, 2024, <https://www.airandspaceforces.com/dod-official-russia-indiscriminate-space-nuke/>.

⁴⁸ “Partial Test Ban Treaty,” Nuclear Threat Initiative, 2008, <https://www.nti.org/education-center/treaties-and-regimes/treaty-banning-nuclear-test-atmosphere-outer-space-and-under-water-partial-test-ban-treaty-ptbt/>

⁴⁹ “Russia conducts space-based anti-satellite weapons test,” *U.S. Space Command*, 2020,

<https://www.spacecom.mil/Newsroom/News/Article-Display/Article/2285098/russia-conducts-space-based-anti-satellite-weapons-test/>.

⁵⁰ “Russia conducts space-based anti-satellite weapons test.”

⁵¹ Chelsea Gohd, “Russia has tested an anti-satellite weapon in space, US Space Command says,” *Space.com*, 2022, <https://www.space.com/russia-tests-anti-satellite-weapon-in-space.html#>.

⁵² Brian Weeden and Victoria Samson, “Global Counterspace Capabilities: An Open Source Assessment,” *Secure World Foundation*, 2023. https://swfound.org/media/207541/swf_global_counterspace_capabilities_2023_es_en.pdf.

⁵³ Yleem D.S. Poblete, “Remarks on Recent Russian Space Activities of Concern,” *U.S. State Department*, 2018, <https://2017-2021.state.gov/remarks-on-recent-russian-space-activities-of-concern/>

⁵⁴ Jessica West and Lauren Vyse, “Arms control in outer space: Status, timeline, and analysis,” *Ploughshares*, 2022, <https://www.ploughshares.ca/reports/arms-control-in-outer-space-status-timeline-and-analysis>.

⁵⁵ “Prevention of an Arms Race in Outer Space: A Guide to the Discussions in the Conference on Disarmament,” UNIDIR, 1991, <https://unidir.org/wp-content/uploads/2023/05/prevention-of-an-arms-race-in-outer-space-a-guide-to-the-discussions-in-the-cd-en-451.pdf>.

⁵⁶ “What is Arms Control?” Council on Foreign Relations, 2023. <https://education.cfr.org/learn/reading/what-arms-control>.

⁵⁷ Colin S. Gray, “Space Arms Control: A Skeptical View,” *Air University Review*, 1985, 75.

⁵⁸ Avis Bohlen, “Arms Control in the Cold War,” *Foreign Policy Research Institute*, 2009, <https://www.fpri.org/article/2009/05/arms-control-in-the-cold-war/>.

⁵⁹ Bohlen, “Arms Control in the Cold War.”

⁶⁰ United Nations Institute for Disarmament Research, 10.

⁶¹ UNIDIR, 131.

⁶² Robert A. Wood, “The Threats Posed by Russia and China to the Security of the Outer Space Environment,” *U.S. Mission Geneva*, 2019, <https://geneva.usmission.gov/2019/08/14/statement-by-ambassador-wood-the-threats-posed-by-russia-and-china-to-security-of-the-outer-space-environment/>.

⁶³ David C. DeFrieze, “Defining and Regulating the Weaponization of Space,” *National Defense University Press*, 2014, https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-74/jfq-74_110-115_DeFrieze.pdf.

⁶⁴ Frank A. Rose, “Challenges to Arms Control in Space and Pragmatic Way Ahead,” *U.S. Department of State Archived Content*, 2015. <https://2009-2017.state.gov/t/avc/rls/2015/250231.htm>.

⁶⁵ Ben Baseley-Walker and Brian Weeden, “Verification in Space: Theories, Realities and Possibilities,” UNIDIR, 2010, 45. <https://unidir.org/sites/default/files/publication/pdfs/arms-control-verification-en-320.pdf>.

⁶⁶ Baseley-Walker and Weeden, 43.

⁶⁷ Baseley-Walker and Weeden, 48.

⁶⁸ “Safeguards and Verification,” IAEA, <https://www.iaea.org/topics/safeguards-and-verification>.

⁶⁹ Rebecca Hersman, “Decoding the Latest U.S. Report on Arms Control: Are Russia and China Really Cheating?” *CSIS*, 2020, <https://www.csis.org/analysis/decoding-latest-us-report-arms-control-are-russia-and-china-really-cheating>.

⁷⁰ Christopher A. Ford, “Arms Control in Outer Space: History and Prospects,” *Arms Control and International Security Papers*, 2020, 5.

⁷¹ Gray, “Space Arms Control: A Skeptical View,” 77.

⁷² Gray, 76.

⁷³ Anya L. Fink, “Russia’s Nuclear Weapons,” CRS, 2025, <https://crsreports.congress.gov/product/pdf/IF/IF12672>.

⁷⁴ Miroslav Tůma, “Militarisation of Space and Nuclear Weapons,” Institute of International Relations, 2024, <https://www.iir.cz/en/militarisation-of-space-and-nuclear-weapons>.

⁷⁵ S. Res. 61, “Expressing support for the continued value of arms control agreements and negotiated constraints on Russian and Chinese strategic nuclear forces,” 119th Congress, 2025, <https://www.congress.gov/119/bills/sres61/BILLS-119sres61is.htm>

⁷⁶ David J. Trachtenberg, Michaela Dodge and Keith B. Payne, “The ‘Action-Reaction’ Arms Race Narrative vs. Historical Realities,” *National Institute Press*, 2021, <https://nipp.org/wp-content/uploads/2021/04/Action-Reaction-pub.pdf>.

⁷⁷ Michael P. Gleason, “Charting a Path through the Space Arms Control Verification Challenge,” *Center for Space Policy and Strategy*, 2024, <https://csps.aerospace.org/papers/charting-path-through-space-arms-control-verification-challenge>.

⁷⁸ “Disarmament and Limitation of Armaments: Unilateral Measures and Policies,” UNIDIR, 1992, <https://unidir.org/files/publication/pdfs/disarmament-and-limitation-of-armaments-en-425.pdf>.

⁷⁹ “Disarmament and Limitation of Armaments: Unilateral Measures and Policies.” UNIDIR, 1992.

The Russian Invasion of Ukraine and Lessons for the Future of Air Superiority

Talha Madni

The Russian invasion of Ukraine underscores how in the absence of air superiority, conventional tactics like blitzkrieg fail, leading to protracted conflicts marked by attrition and drone warfare. The expectation that the Russian Air Force (Voenno-vozdushnye sily Rossii, VVS) would achieve easy air superiority was not met. The VVS performed dismally in Ukrainian airspace despite enjoying a qualitative and quantitative edge over the Ukrainian Air Force. This poor performance provided Ukraine with an opportunity to use its drone forces against the Russian ground forces, halting their thrust. Instead of conventional air power, the Russian and Ukrainian forces have resorted to medium-sized autonomous drones and small first-person view (FPV) drones on the frontlines. Both sides have suffered significant damage and casualties while learning valuable lessons about this new way of war. The Ukrainian battlefield is continuously evolving, yet drone warfare is not leading either country to a strategic advantage. Both countries are mired in attrition warfare reminiscent of World War One. The conflict between Russia and Ukraine has important implications for the concept of air superiority and capabilities of the United States and its allies in a future conflict. First, air superiority must be rethought to include drones: air superiority can only be achieved if the drone threat can be comprehensively countered. Second, in future wars, air superiority will remain critical to avoid protracted wars, and thus, militaries must continue investing in capabilities that enable air superiority. Third, due to the advantages of drones, they will become a permanent feature of future battlefields.

“Every age had its own kind of war, its own limiting conditions, and its own peculiar preconceptions. Each period, therefore, would have held to its own theory of war, even if the urge had always and universally existed to work things out on scientific principles. It follows that the events of every age must be judged in the light of its own peculiarities.”— Clausewitz.

Introduction

Following the Cold War, there was a growing consensus that interstate wars were a thing of the past.¹ However, the combined effects of the Nagorno-Karabakh Conflict and wars of aggression by the Russian Federation have proven that not only has inter-state warfare returned but that the landscape of warfare has changed. While post-World War II conventional wars, namely the Arab-Israeli conflicts and the U.S.-led Gulf Wars, were marked by *blitzkrieg*-style quick victories,

recent conflicts are habitually protracted and shaped by information technology.

This article argues that the ongoing Ukraine-Russia War shows that in an environment of contested airspace, states are more likely to rely on platforms like small drones on the frontlines. In the absence of air superiority by any side, combined with an environment of loitering munitions and small drones, military units are not able to push through defensive lines—something more reminiscent of the First World War. Thus, to make any tactical and ultimately strategic gains, there is a need to achieve air superiority. The achievement of air superiority on the modern battlefield critically includes airspace not contested by hostile drones.

The Origins of Air Superiority

Air superiority is defined as dominance in an air battle over the adversary that allows the conduct of military operations.² The U.S.

military terms air superiority as the “degree of dominance in the air battle by one force that permits the conduct of its operations at any given time and place without prohibitive interference from air and missile threats.”³ It constitutes not only the ability to deny the enemy air superiority but also the capability to assert friendly air superiority over the enemy.⁴

The origin of air superiority dates back to World War I when aircraft were first used for reconnaissance purposes over battlefields.⁵ To deny airspace to enemy reconnaissance aircraft, militaries relied on observation aviators, who started using kinetic means for shooting down hostile reconnaissance aircraft.⁶ Early air superiority was temporary and limited to the immediate battlefields.⁷ Air superiority did not yet have a pronounced strategic dimension. As aviation technology evolved and specialized aircraft were developed for military purposes, the doctrine of air superiority changed with the technology. Air superiority matured from a tactical necessity to a strategic imperative.

Before and especially during World War II, air superiority became an integral part of warfare and an important determinant in the success of a military operation, leading Winston Churchill to exclaim that “the power of an air force is terrific when there is nothing to oppose it.”⁸ United States Air Force Doctrine Publication (AFDP) 1 also acknowledges air superiority as “a necessary precondition for control of the surface.”⁹ It emphasizes the freedom to operate without “prohibitive force” for targeting adversary’s critical nodes and vital centers, particularly industrial capacity and leadership.¹⁰ Furthermore, air superiority is considered vital for success in any conventional military conflict. Richard Saunders and Mark Souva demonstrate that air superiority has been the single most important variable in a battlefield

victory for all the conventional wars fought between 1932 and 2003.¹¹ They argue that air superiority increases the maneuverability of friendly forces and concentration of power, providing an advantage over the enemy. Likewise, John A. Warden contends that since World War II, no offense or defense has succeeded without air superiority.¹²

Post-Second World War Warfare and Air Superiority

Since World War II, nearly 23 interstate wars have been fought.¹³ Most of the wars, particularly India-Pakistan and Israel-Arab conflicts, involved the militaries of the fighting sides advancing in fast-moving armored columns, crossing international borders combined with efforts for air supremacy. The air forces of the combatants played an instrumental role in these wars, which were generally short and decisive.

John Mearsheimer argues that military strategists are faced with three possible war strategies: limited aims strategy, *blitzkrieg*, and war of attrition.¹⁴ While the war of attrition aims to annihilate the opponent with a series of set-piece battles, thereby wearing down the enemy, *blitzkrieg* relies on mobility and speed to defeat the enemy decisively without fighting pitched battles.¹⁵ Limited aims strategy fundamentally differs from *blitzkrieg* and war of attrition as decision-makers do not aim for absolute victory but to achieve a few military objectives, such as limited territorial conquest.¹⁶ The success of a limited aims strategy rests on surprise. Mearsheimer, furthermore, contends that failures of *blitzkrieg* and limited aims strategies usually result in a protracted war of attrition.¹⁷ The success of limited aims strategies and *blitzkrieg* relies on achieving air superiority during the early phase of the war. The Six Days War and the Gulf War are case in point. The Six Days War between

Israel and the Arab states of Egypt, Syria, and Jordan demonstrates this. The Israeli military had a limited aims strategy of gaining access to the Tiran Straits, which connect the Gulf of Aqaba with the Red Sea. Achieving an absolute surprise, the Israeli Air Force destroyed most of the Arab air forces within the first few hours of the war through pre-emptive airstrikes. After gaining control of the airspace, Israeli ground forces, aided by artillery units, were able to push through Arab defensive lines in a *blitzkrieg*-styled offensive. Arab forces were overwhelmed by fast-moving Israeli armored columns, forcing the Arab armies to retreat. By the end of the war, Israel had gained so much territory that it almost quadrupled in size.¹⁸

Similarly, during the Gulf War against Iraq, Coalition forces established air superiority from the onset. Operation Desert Storm saw the use of F-117 Nighthawk stealth aircraft, widespread SEAD (suppression of enemy air defense) and DEAD (destruction of enemy air defense), as well as the massive deployment of all types of aircraft. With this overwhelming force in the air, coalition forces neutralized the Iraqi military's offensive and defensive capabilities. Following the air campaign, the military planners shifted their attention to the ground offensive to drive out the Iraqi forces occupying Kuwait. This campaign was a decisive military and political victory that liberated Kuwait from the Iraqi occupation and asserted US military dominance in the region and globally.

Both conflicts highlight the significance of establishing air superiority during the early stages of the war to enable successful ground operations thereafter. In an environment of contested airspace, a ground offensive would not only have been costly but also protracted. Air superiority denies the adversary from targeting armored columns and aids ground

forces through close air support (CAS). Air power ended these wars swiftly—and decisively.

The Russian Invasion of Ukraine: The Cost of Lacking Air Superiority

On February 24, 2022, Russia invaded Ukraine in clear violation of the United Nations Charter. Russia sought to rhetorically disguise its offensive and unlawful action as a “special military operation.” Putin anticipated this operation to be a swift and decisive victory, aiming to take Kyiv, eliminate the Ukrainian leadership, and secure strategic installations very early on in the operation. The invasion began with a series of missile and long-range artillery attacks against military and civilian targets in Ukraine.¹⁹ These were followed by aerial attacks, airborne incursions (most notably an attempt to occupy the Antonov airport located at a strategic location a few kilometers away from Kyiv), as well as ground advances from three directions. Most likely, Putin and his military command assessed that the Ukrainians would not put up much of a fight, resistance would quickly collapse, and the troops would be home by Orthodox Easter on April 24 of that year.²⁰

Putin's likely calculus failed. The Russo-Ukrainian War has entered its third year, with no military resolution in sight. Ukraine managed to defend Kyiv, recapture Kherson, and hold out against Russian Forces; however, decisive strategic gains remain elusive—for both sides. The warring parties find themselves in a stalemate and increasingly rely on attritional warfare, with the massive employment of drone warfare being a core component of this attrition.

Although Putin's plan may have been promising on paper, the Russian military failed to implement it effectively, committing

tactical blunders from the very beginning of the invasion. The images of the forty-kilometer (approximately twenty-four miles) traffic jam of Russian military vehicles outside of Kyiv serve as one pertinent example of these tactical shortcomings. Severe shortcomings in logistical planning and coordination among Russian armed forces were also apparent. Starting with the ill-conceived and poorly coordinated plan to occupy the Antonov airport, which was to be a launch pad for ground attacks in Kyiv, to the failure to seize strategic military and civilian installations in the city.²¹ Certainly, the Ukrainian defenders displayed great fortitude and valor (and continue to do so every single day), however purely in terms of the balance of forces, the Russian military should have been able to overcome Ukrainian resistance. The Russian failure to dominate Ukrainian airspace and destroy the Ukrainian Air Force and surface-to-air missile systems compounded Russian failures and contributed significantly to the Russian inability to meet its objectives in the initial stages of the war. The Russian military was forced to change its strategy, resulting in a protracted war of attrition where neither side could outmaneuver the other without bearing heavy losses.

The Russian Air Force (Voenno-vozdushnye sily Rossii, VVS) fielded a substantive quantitative edge over the Ukrainian Air Force, as well as presumed a qualitative advantage. The Ukrainian Air Force fielded relatively dated systems such as the Mig-29 or Su-24 and does not possess a strategic air wing, as Ukraine's strategic bombers were dismantled following the 1992 Lisbon Protocol. Most military analysts, as well as most likely the Russians themselves, expected the VVS to overwhelm the Ukrainian Air Force by eliminating air assets, as well as destroying or suppressing its air defense units, which are also under the

command of the Ukrainian Air Force. The Ukrainian air defense was composed mainly of dated Soviet S-300 and Buk-M1 surface-to-air missile systems (SAMs) and their equally dated auxiliary infrastructure. However, the VVS performed dismally in asserting air superiority. First, the VVS failed in its SEAD and DEAD mission.²² In part, this was also because the Ukrainians relocated many of their assets shortly before the invasion. However, a capable air force should be able to react to this. The VVS was unable to cripple all branches of the Ukrainian Air Force decisively. The 'Ghost of Kyiv,' in the shape of continued Ukrainian air operations, kept haunting the Russians. Even extensive barrages of ballistic and cruise missiles could not finish the Ukrainian Air Force, and it continues to operate to this day, although now with improved Western equipment. Moreover, the VVS underestimated the effectiveness of Ukraine's multi-layered air defense system, constituted of long-range SAMs and other short-range air defense systems (SHORAD), such as man-portable air defense systems (MANPADS).

As a result of the failure to destroy the long-range air defense systems, Russian fighter planes were forced to fly sorties at low altitudes to evade radar; however, flying at a lower altitude made them a target for MANPADS, resulting in significant losses.²³ To avoid SHORAD and other Ukrainian air defenses, Russian planes were also forced to stay well outside of Ukrainian airspace, which significantly diminished their combat utility. Further, the VVS failed to quickly adapt to new realities. For instance, its pilots kept using the same routes for sorties making their location predictable by Ukrainians who would position their air defenses accordingly.

Moscow's failure to achieve air superiority and operate SEAD/DEAD missions "resulted

in a deadlocked air conflict.”²⁴ Much has been written about the mysterious case of the VVS missing in action in Ukraine, ranging from insufficient training for SEAD/DEAD missions and lack of precision stand-off weaponry to defensive bias.²⁵ Galamison and Peterson argue that Russian military doctrine emphasizes integrated air defense over offensive-oriented air supremacy.²⁶ Such orientation leads to weapons procurement and training manuals suitable for defensive operations, resulting in a defensive bias over air supremacy within VVS. In the Ukraine-Russia war, the Russian failure to achieve air superiority provided Ukraine with an opportunity to use its drones against Russian ground forces, halting their thrust. Ukrainian Bayraktar TB-2 drones were crucial in the defense of Kyiv and were widely recognized as an essential Ukrainian asset.²⁷

Enter the Drone Warfare

In Ukraine’s contested airspace, the VVS failed to act as ‘aerial artillery’ and to provide the Russian ground forces with effective close air support. Moreover, during the earlier phase of the war, the Russian ground forces advanced without adequate air defense and radar units. Ukrainian forces were free to employ their low-cost mission-specific unmanned aerial vehicles (UAVs), particularly medium-sized Turkish Bayraktar TB-2 drones, to hunt Russian armored vehicles and personnel.²⁸ Kyiv relied on these drones to provide accurate target reconnaissance as well, generating more than 80 percent of Ukrainian artillery, missile, and airstrike targets.²⁹

Russian armored vehicles were sitting ducks, easily picked off by Ukrainian UAVs with precision-guided munitions (PGMs). Drones allowed Kyiv to damage or destroy Russian military installations and equipment severely without endangering their own personnel—at

a relatively cheap cost. Since the outbreak of the war, Russia has lost nearly 11,000 tanks and armored personnel carriers, with a great number of losses attributed to drone kills.³⁰ Russia eventually learned from its mistakes and changed tactics, especially regarding drone warfare. The Russian forces beefed up air defense, deploying long-range S-400 Triumph and short to medium-range SA-17 and SA-15 SAMs in the Donbas that provided Russians with the capability to shoot down Ukrainian UAVs.³¹ Russian forces significantly improved their electronic warfare capabilities, such as jamming, to bring down Ukrainian drones.³² UAVs, such as TB2, which previously were workhorses targeting Russian forces, are now witnessing less action on the frontlines because the Russian armed forces have improved at interdicting their operations. The drones have become more vulnerable to Russian air defense units, and at least 24 TB2 UAVs have been shot down.³³

However, drone warfare is far from over. The Ukrainian battlefield is evolving. Large UAVs have now been mostly replaced by small, first-person view (FPV) drones on the frontlines. Since both sides have localized air denial, rendering large UAVs and air force less useful, both warring parties are relying more on FPVs. These small drones weigh a few kilograms, can loiter for a short duration, and are quite difficult to detect and intercept. They are playing a key role on the battlefield in Ukraine.

FPV drones have multiple advantages. First, FPV drones are cheap. Each drone costs around five hundred dollars and can be manufactured using off-the-shelf parts.³⁴ In October 2024, President Zelenskyy announced his plan to produce such drones in the millions to support operations on the frontlines.³⁵ These cost-effective drones are used for targeting and intelligence gathering,

and, due to their low price, can be employed much more liberally. Whereas more expensive assets, such as cruise missiles, are reserved for high-value targets, FPV drones are worth employing against virtually every kind of target, whether that is an individual soldier, a small batch of ammunition, a singular logistics truck, a small artillery piece, et cetera. On a battlefield dominated by small drones, threats to all kinds of assets are substantially increased, necessitating enhanced comprehensive defenses. Secondly, FPV drones enable operations that do not have to put soldiers in harm's way. As Ukraine struggles to source and train sufficient soldiers to fight on the frontlines, it is vital to avoid losses wherever possible. FPV drones excel in this role, as they can be deployed from hardened shelters far behind the frontline. Kyiv can tolerate the losses of UAVs, as it is losing nearly 10,000 a month, but not its soldiers.³⁶

Moreover, FPV drones can be converted into makeshift loitering PGMs. Ukrainian frontlines are packed with FPV drones armed with explosive material—making them on par with PGMs but at a fraction of the cost.³⁷ Lastly, using guided surface-to-air defense missiles against FPV drones may be effective, but is unsustainable. A telling example comes from the Houthi attacks on commercial shipping vessels in 2023. U.S. warships intercepted Houthi drones with sophisticated SAMs at a cost of \$2.1 million each. The Houthi drones came in at a price tag of only \$2000 apiece.³⁸ It is easy to see how this calculus is disadvantageous to any military that must defend against makeshift UAVs. Similarly, Israel spent nearly \$550 million to intercept a barrage of relatively inexpensive Iranian autonomous drones earlier this year.³⁹

Reflecting this lesson learned, Moscow has procured a significant number of Iranian-

built kamikaze drones, particularly Shahed, and has ramped up its drone manufacturing capabilities to produce an estimated 1.4 million drones annually.⁴⁰ It is increasingly using its long-range drones to attack deep inside Ukraine. Moreover, like Ukraine, Russia is leveraging FPV drones on the frontlines to target Ukrainian forces. On the counter-UAV front, Russia is using electronic warfare to bring down Ukrainian drones operating near Russian military installations.⁴¹

Future Direction of the Ukraine-Russia War

In the future, Moscow and Kyiv will likely increase their reliance on drone warfare. However, drone warfare will be a key factor that hinders both combatants' ability to make any significant gains. The advent of FPV drones and other mass-produced UAVs complicates offensive operations, exposes military and civilian infrastructure to new vulnerabilities, and makes air supremacy almost unattainable. Russia and Ukraine are caught in attritional warfare, not unlike World War One, where each side keeps throwing more personnel and material into combat, in the hope that the opponent will run out of steam first. In a crucial difference to World War One, human casualties are now joined by hundreds of thousands of drone losses. Russia and Ukraine seem to remain engaged in this type of attritional warfare in the future as well. For any of the sides to make a meaningful breakthrough from the current stalemate they would need to establish near-complete air superiority, including comprehensive and effective denial against drones in all theaters of the war. This proposition would be extremely costly and remains elusive.

Implications for Warfare and Recommendations

The conflict between Russia and Ukraine has significant implications for the concept of air superiority and the capabilities of the U.S. and its allies. It underscores the need to rethink the concept of air superiority in the age of drone warfare. As witnessed on the frontlines in Ukraine, drones, particularly FPV drones, have broadened the scope of air operations. Today, air superiority does not mean merely denying the airspace to manned aircraft or missile threats but also countering small, difficult-to-detect drones. The conventional sense of air superiority fails to provide a meaningful answer to the new challenges posed by drones. Therefore, air superiority in its conventional sense, defined as freedom to operate without interference from air and missile threats, must also expand to include threats posed by drones.

In addition, the Ukraine-Russia War also underscores the urgent need to develop defensive capabilities to counter drones and integrate them into the ground forces. Both air assets and air defense forces contribute to the establishment of air superiority, and given the challenge posed by drones, both components must see updates to meet redefined air superiority requirements. Therefore, there is a need to invest in systems providing defensive capabilities against drones across all spectrum threats ranging from large UAVs to small FPV drones. In this regard, the North Atlantic Treaty Organization (NATO) may prioritize investing in drone defense systems combining kinetic and non-kinetic means in light of a recent report by the Center for War Studies, highlighting vulnerabilities in NATO's drone defense capabilities.⁴² NATO may also draw lessons from the Israeli Drone Dome system that combines soft and hard kill mechanisms against drones at over three to five-kilometer distances.⁴³ Using electronic jammers, it blinds the drones and neutralizes them using powerful laser beams. Such drone

defense systems also provide an additional advantage over SAMs, as they are relatively cheaper.

In a similar vein, offensive drone capabilities should also form an integral component of future air superiority. The U.S. military is already working on such weapons under the Replicator Initiative, which emphasizes the development of all-domain, attritable autonomous systems.⁴⁴ The Pentagon recognizes the significance of small drones and loitering munitions, such as the Switchblade 600, and has chosen to invest heavily in this domain.

Above all, the Ukraine-Russia war underscores the significance of achieving air superiority, as swift and meaningful victory rests upon the ability to establish air superiority. Russian failure to achieve air superiority in Ukraine transformed the conflict into a war of attrition. Therefore, the U.S. and its allies may prioritize investing in advanced fighter jet programs like the Next Generation Air Dominance (NGAD) to compete with other great powers, particularly the People's Republic of China which recently unveiled its sixth-generation fighter.⁴⁵

Conclusion

The Russian invasion of Ukraine highlights the significance of air superiority in determining the success of conventional tactics like *blitzkrieg*. It offers an example of how conventional wars become protracted conflicts in the absence of either side achieving air superiority. Importantly, the Ukraine-Russia war underscores the evolving nature of air superiority in the age of drones and the need to redefine the conventional concept of air superiority—integrating offensive and defensive drone capabilities into conventional air power. The lessons

from the conflict further reinforce the necessity for the United States and its allies to pursue air superiority according to the updated conceptualization provided in this paper. This entails investments in advanced fighter programs, kinetic and non-kinetic means of drone defense, as well as offensive and attritable drone capabilities to achieve air superiority over its adversaries in a future conflict.

This article has primarily studied air superiority from the lens of conventional inter-state wars; however, there is also a need to study air superiority in the evolving battlefields where non-state actors play an influential role. Groups like the Houthis, who have used drones and ballistic missiles against Western vessels and Israel, are a case in point that demand an in-depth study of how asymmetric threats can challenge traditional notions of air superiority.

About the Author: *Talha Ali Madni is a Fulbright scholar from Pakistan studying Peace and Conflict studies at the University of San Diego. He is interested in understanding asymmetrical and limited warfare. Previously, he has worked as a researcher for the National Security Division of the Pakistani government, the executive body responsible for preparing national security policy. Moreover, he has also been associated with several think tanks and multilateral organizations. The views expressed here are the author's own.*

-
- ¹ Joshua Goldstein, *Winning the War on War: The Decline of Armed Conflict Worldwide* (Penguin Group, 2011).
- ² “Air Superiority,” in *The Oxford Essential Dictionary of the U.S. Military* (Oxford University Press, 2001).
- ³ “Joint Publication (JP) 1-02,” in *Department of Defense Dictionary of Military and Associated Terms*, (DTIC, 2010), 10.
- ⁴ Benjamin F. Cooling, “Introduction,” in *Case Studies in the Achievement of Air Superiority*, XV–XVII, (Center for Air Force History, 1994).
- ⁵ “Air Superiority,” 2.
- ⁶ “Air Superiority,” 2.
- ⁷ “Air Superiority,” 5.
- ⁸ Winston Churchill, *The Second World War: The Gathering Storm* (Houghton Mifflin Company, 1948).
- ⁹ “Air Force Doctrine Publication (AFDP) 1,” *The Air Force*, March 10, 2021, https://www.doctrine.af.mil/Portals/61/documents/AFDP_1/AFDP%201%20The%20Air%20Force%20Pocket%20Size%20Booklet.pdf.
- ¹⁰ Michael P. Kreuzer, “Beyond Air Superiority,” *Æther: A Journal of Strategic Airpower & Spacepower* 3, no. 3 (2024): 40–52, <https://www.jstor.org/stable/10.2307/48793177>.
- ¹¹ Richard Saunders and Mark Souva, “Air Superiority and Battlefield Victory,” *Research and Politics* (2020): 1-8.
- ¹² John A. Warden, *The Air Campaign: Planning for Combat* (National Defense University Press, 1988), 13.
- ¹³ Meredith R. Sarkees, Frank W Wayman, and J. D. Singer, “Inter-State, Intra-State, and Extra-State Wars: A Comprehensive Look at Their Distribution over Time, 1816–1997,” *International Studies Quarterly* 47 no.1 (2003): 49–70. <https://doi.org/10.1111/1468-2478.4701003>.
- ¹⁴ John J. Mearsheimer, *Essay in Conventional Deterrence* (Cornell University Press: 1983), 23–66.
- ¹⁵ *Essay in Conventional Deterrence*, 23–66.
- ¹⁶ *Essay in Conventional Deterrence*, 23–66.
- ¹⁷ *Essay in Conventional Deterrence*, 23–66.
- ¹⁸ Avner Cohen, “The 1967 Six-Day War,” *Wilson Center*, June 3, 2017, <https://www.wilsoncenter.org/publication/the-1967-six-day-war>.
- ¹⁹ Tim Lister, Tara John, and Paul P. Murphy, “Here’s What We Know about How Russia’s Invasion of Ukraine Unfolded,” *CNN*, February 24, 2022, <https://www.cnn.com/2022/02/24/europe/ukraine-russia-attack-timeline-intl/index.html>.
- ²⁰ Oleg Chupryna, “The Great Blunder: Why Did Putin Miscalculate over Ukraine?” *LSE*, March 6, 2023, <https://blogs.lse.ac.uk/euoppblog/2023/03/06/the-great-blunder-why-did-putin-miscalculate-over-ukraine/>.
- ²¹ Seth G. Jones, “Russia’s Ill-Fated Invasion of Ukraine: Lessons For Modern Warfare,” *Center for Strategic and International Studies*, June 1, 2022, <https://www.csis.org/analysis/russias-ill-fated-invasion-ukraine-lessons-modern-warfare>.
- ²² David A. Deptula, “Air Superiority and Russia’s War on Ukraine,” *Air & Space Forces Magazine*, July 29, 2024, <https://www.airandspaceforces.com/article/air-superiority-and-russias-war-on-ukraine/>; Justin Bronk, “Getting Serious about SEAD: European Air Forces Must Learn from the Failure of the Russian Air Force over Ukraine,” *Royal United Services Institute*, April 6, 2022, <https://www.rusi.org/explore-our-research/publications/rusi-defence-systems/getting-serious-about-sead-european-air-forces-must-learn-failure-russian-air-force-over-ukraine>.
- ²³ “What Are MANPADS, the Portable Missiles Bringing down Russian Aircraft?” *The Economist*, April 6, 2022, <https://www.economist.com/the-economist-explains/2022/04/06/what-are-manpads-the-portable-missiles-bringing-down-russian-aircraft>.
- ²⁴ Matthew S. Galamison, and Michael B Petersen, “Failures of the Russian Aerospace Forces in Ukraine,” *Air2 & Space Operations Review*, October 25, 2023.

-
- ²⁵ Justin Bronk, “The Mysterious Case of the Missing Russian Air Force,” *Royal United Services Institute*, February 28, 2022, <https://rusi.org/explore-our-research/publications/commentary/mysterious-case-missing-russian-air-force>; Justin Bronk, “Why Russia Failed to Dominate the Skies over Ukraine,” *The Spectator*, September 29, 2022, <https://www.spectator.co.uk/article/why-russia-failed-to-dominate-the-skies-over-ukraine/>.
- ²⁶ “Failures of the Russian Aerospace Forces in Ukraine.”
- ²⁷ Kieran Corcoran, “Ukraine Credits Turkish Drones with Eviscerating Russian Tanks and Armor in Their First Use in a Major Conflict,” *Business Insider*, accessed January 31, 2025, <https://www.businessinsider.com/ukraine-hypes-bayraktar-drone-as-videos-show-destroyed-russia-tanks-2022-2>.
- ²⁸ Aaron Stein, “The TB2: The Value of a Cheap and ‘Good Enough’ Drone,” *Atlantic Council*, August 31, 2022, <https://www.atlanticcouncil.org/content-series/airpower-after-ukraine/the-tb2-the-value-of-a-cheap-and-good-enough-drone/>; Justin Bronk, “Russia Likely Has Local Air Superiority in Donbas, but It May Not Matter,” *Royal United Services Institute*, April 19, 2022, <https://rusi.org/explore-our-research/publications/commentary/russia-likely-has-local-air-superiority-donbas-it-may-not-matter>.
- ²⁹ “The War in Ukraine Shows How Technology Is Changing the Battlefield,” *The Economist*, July 3, 2023, <https://www.economist.com/special-report/2023/07/03/the-war-in-ukraine-shows-how-technology-is-changing-the-battlefield>.
- ³⁰ “Attack on Europe: Documenting Russian Equipment Losses during the Russian Invasion of Ukraine,” *Oryx*, November 4, 2024, <https://www.oryxspioenkop.com/2022/02/attack-on-europe-documenting-equipment.html>.
- ³¹ “Russia Likely Has Local Air Superiority in Donbas.”
- ³² “The Latest in the Battle of Jamming with Electronic Beams,” *The Economist*, July 3, 2023, <https://www.economist.com/special-report/2023/07/03/the-latest-in-the-battle-of-jamming-with-electronic-beams>.
- ³³ Ellie Cook, “Why Ukraine’s Once-Fearful Bayraktar Drones Are Becoming Obsolete,” *Newsweek*, November 2, 2023, <https://www.newsweek.com/ukraine-bayraktar-tb2-russia-1839972>; “Attack on Europe: Documenting Ukrainian Equipment Losses during the Russian Invasion of Ukraine,” *Oryx*, November 4, 2024, <https://www.oryxspioenkop.com/2022/02/attack-on-europe-documenting-ukrainian.html>.
- ³⁴ Peter Dickinson, “FPV Drones in Ukraine Are Changing Modern Warfare,” *Atlantic Council*, June 21, 2024, <https://www.atlanticcouncil.org/blogs/ukrainealert/fpv-drones-in-ukraine-are-changing-modern-warfare/#:~:text=The%20main%20feature%20that%20has,than%20five%20hundred%20US%20dollars>.
- ³⁵ Olena Harmash, “Ukraine Ramps up Arms Production, Can Produce 4 Million Drones a Year, Zelenskiy Says,” *Reuters*, October 2, 2024, <https://www.reuters.com/world/europe/ukraine-ramps-up-arms-production-can-produce-4-million-drones-year-zelenskiy-2024-10-02/>.
- ³⁶ “Jamming with Electronic Beams.”
- ³⁷ “Killer Drones Pioneered in Ukraine Are the Weapons of the Future,” *The Economist*, February 8, 2024, <https://www.economist.com/leaders/2024/02/08/killer-drones-pioneered-in-ukraine-are-the-weapons-of-the-future>.
- ³⁸ Lara Seligman, and Matt Berg, “A \$2m Missile vs. a \$2,000 Drone: Pentagon Worried over Cost of Houthi Attacks,” *Politico*, December 20, 2023, <https://www.politico.com/news/2023/12/19/missile-drone-pentagon-houthi-attacks-iran-00132480>.
- ³⁹ Anat Peled, “Israel’s Cost to Intercept Iranian Drones and Missiles Is Put at Over \$550 Million,” *Wall Street Journal*, April 15, 2024, <https://www.wsj.com/livecoverage/israel-iran-strikes-live-coverage/card/israel-s-cost-of-intercepting-iranian-barrage-is-put-at-over-550-million-uamrOjZkoRBNGRfjWbD6>.
- ⁴⁰ “Putin Says Russia Is Ramping up Drone Production Tenfold,” *Reuters*, September 19, 2024, <https://www.reuters.com/world/europe/putin-says-drone-supplies-russian-army-increase-tenfold-2024-09-19/>.
- ⁴¹ Ryan Clark, “The Fall and Rise of Russian Electronic Warfare: The Ukraine invasion has become an old-fashioned slog, enabling Russia to unleash its electronic weapons,” *IEEE Spectrum*, July 30, 2022, <https://spectrum.ieee.org/the-fall-and-rise-of-russian-electronic-warfare>.
- ⁴² James Rogers and Dominika Kunertova, “The Vulnerabilities of the Drone Age Established Threats and Emerging Issues out to 2035,” *Center for War Studies ETH Zurich*, 2022, https://css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/NATO_VDA_Policy_Report.pdf.
- ⁴³ “Drone Dome Family,” *Rafael*, accessed January 31, 2025, <https://www.rafael.co.il/system/drone-dome-family/>.

⁴⁴ “Deputy Secretary of Defense Kathleen Hicks Announces Additional Replicator All-Domain Attr,” *U.S. Department of Defense*, accessed January 31, 2025, <https://www.defense.gov/News/Releases/Release/Article/3963289/deputy-secretary-of-defense-kathleen-hicks-announces-additional-replicator-all/>.

⁴⁵ Benjamin Jensen, “What China’s New Fighter Jet Really Signals,” *Foreign Policy*, January 28, 2025, <https://foreignpolicy.com/2025/01/16/china-new-fighter-jet-military-capabilities/>.

Reviving Alliances: The Risks of Egypt's Growing Partnership with Russia

Sebastian Bienkowski

In recent years, Russia has benefited from the deteriorating relationship between the United States and Egypt, largely fueled by President Abd El-Fattah El-Sisi's authoritarian governance and rampant human rights violations. This strategic partnership manifests through robust agreements in the energy, military, and economic sectors, dramatically enhancing Russia's influence in North Africa and the Eastern Mediterranean. In 2018, Putin and El-Sisi signed a comprehensive partnership treaty, solidifying relations between Russia and Egypt, and marking the beginning of their strategic partnership. Egypt is crucial to Russia's foreign policy in the Middle East. Russia is consolidating its foothold through initiatives such as arms sales, foreign direct investments, and the ambitious El Dabaa nuclear power plant project. If left unchecked, Russia will solidify its strategic alliance with Egypt to eradicate Western influence in the region. Further, Russia will extract significant concessions from Egypt to gain access to military bases in the Eastern Mediterranean and exert pressure on NATO's Southern Flank. Russia aims to establish a military base to operate its Mediterranean fleet and be able to project military power into the Middle East and North Africa (MENA).

Introduction

Russia's ambitions in the Middle East represent a critical challenge to Western influence and NATO's strategic priorities. Egypt, Russia's crucial Middle Eastern partner, has become a focal point for Russia to expand its influence through an evolving strategic partnership. Russia seeks to solidify its cooperation with Egypt by leveraging arms sales, foreign direct investment, exports, and the El Dabaa nuclear power plant. These efforts aim not only to diminish Western influence but also to extract concessions from Egypt.

Via potential access to Egyptian military bases in the Eastern Mediterranean, Russia seeks to threaten NATO's Southern Flank which comprises all of Northern Africa and the Middle East, and the countries and maritime borders south of Turkey, Greece, Italy, and Spain. Russian military activity and a potential military base in Egypt force NATO leadership to divert resources and attention away from its land borders with Russia. If given access to an Egyptian

military base, Russia will be able to expand its power projection in MENA and gain a key logistical hub for its forces.

Egypt is one of the most influential countries in the Arab world due to its large military, strategic location controlling the Suez Canal, and its expansive cultural reach through shared language, its prolific media footprint, and its rich history. The capital Cairo hosts the Arab League—and Al-Azhar University, one of the most prestigious institutions for Islamic learning.¹ Egypt has long been a critical U.S. foreign defense and security partner in the Middle East. Egypt's jurisdiction over the Suez Canal, a global trade route connecting Europe and Asia, highlights its importance to U.S. interests. The Suez Canal is crucial to the United States as it is the key to stable oil and energy supplies, freedom of passage for the U.S. Navy, and regional partnerships.

The U.S.-brokered 1978 Camp David Accords between Egypt and Israel continue to form the bedrock of Arab-Israeli peace, making Cairo a crucial leader for

negotiations in the Israeli-Palestinian conflict, and facilitating relations between Israel and the Arab world.² The United States has appropriated \$1.4 billion in bilateral military assistance for Egypt in FY 2025 and, since 1978, has provided more than \$50 billion through mainly Foreign Military Financing.³ The United States and Egypt have cooperated on regional security issues, such as the Israeli-Palestinian conflict and the Sudanese Civil War, despite taking opposing sides during the Libyan Civil War.⁴ Both countries have a robust history of working together in major military engagements, even if they have occasionally disagreed.

Russia and Egypt's strategic partnership has taken shape through a series of energy, military, and economic agreements, increasing Russia's influence in North Africa and the Eastern Mediterranean. Egypt is central to Russia's Middle East foreign policy, and Russia is leveraging its strategic partnership with Egypt to create a foothold through which it can spread its influence. If left unopposed, Russia will establish and leverage a strategic partnership with Egypt through arms sales, foreign direct investments, exports, and the El Dabaa nuclear power plant, aiming to drive out Western influence and extract concessions like access for Russian military forces. Russia seeks influence over Egypt to access military bases in the Eastern Mediterranean which will enhance Russia's ability to exert pressure on NATO's Southern Flank. Through this strategy, Russia forces NATO members to devote resources and manpower to their south instead of focusing on their respective borders with Russia.

Historical Relations between the Soviet Union/Russia and Egypt

The official history of diplomatic relations between the Russian Federation and Egypt dates back to August 19, 1784, when

Catherine II opened the Consulate General of the Russian Empire in the port of Alexandria.⁵ Between 1877–1878 relations were suspended due to the outbreak of the Russo-Turkish War.⁶ In 1911, Russia strengthened relations by dispatching a Minister to Egypt. During this period, Egypt was governed as a protectorate of the British Empire.⁷ In 1917, Bolshevik Russia broke relations with Egypt due to the Russian Revolution and subsequently restored them in 1943.⁸ In 1943, the Soviet Union established relations with the Kingdom of Egypt, then a treaty ally of the British Empire.⁹ An intense Soviet-British rivalry in Egypt characterized this period. Under Stalin's leadership, Soviet foreign policy favored Zionist interests, hoping that Israel would be socialist and accelerate the decline of British influence in the Middle East and North Africa (MENA).¹⁰ This was important as Moscow facilitated the purchase of military supplies from Czechoslovakia and the training of Israeli pilots and paratroopers, which proved to be vital in the Israeli victory in the War of Independence in 1948–49.¹¹

Stalin's death in 1953 led to a significant shift in the Soviet policy towards Egypt and the wider MENA region.¹² The Soviet leaders after Stalin focused on creating good relations with current governments, in contrast to traditional policies that banned arms sales to non-communist states, or fostered the growth of leftwing radical groups subservient to Moscow.¹³ Soviet economic aid was directed at public sector projects for power production, irrigation, land reclamation, and heavy industry in Egypt.¹⁴ The two largest projects that the Soviets helped realize were the Aswan Dam and the Helwan Steel Mill, which are still used to this day.¹⁵ Through economic and military aid, the Soviet Union sought to capitalize on Egyptian president Gamal Abdel Nasser's growing frustration with the

United States and the West. Nasser, for example, objected to the United States supporting the United Kingdom in its conflict with Egypt. Nasser took issue with Western countries arming Israel while refusing to provide the Arabs with arms to balance Israeli purchases.¹⁶ In 1954, Moscow established embassies and elevated its diplomatic missions with Nasser's Republic of Egypt. Between 1955 and 1956, the Soviet Union and Egypt signed arms deals in which Moscow agreed to supply heavy armaments worth \$250 million to Egypt in exchange for cotton.¹⁷ These arrangements accelerated Nasser's shift towards the Soviet Union and signaled Moscow's intent to build Soviet influence in MENA.

During the 1956 Suez Crisis, the Soviet Union further proved its mettle as a valuable partner—and officially unseated the United Kingdom and France as the partners of choice in MENA. When France, the United Kingdom, and Israel invaded Egypt, Soviet threats to deploy naval and air forces to restore peace in Egypt reinforced the Soviet Union's commitment to Egypt's sovereignty over the Suez Canal and countering former colonial Western interests.¹⁸ The Egyptians welcomed Soviet General Secretary Nikita Khrushchev's intercession on their behalf. The crisis was a major victory for Khrushchev, exemplifying Moscow's growing influence in MENA.

In the 1950s and 1960s, the Soviet Union provided Egypt with significant military and economic aid. The Soviet Union provided arms shipments to the Egyptian military, as well as funds and technical assistance to help build the Aswan Dam. In exchange, the Soviets received access to the Alexandria, Mersa Matruh, Port Said, and As-Sallum naval ports, as well as airfields in Cairo.¹⁹ However, after Nasser's death, the new Egyptian President, Anwar El-Sadat, began

shifting his policies and preferences to the West. Sadat lost confidence in Soviet policy and believed the United States was the only country that could influence Israel.²⁰ Sadat was determined to settle the Arab-Israeli conflict and believed the United States could help him achieve this.²¹ Relations between Egypt and the Soviet Union deteriorated in the mid-1970s, culminating in the withdrawal of Soviet forces.²² In July 1972, Moscow withdrew 6,600 Soviet air defense combat personnel from Egypt and reduced its 5,500 Soviet support and advisory services to 200 personnel.²³ The peak of 15,000 soldiers in 1971 fell to less than a thousand.²⁴ Relations completely collapsed in 1976–1981 when Sadat pivoted to the United States and abrogated the 1971 Soviet-Egyptian Friendship Treaty.²⁵

The once-strong bilateral cooperation and friendship would not return until Vladimir Putin reignited a new strategic partnership with Egypt to reestablish Russia in the MENA region. During Sisi's fourth visit to Moscow, he signed an expansive partnership agreement with Putin that covered military, energy, and trade cooperation.²⁶ Egypt's central role in the Arab world, rooted in its status as the most populous Arab country, its geostrategic position bridging Africa and the Middle East, and its extensive history and cultural influence, made it a key focus for Putin.²⁷ He viewed Egypt as vital to Russia's energy and geopolitical strategy in MENA due to its regional influence and ability to set popular trends among Arab populations across the region. Putin began to revive the strategic partnership—with great success.

Energy and Arms Diplomacy

Russia's use of energy and arms as tools of diplomacy is a core part of its foreign policy and alliances worldwide. Russia is the world's largest natural gas exporter, second

largest oil exporter, a leader in nuclear technology, and the third largest arms exporter.²⁸ Russia leverages its preeminence as an energy and arms supplier to influence countries everywhere. Therefore, it is crucial to understand the theoretical framework of both energy and arms diplomacy and how Russia's use of these tools affects its alliance with Egypt.

Robert Keohane and Joseph Nye's theory of "complex interdependence" explains how "states are mutually dependent on each other for their well-being."²⁹ Any outcome in the international system hinges on where a state sits on a spectrum of dependence. Complex interdependence infers how states interact with each other through multiple channels, such as formal diplomatic arrangements, non-governmental elites, and transnational organizations.³⁰ Specifically, states will utilize economic interdependence "in terms of power" with "power resources specific to issue areas" as most relevant to the state.³¹ Per Keohane and Nye, the control and utilization of economic interdependence, international organizations, and global actors are the dominant power mechanisms available to states in the current international system.³²

Building on Keohane and Nye's theory of complex interdependence, Brenda Shaffer highlights that Moscow considers its energy resources a primary driver of economic development and more vitally, as a geopolitical instrument.³³ She argues that given Russia's status as a major producer of nuclear energy, it is likely Russia plans to grow its export of nuclear reactors and technology while advancing its fuel and waste processing infrastructure.³⁴ By expanding its technological capabilities, Russia rises to the forefront of the global nuclear industry and broadens its ability to cooperate with other states' nuclear energy

programs. Russia is situating itself to engage in energy diplomacy, which Andreas Goldenthau explains is most commonly defined as a strategic and deliberate use of foreign policy to secure a country's energy supplies.³⁵ He notes that literature on energy diplomacy uncovers a connection between energy and development policy, bilateral trade, military aid, and foreign policy.³⁶

Great powers' have historically leveraged arms transfer and military assistance as instruments of influence and a method to realign regional balances of power. Keren Yarhi-Milo, Alexander Lanoszka, and Zack Cooper highlight that great powers communicate reassurance and pursue arms diplomacy and alliance strategies to build influence over other states.³⁷ Yarhi-Milo, Lanoszka, and Cooper note a delicate balance between arms diplomacy, alliance building, and the avoidance of entrapment in conflicts. This strategic logic is known as the "patron's dilemma," where powerful states, the patrons, "assess the degree of shared threat and the local balances of capabilities in determining whether to support their clients with arms, alliance commitments, or both."³⁸ The Kennedy Administration's outreach to Egypt under President Nasser illustrates this logic: the loss of Egypt to the Soviet camp risked diminishing U.S. influence in the Middle East. The administration weighed the risks of alignment with Egypt, including potential damage to its relationship with Israel, against the risk of allowing the proliferation of Soviet Influence across the Middle East. The Kennedy Administration chose to deepen relations with Nasser's Egypt while providing Israel with a one-time arms transfer of Hawk missiles to assuage Israeli security concerns. This allowed the United States to seize an opportunity for cooperation with Egypt, collaborate on regional arms control, and fortify its position in Soviet areas of interest.³⁹

During the Cold War, arms diplomacy was essential to advance diplomatic relations with developing states worldwide. Roger F. Pajak demonstrates how the USSR provided military and economic aid to newly independent developing countries seeking alternatives to Western powers.⁴⁰ Pajak asserts that the Soviets implemented this policy to prevent developing states from military cooperation with Western states, use the recipient state as a proxy to counter Western interests and create opportunities for limited access to ports, airfields, and other military infrastructure.⁴¹ He states that Moscow relied on the combination of its diplomacy, trade, and economic and military assistance to make developing countries “materially dependent and politically tractable.”⁴²

Contemporary research indicates that arms transfers profoundly affect traditional alliance dynamics and can reduce overall security. Brandon J. Kinne argues that weapon cooperation agreements (WCAs), despite a brief decline after the Cold War, have significantly increased, facilitating easier arms proliferation.⁴³ He emphasizes that states entering into WCAs gain access to previously unavailable export markets, enhancing weapons flows.⁴⁴ This sharp increase in arms trade indicates how arms-based diplomacy can undermine security, rather than build it.

The Russian efforts in the domains of energy diplomacy, arms sales, and other foreign policy initiatives in Egypt and elsewhere, are not only reflective of the theoretical contentions above, but also deeply intertwined with broader geopolitical objectives vis-à-vis the West. The next section focuses on these underlying geopolitical motivations for Russia’s engagement with Egypt.

Russia’s Rationale for A Mediterranean Naval Base

Russia’s efforts to influence Egypt through multiple means of national power arise from Moscow’s desire for a more secure base on the Mediterranean Sea, crowding NATO’s Southern Flank. Such a strategically located base would give Russia the operational capability to conduct gray zone operations in the Mediterranean Sea, collect intelligence on NATO and other countries in the area, serve as a logistical hub for Russia’s operations in Africa, and project power into the MENA region. There is a historical precedent for Russia’s desire. During the Cold War, the USSR had an extensive network of naval bases in the Middle East for fuel storage, maintenance, repair, and power projection into the Mediterranean Sea.⁴⁵ This included Egyptian bases in Alexandria, Mersa Matruh, Port Said, and As-Sallum (1967–1972), Tartous in Syria (1971–present), Aden and Socotran (1968–1990) in Yemen, Berbera in Somalia (1974–1977), Assab and the Dahlak Archipelago in Ethiopia (1978–1991), and Vlore in Albania (1958–1961).⁴⁶ The largest of these facilities were in Egypt. Although Russia lacks the financial and material resources to maintain a broad network of naval bases (as the Soviet Union once did), it still aims to mirror the USSR’s former use of the Mediterranean Fleet in pressuring NATO’s Southern Flank and other adversaries.⁴⁷ The Mediterranean Fleet is a tool for “deterrent signaling, intelligence gathering, interventions in smaller-scale conflicts and posturing in support of Russia’s allies.”⁴⁸

Russia also needs a military base to maintain and sustain its Mediterranean Fleet, as Turkey has denied Russia access to its Black Sea bases.⁴⁹ Istanbul, exerting control over the Bosphorus in accordance with the Montreux Convention, blocks larger Russian

surface vessels from crossing the strait. This limits both Russia's ability to engage in power projection in the Mediterranean as well as service its existing fleets. Expanded naval basing facilities are critical to enable the refueling and servicing needed for the Mediterranean Fleet to complete larger and longer missions. Beyond that, military bases are necessarily also a tool of power projection. A base in Egypt would allow Russia to maintain its presence in the region, now that its traditional ally Syria is no longer a 'safe harbor' for Russia. Egypt is also a more immediate staging ground for Russian operations in Northern and Central Africa, a region where Russian paramilitary forces have been increasingly active and influential.

Russian military operations in Africa, organized through its paramilitary Africa Corps, require logistical support only a base can provide. The Africa Corps are currently deployed in Libya, Niger, Mali, Burkina Faso, Equatorial Guinea, and the Central African Republic.⁵⁰ Without access to a secure base in the region, Russia will face challenges in resupplying its operations in Africa.⁵¹ A naval base on the Mediterranean Sea, specifically in Egypt, would allow Russia not only to provide the Africa Corps with steady and secure supplies while serving as a logistics hub, but also most likely to expand operations in Africa and the Middle East.⁵²

While Russia does possess a naval base in Syria's port city of Tartous, the fall of the Assad regime has left the base's status in an increasingly precarious position. It is reported by the *BBC* and Ukrainian military intelligence that Russia's lease for the naval base has been canceled by the new Syrian government.⁵³ Ukrainian military intelligence has observed Russia moving its military personnel and equipment to Libyan bases at Al-Khadim and Al-Jufra, where it

maintains a presence supporting Khalifa Haftar, who is the leader of the Tobruk-based government in Libya.⁵⁴ While Russia is moving its personnel and equipment to Libya, Tobruk has limited repair facilities, no dry docks, and limited opportunities for expansion.⁵⁵ The political situation in Libya is also tenuous at best. While the Tobruk government also controls the city of Benghazi with a port more favorable to Russia, the decimation left by the Libyan Civil War has rendered its infrastructure unusable. Russia's other option would be the Port of Sudan, however, its negotiations there have failed.⁵⁶ Egypt is Russia's best opportunity to establish stable basing at NATO's Southern Flank. This need explains Russia's efforts to increase influence in Egypt through arms deals, FDI, and the El Dabaa nuclear power plant. With the right leverage gained, Russia can pursue a military base in Egypt.

Vying for Influence: Arms Exports to Egypt

After the 2013 military coup in Egypt that removed the democratically elected government, the United States froze arms deliveries and foreign military financing. The United States withheld deliveries of Abrams tanks, F-16 aircraft, Apache helicopters, and Harpoon missiles from Egypt pending "credible progress toward an inclusive, democratically elected civilian government through free and fair elections."⁵⁷ Russia quickly stepped in and filled the gaps the United States left.⁵⁸ The coup did not impact Russian-Egyptian relations as Russia prioritized building a strategic partnership rather than aligning ideologically with Egypt. Russian arms sales during this period grew because they did not attach any conditions to deals, unlike the United States.

Between 2009 and 2018, Russia and France emerged as the largest arms suppliers to Egypt, accounting for 31% and 28% of Egypt's imports of major weapons, respectively. Between 2014 and 2015, Egypt signed multiple contracts to acquire Antey-2500 SAMS—an export version of S-300 SAM systems—an estimated 50 MiG-29M/M2 combat aircraft and 46 Ka-52 attack helicopters.⁵⁹ Russian arms exports significantly rose during this period, and with that, its bilateral relationship with Egypt improved. Russia chipped away at Western influence by increasing its arms exports and being Egypt's preferred supplier.

In 2018, Egypt ordered 24 Sukhoi Su-35 fighters from Russia; however, Egypt canceled the order after the United States threatened to impose sanctions under the Countering America's Adversaries Through Sanctions Act (CAATSA).⁶⁰ Since the failed Russian aircraft deal in 2018, Egypt has refrained from buying arms and major weapons systems from Russia due to U.S. pressure. In 2017, Russia and Egypt signed a preliminary agreement to allow Russian military aircraft to use Egypt's airspace and bases, which was a major victory for Russia's ability to conduct air operations.⁶¹ While there has been no reporting on whether this deal was finalized, there are some indications that both countries came to an agreement. From February–March 2023, Egypt ignored official U.S. requests that Egypt close its airspace to Russian military flights.⁶² Egypt's refusal to close airspace to Russian military flights demonstrates the strength of Russian influence, and that Russo-Egyptian relations are enduring enough for Egypt to refuse an important ally like the United States. Russian flights over Egypt's airspace allow Russia to put pressure on NATO's Southern Flank by raising NATO forces to a state of heightened readiness and forcing NATO to divert scarce assets such as airborne radar surveillance

craft (AWACS) to monitor Russian activity as their military aircraft cross the Mediterranean.

Additional U.S. pressure and threats to sanction Egypt for engaging in arms transfers with Russia were apparent in February 2023, when the *Washington Post* revealed a scheme in which President El-Sisi was to provide Russia with up to 40,000 122mm Sakr-45 rockets.⁶³ These rockets could have been employed by Russian multiple-launch rocket systems during the invasion of Ukraine.⁶⁴ While this arms transfer never came to fruition, Russia consistently sought to leverage its relationship with Egypt to achieve policy objectives and extract concessions. Russia used arms deals at the beginning of its strategic partnership with Egypt to establish a base layer of trust and cooperation, before starting larger projects such as the El Dabaa nuclear power plant to chip away at Western influence. Arms deals between Egypt and Russia peaked in 2014 and subsequently tapered off due to U.S. influence. While Egypt remained the third largest arms importer from Russia in 2019–2023, it received 54% fewer arms compared to the five years before that.⁶⁵ Furthermore, Egypt has not imported Russian arms since 2021 due to the impact of sanctions and fear of damaging its relationship with the United States.⁶⁶ While arms exports have declined, Egypt still holds significant Russian equipment requiring servicing and parts from Russia. This, combined with other non-military avenues of influence, still gives Russia the capacity to assert its influence and drive Western countries out of Egypt.

Foreign Direct Investment and Exports

Moscow leverages Egypt's dependence on Russian wheat exports and strategically uses growing FDI investments to shift Egypt's alignment from the West, positioning itself as

Egypt's preferred partner. Russia's strategy builds on the longstanding Soviet-era strategic partnership with Egypt that featured significant FDI investments, with projects such as the Aswan Dam and Hellwan Steel Mill being the hallmarks of the partnership.⁶⁷

The contemporary Russian-Egyptian strategic partnership echoes this deep bilateral trade and investment connection. The trade relationship between the two countries was very uneven in 2022, with Russia exporting \$2.9 billion to Egypt, primarily wheat, semi-finished iron, and wood.⁶⁸ Meanwhile, Egypt exported a mere \$545 million to Russia, mainly agricultural products such as citrus, tropical fruits, and potatoes.⁶⁹ As the world's largest wheat importer, Egypt's dependence on Russian wheat gives Russia enormous leverage.⁷⁰ Russia has the power to influence wheat prices and use its market power for economic and political gains. In 2022, Egypt imported \$1.67 billion of wheat from Russia, with Russia supplying 57% of Egypt's total wheat imports.⁷¹ A weak Ruble has made Russian wheat exports more competitive globally, allowing Russia to capture a wide share of the Egyptian wheat market. Due to the scale of Egypt's Russian grain imports, Putin and El-Sisi agreed to build a grain terminal on the Black Sea in 2023.⁷² However, as of 2024, the terminal is yet to be built.⁷³

In addition to controlling a wide share of Egypt's food supply, Russia has invested heavily in Egypt's energy infrastructure and industrial development. Russian FDI inflows between 2021 and 2022 were a mere \$34 million but increased steadily between 2022 and 2023 to \$122.6 million.⁷⁴ Furthermore, Russia signed a 50-year agreement with Egypt in 2018 to build a Russian industrial zone east of Port Said in the new Suez Canal Economic Zone, laying the groundwork for its future industrial development. This FDI effort aimed to attract up to \$7 billion in

investments and allow Russian products to be sold to Egyptian and African markets, creating new opportunities for Russia to gain economic influence in Egypt and the entire continent.⁷⁵

Russia's large share of the Egyptian wheat market and significant FDIs have allowed it to gain considerable influence in Egypt. Russia's control of a large part of Egypt's wheat supply grants it leverage over Egypt's food security, which is a major problem for social stability in the country. Russia's targeted investments in Egypt's energy sector will gradually make Egypt dependent on Russian energy, a relationship which will be examined in more detail in the next section. However, Russia's invasion of Ukraine has caused it to focus its investments and government expenditure on the war. In addition, the West has heavily sanctioned the Russian economy to punish Russia for its Ukrainian invasion. While Russia will continue to export its agricultural products at optimal prices, its efforts to provide FDI to Egypt will be contingent on whether it can front this capital during a wartime economy that is under pressure from Western sanctions.

Nuclear Energy Exports and the El Dabaa Nuclear Power Plant

Russia is constructing and financing the El Dabaa nuclear power in Egypt. This powerplant is likely to significantly augment Russia's influence in Egypt. The nuclear path dependency it creates could be the key factor tipping the scales in Russia's favor, enabling it to negotiate access to Egyptian military bases. The "international bribery" theory explains that providing economic or military aid creates effective allies.⁷⁶ Stephen Walt posits that effective allies are created "either by demonstrating one's own favorable intentions, by evoking a sense of gratitude, or

because the recipient will become dependent on the donor.”⁷⁷ Russia exemplifies this theory, especially the dependency. It aims to make Egypt depend on it for nuclear energy by maintaining the El Dabaa nuclear power plant, disposing of its nuclear waste, and financing it through loans. By advancing the El Dabaa project, Russia seeks to establish a strategic foothold in MENA and position itself as a viable alternative to Western partners for nuclear cooperation.

The initiation of the final phase of the El Dabaa nuclear power plant underscores the deepening of Russia’s strategic partnership with Egypt while also meeting Egypt’s 2030 vision of creating sustainable economic development through nuclear energy.⁷⁸ In late January 2024, President Vladimir Putin inaugurated the fourth and final nuclear reactor via video link.⁷⁹ The nuclear facility at El Dabaa is expected to expand Egypt’s power generation capacity, create several thousand jobs, and solidify Moscow’s diplomatic and economic ties with Egypt—a critical element of Russia’s foreign policy in MENA.⁸⁰

The El Dabaa nuclear power plant will strengthen the strategic partnership between Egypt and Russia and pave the way for deeper cooperation. The nuclear power plant is designed to operate with “a 120-megawatt capacity for each of its four reactors.”⁸¹ It is projected to cost approximately \$28.75 billion, with Russia financing 85% of the total cost and Egypt covering the remainder through a 22-year loan with an annual interest rate of 3%.⁸² The El Dabaa nuclear power plant will provide more than 10% of total electricity production in Egypt, supply over 20 million people with power, and have the capacity to desalinate water off Egypt’s coast.⁸³ The desalinated water will have a dual purpose of providing water supplies for the four reactors and desalinating 100,000 cubic meters a day if Egypt chooses to

expand this capability.⁸⁴ Alexey Likhachev, director-general of Rosatom (Russia’s state nuclear energy company), called this project “a significant event in the history of nuclear energy in Egypt and Russian-Egyptian relations.”⁸⁵

The El Dabaa plant’s potential to provide more than 10% of total electricity output and desalinate water would help Egypt’s developing economy, which is in dire need of energy and water supplies. Egypt is facing an energy and water crisis as the effects of climate change and demographic change exacerbate its situation.⁸⁶ Egypt has been experiencing widespread power outages due to insufficient energy production.⁸⁷ In 2023–2024, the country implemented daily power cuts lasting up to two hours to manage the deficit.⁸⁸ Egypt is also approaching “absolute water scarcity,” defined as less than 500 cubic meters of water per person yearly.⁸⁹ Current estimates place Egypt’s water resources at 560 m3 per person annually.⁹⁰ The El Dabaa nuclear power plant allows Russia to leverage Egypt’s energy and water needs. It constitutes the largest cooperative endeavor between Russia and Egypt since the construction of the Aswan Dam. The El Dabaa plant will cement the strategic partnership between Egypt and Russia and achieve Russia’s aim of increasing its influence in MENA.

Rosatom’s construction of the El Dabaa nuclear power plant takes advantage of Egypt’s dire financial situation by fronting most of the project’s cost to create economic leverage for Moscow over Egypt through debt. Egypt’s financial situation is challenging as its tourism sector, which accounts for 24% of its GDP, is under strain because of the Gaza-Israel war.⁹¹ Egypt’s high inflation, compounded by rising wheat prices due to Russia’s war in Ukraine and Egypt’s large external debt, has weakened the

Egyptian economy.⁹² In 2023, Egypt imported 70% of its grain from Ukraine and Russia.⁹³ Since Russia invaded Ukraine, the price of grain has significantly increased, which has caused bread prices to increase by 20% in Egypt.⁹⁴

Rosatom offered to finance 85% of the El Dabaa plant's cost (\$25 billion), leaving Egypt to cover the remaining 15% (\$5 billion).⁹⁵ It is unclear how Egypt will be able to pay this large sum as it is among the world's most vulnerable countries for sovereign debt risk and is low on dollar reserves.⁹⁶ Russia recognizes these circumstances and may use them to strengthen its position by leveraging Egypt's energy and financial dependency. Furthermore, each reactor being built at El Dabaa has an operating time of 60 years that can be extended to 80 years.⁹⁷ This creates a long-term path dependency which works in Russia's favor. The contract between Moscow and Cairo also states that Russia can choose the currency in which Egypt must pay off its loans, allowing Russia to generate foreign currency. Through the El Dabaa nuclear power plant project, Russia gains three key advantages: economic leverage via Egypt's debt, a long-term energy partnership lasting at least half a decade, and a new source of much-needed foreign currency. Egypt will rely on Russia for a significant portion of its power generation for more than half a decade, therefore locking in their strategic partnership for the long term.

Another way the Egyptian nuclear deal allows Russia to gain significant influence in Egypt is the build-own-operate (BOO) model that was negotiated in the contract. The BOO model enables Russia to finance almost all the nuclear power plant's construction costs, to be reimbursed through electricity profits when the plant is operational.⁹⁸ Egypt agreed to this type of BOO model because it

struggled to attract other investments from Western firms due to insufficient financial security and uncertain market viability.⁹⁹ Rosatom will remain in control of the El Dabaa nuclear power plant when it is operational. This deal implies how Russia can use El Dabaa to exert leverage over Egypt, impose demands, and extract concessions from it, including ultimately military access to Egypt's ports or airfields.

Finally, the El Dabaa deal also states that Rosatom will provide nuclear fuel for the reactors throughout its functional timeframe.¹⁰⁰ Because Egypt has opted for an open fuel cycle, the El Dabaa plant will store the radioactive waste on-site until Rosatom returns the spent nuclear fuel to Russia.¹⁰¹ Russia will likely reprocess the waste into nuclear fuel, creating an efficient cycle. This contract stipulation, known as "take-back," is part of the BOO model.¹⁰² The "take-back" stipulation will cause Egypt to remain dependent on Russia for nuclear fuel and will allow Russia to force Egypt to pay its debt by withholding fuel. Russia has previously employed this tactic with Iran's Bushehr nuclear power plant.¹⁰³

Russia's development and financing of the Dabaa nuclear power plant seeks to capitalize on Egypt's precarious financial situation while bolstering Russian influence. Given Egypt's current economic challenges and uncertain prospects, Moscow aims to leverage these conditions to impose its terms on Egypt. Russia might demand access to Egyptian air bases or re-open Soviet naval bases to which it previously had access. Completing the nuclear power plant is expected to strengthen bilateral relations between Cairo and Moscow by enhancing Egypt's power supply and creating significant employment opportunities, which will positively impact Egypt's economy. By controlling a critical infrastructure asset that

necessitates ongoing Russian involvement for maintenance and nuclear waste management, Russia can use this dependency as a strategic bargaining tool to further extend its influence in Egypt.

Conclusion

Russia and Egypt share a long and complicated history in which their relations have ebbed and flowed. Their relations were characterized as an apprehensive alliance under Nasser, collapsed under Sadat, and finally reignited into a strategic partnership under Putin. Russia's nuclear energy relationship with Egypt is part of a broader regional ambition in the Eastern Mediterranean and Middle East to drive out Western influence and establish a Russian presence. This multifaceted presence includes military, political, economic, and energy partnerships. Putin has sought to employ the Soviet strategy of making Egypt a foundation of its foreign policy in the MENA region to increase Russia's influence so that it can put pressure on NATO's Southern Flank. Russia watchers should be looking for Moscow to leverage its strategic partnership with Egypt through arms sales, foreign direct investments, exports of agricultural products, and using the El Dabaa nuclear power plant arrangements to drive out Western influence and promote multipolarity. The United States, allied policymakers, and lawmakers should monitor Putin's potential interest in the former Soviet naval bases at Alexandria, Mersa Matruh, Port Said, and As-Sallum as sites for establishing Russian bases of operation against NATO's Southern Flank in the Mediterranean Sea.

Several facets of the Egyptian-Russian strategic partnership warrant further investigation. As this situation unfolds, further research should be conducted on any

changes or milestones of the El Dabaa nuclear power plant deal and how those shape Russia's influence over Egypt's energy needs. Russia is financially limited in the support it can offer Egypt compared to the United States. However, the El Dabaa nuclear power plant agreement is in an advanced stage, with the project set to have its first unit operational by 2026.¹⁰⁴ There is no turning back from this deal—Egypt and Russia will be energy partners for the long term. Furthermore, Russian exports of agricultural products prolong Egypt's dependence on Russia, making Russia a serious competitor in Egypt and the Eastern Mediterranean. Further analysis is needed to examine how the United States and allied partners can remain competitive against Russian agricultural exports in the Middle East. Another promising area of research could explore how the United States can continue strengthening its bilateral relationship with Egypt. This could include initiatives such as the September 2024 U.S.-Egypt Strategic Dialogue, cultural exchanges, scholarships and fellowships, and collaborative efforts to address significant challenges like the Israeli-Palestinian conflict and the Sudanese Civil War.¹⁰⁵ A detailed analysis is needed on the potential effects of U.S.-backed public-private partnerships with the private sector to modernize the Suez Canal Zone and align with Egypt's Vision 2030. A further examination of potential U.S. energy investments—a critical need for the Egyptians—should also be considered.

Further research is needed into Egypt's restrictive political climate in which civil liberties, freedom of the press, and freedom of assembly are severely restricted, and its connection to Russia's approach to bilateral cooperation and deals. Future research should examine whether the lack of democratic conditions in bilateral agreements provides substantive benefits to authoritarian

regimes. Lastly, a review of whether conditional aid or freezing aid can impact bilateral relationships should be conducted. The United States previously froze aid during the Biden administration over human rights concerns.¹⁰⁶ It is worth investigating whether the freezing of aid affected the U.S.'s relationship with Egypt. Russia's strategic partnership with Egypt is multi-faceted and carefully calculated with the specific intention of putting strain on NATO's Southern Flank. As detailed in this piece, U.S. policymakers should seriously consider the risks of Russia's influence in Egypt, as Russia shows no signs of stopping its strategic endeavor.

About the Author: *Sebastian Bienkowski is a second-year graduate student at Georgetown University's Walsh School of Foreign Service, pursuing a Master of Arts in Security Studies with a concentration in Military Operations. He is also pursuing a Certificate in Eurasian, Russian, and Eastern European Studies. He holds a Bachelor of Arts in International Affairs from James Madison University. Currently, he works as a research associate for Dexis Consulting Group. Previously, he interned at the Department of State in the Bureau for European and Eurasian Affairs, working on Ukraine security assistance.*

-
- ¹ Jeremy M. Sharp, "Egypt: Background and U.S. Relations," *Congressional Research Service*, published September 12, 2024, <https://crsreports.congress.gov/product/details?prodcode=RL33003>.
- ² "Camp David Accords," *Encyclopaedia Britannica*, published October 3, 2024, <https://www.britannica.com/event/Camp-David-Accords>.
- ³ Simon Lewis, "US Grants Egypt \$1.3 Billion in Military Aid, Overriding Rights Conditions," *Reuters*, published September 11, 2024, <https://www.reuters.com/world/biden-administration-grants-egypt-13-billion-military-aid-despite-rights-2024-09-11/>; "The U.S.-Egypt Relationship," U.S. *Department of State*, published January 28, 2023, <https://2021-2025.state.gov/u-s-relations-with-egypt/>; Jeremy M Sharp, "Egypt: Background and U.S. Relations," *Congressional Research Service*, published September 12, 2024, <https://crsreports.congress.gov/product/details?prodcode=RL33003>.
- ⁴ Taylor Luck, "War in Libya? Why Two US Allies Are on a Collision Course," *The Christian Science Monitor*, published July 11, 2020, <https://www.csmonitor.com/World/Middle-East/2020/0710/War-in-Libya-Why-two-US-allies-are-on-a-collision-course>; Ambassador Hesham Youssef, "Six Dilemmas Facing Egypt," *United States Institute of Peace*, published January 18, 2024, <https://www.usip.org/publications/2024/01/six-dilemmas-facing-egypt>.
- ⁵ Alexandre Mansourov, "Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership," *SEST 6728: Russian Strategy in the Middle East*, Georgetown University, Washington, D.C., U.S., published May 30, 2024.
- ⁶ Alexandre Mansourov, "Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership."
- ⁷ Alexandre Mansourov, "Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership."
- ⁸ "Egypt–Russia Relations Go Way Back," *Anadolu Agency*, published August 27, 2015, <https://www.aa.com.tr/en/politics/egypt-russia-relations-go-way-back/6133#>.
- ⁹ Giant Rami, "British Concoction or Bilateral Decision? Revisiting the Genesis of Soviet-Egyptian Diplomatic Relations," *International Journal of Middle East Studies* 31, no. 1 (1999): 39–60, <https://doi.org/10.1017/S002074380005296X>.
- ¹⁰ Laurent Rucker, "Moscow's Surprise: The Soviet-Israeli Alliance of 1947-1949," *Wilson Center*, published July 7, 2011, <https://www.wilsoncenter.org/publication/moscows-surprise-the-soviet-israeli-alliance-1947-1949>.
- ¹¹ Alexandre Mansourov, "Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership."
- ¹² Robert Conquest and Richard E. Pipes, "Soviet Union," *Encyclopaedia Britannica*, published February 26, 2025, <https://www.britannica.com/place/Soviet-Union>.
- ¹³ Alexandre Mansourov, "Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership."
- ¹⁴ "Facts and Soviet Economic Aid to Egypt § (1999)," *Central Intelligence Agency Archive*, approved for public release 1999, https://www.cia.gov/readingroom/docs/DOC_0000484000.pdf.
- ¹⁵ "Facts and Soviet Economic Aid to Egypt," *Central Intelligence Agency Archive*
- ¹⁶ Alexandre Mansourov, "Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership."
- ¹⁷ Alexandre Mansourov, "Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership."
- ¹⁸ Amr Hamzawy and Rain Ji, "Soviet and Russian Policies toward Egypt: Two Snapshots," *Carnegie Endowment for International Peace*, published September 26, 2024, <https://carnegieendowment.org/research/2024/09/egypt-russia-great-power?lang=en¢er=russia-eurasia>.
- ¹⁹ Federica Saini Fasanotti, "What Does Russia Want in the Mediterranean?," *GIS Reports*, published July 25, 2024, <https://www.gisreportsonline.com/r/russia-mediterranean/>.
- ²⁰ Ali E. Hillal Dessouki, "Shifting Tides: Egypt's Unexpected Path after the 1973 War," *The Cairo Review of Global Affairs* 48 (Fall 2023), <https://www.thecaireview.com/essays/shifting-tides-egypts-unexpected-path-after-the-1973-war/>.
- ²¹ Ali E. Hillal Dessouki, "Shifting Tides: Egypt's Unexpected Path after the 1973 War."
- ²² Ali E. Hillal Dessouki, "Shifting Tides: Egypt's Unexpected Path after the 1973 War."
- ²³ "The Soviet Military Presence in Egypt," *Central Intelligence Agency Archive*, initially published February 1975, <https://www.cia.gov/readingroom/docs/CIA-RDP86T00608R000600170001-8.pdf>.

-
- ²⁴ “The Soviet Military Presence in Egypt.” *Central Intelligence Agency Archive*.
- ²⁵ “Moscow’s Realignment with Cairo: A Look at Gorbachev’s New Political Thinking,” *National Security Agency*, published December 1, 2011, https://www.nsa.gov/portals/75/documents/news-features/declassified-documents/cryptologic-quarterly/Moscows_Realignment_with_Cairo.pdf.
- ²⁶ Khalil Al-Anani, “Growing Relations between Egypt and Russia: Strategic Alliance or Marriage of Convenience?,” *Arab Center Washington DC*, published September 27, 2021, <https://arabcenterdc.org/resource/growing-relations-between-egypt-and-russia-strategic-alliance-or-marriage-of-convenience/>.
- ²⁷ Charles W. Dunne, “Egypt’s Role in Arab Politics: Punching below Its Weight,” *Arab Center Washington DC*, published October 4, 2021, <https://arabcenterdc.org/resource/egypts-role-in-arab-politics-punching-below-its-weight/>.
- ²⁸ “Russia - Overview,” *International Energy Agency*, accessed last February 15, 2025, [https://www.iea.org/countries/russia](https://www.iea.org/countries/russia;); “European Arms Imports Nearly Double, US and French Exports Rise, and Russian Exports Fall Sharply,” *Stockholm International Peace Research Institute*, published March 11, 2024, <https://www.sipri.org/media/press-release/2024/european-arms-imports-nearly-double-us-and-french-exports-rise-and-russian-exports-fall-sharply>.
- ²⁹ Robert O. Keohane and Joseph S. Nye, *Power and Interdependence*, 4th ed. (Longman: 2012).
- ³⁰ Robert O. Keohane and Joseph S. Nye, *Power and Interdependence*.
- ³¹ Robert O. Keohane and Joseph S. Nye, *Power and Interdependence*.
- ³² Robert O. Keohane and Joseph S. Nye, *Power and Interdependence*.
- ³³ Brenda Shaffer, “Russia,” in *Energy Politics*, (University of Pennsylvania Press: 2009): 114–27, <http://www.jstor.org/stable/j.ctt3fhf4v.10>.
- ³⁴ Brenda Shaffer, “Russia.”
- ³⁵ Andreas Goldthau, “Energy Diplomacy in Trade and Investment of Oil and Gas,” in *Global Energy Governance: The New Rules of the Game*, eds. Andreas Goldthau and Jan Martin Witte (Brookings Institution Press: 2010): 25–48, <http://www.jstor.org/stable/10.7864/j.ctt6wpgm3.5>.
- ³⁶ Andreas Goldthau, “Energy Diplomacy in Trade and Investment of Oil and Gas.”
- ³⁷ Keren Yarhi-Milo, Alexander Lanoszka, and Zack Cooper, “To Arm or to Ally? The Patron’s Dilemma and the Strategic Logic of Arms Transfers and Alliances,” *International Security* 41, no. 2 (October 2016): 90–139, https://doi.org/10.1162/isec_a_00250.
- ³⁸ Keren Yarhi-Milo, Alexander Lanoszka, and Zack Cooper, “To Arm or to Ally?”
- ³⁹ Keren Yarhi-Milo, Alexander Lanoszka, and Zack Cooper, “To Arm or to Ally?”
- ⁴⁰ Roger F. Pajak, “The Effectiveness of Soviet Arms Aid: Diplomacy in the Third World,” *DTIC*, published June 20, 1980, <https://apps.dtic.mil/sti/tr/pdf/ADA089125.pdf>.
- ⁴¹ Roger F. Pajak, “The Effectiveness of Soviet Arms Aid.”
- ⁴² Roger F. Pajak, “The Effectiveness of Soviet Arms Aid.”
- ⁴³ Brandon J. Kinne, “Agreeing to Arm: Bilateral Weapons Agreements and the Global Arms Trade,” *Journal of Peace Research* 53, no. 3 (2016): 359–77, <http://www.jstor.org/stable/43920595>.
- ⁴⁴ Brandon J. Kinne, “Agreeing to Arm.”
- ⁴⁵ Alexandre Mansourov, “Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership.”
- ⁴⁶ Alexandre Mansourov, “Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership.”
- ⁴⁷ Dr. Sidharth Kaushal and Cmd. Edward Black, “Russia’s Options for Naval Basing in the Mediterranean after Syria’s Tartus,” *Royal United Services Institute*, published January 14, 2025, <https://rusi.org/explore-our-research/publications/commentary/russias-options-naval-basing-mediterranean-after-syrias-tartus>.
- ⁴⁸ Dr. Sidharth Kaushal and Cmd. Edward Black, “Russia’s Options for Naval Basing in the Mediterranean after Syria’s Tartus.”
- ⁴⁹ Dr. Sidharth Kaushal and Cmd. Edward Black, “Russia’s Options for Naval Basing in the Mediterranean after Syria’s Tartus.”

⁵⁰ Liam Karr, “Africa File Special Edition: Syria’s Potential Impact on Russia’s Africa and Mediterranean Ambitions,” *Institute for the Study of War*, published December 4, 2024, <https://www.understandingwar.org/backgrounder/africa-file-special-edition-syria%E2%80%99s-potential-impact-russia%E2%80%99s-africa-and-mediterranean>.

⁵¹ Liam Karr, “Africa File Special Edition.”

⁵² Liam Karr, “Africa File Special Edition.”

⁵³ Nick Eardley and Matt Murphy, “Russian Ships Return to Syrian Tartous Base Ahead of Expected Withdrawal,” *BBC News*, published January 23, 2025, <https://www.bbc.com/news/articles/c14nk475nd5o>.

⁵⁴ Nick Eardley and Matt Murphy, “Russian Ships Return to Syrian Tartous Base Ahead of Expected Withdrawal.”

⁵⁵ Dr. Sidharth Kaushal and Cmd. Edward Black, “Russia’s Options for Naval Basing in the Mediterranean after Syria’s Tartus.”

⁵⁶ Dr. Sidharth Kaushal and Cmd. Edward Black, “Russia’s Options for Naval Basing in the Mediterranean after Syria’s Tartus.”

⁵⁷ Scott Neuman, “U.S. Suspending Millions in Military Aid to Egypt,” *NPR*, published October 9, 2013, <https://www.npr.org/sections/thetwo-way/2013/10/09/230676846/u-s-to-slash-military-aid-to-egypt>.

⁵⁸ Alexandra Kuimova, “Russia’s Arms Exports to the MENA Region: Trends and Drivers,” *EuroMeSCo*, published April 1, 2019, <https://www.euromesco.net/publication/russias-arms-exports-to-the-mena-region-trends-and-drivers/>.

⁵⁹ Jack Ulses and Natalia Bugayova, “The Kremlin’s Campaign In Egypt,” *The Institute for the Study of War*, published June 2018, <https://www.understandingwar.org/sites/default/files/ISW%20-%20Russia%20Egypt%20Campaign%20-%20June%202018.pdf>.

⁶⁰ Jon Lake, “Egypt Goes Shopping for Pick and Mix...,” *Times Aerospace*, published May 17, 2024, <https://www.timesaerospace.aero/features/defence/egypt-goes-shopping-for-pick-and-mix>.

⁶¹ David D. Kirkpatrick, “In Snub to U.S., Russia and Egypt Move toward Deal on Air Bases,” *The New York Times*, published November 30, 2017, <https://www.nytimes.com/2017/11/30/world/middleeast/russia-egypt-air-bases.html>.

⁶² Jared Malsin and Summer Said, “U.S. Ally Rebuffs Requests to Block Russian Military Flights,” *The Wall Street Journal*, published May 12, 2023, <https://www.wsj.com/articles/u-s-ally-rebuffs-requests-to-block-russian-military-flights-8539390f>.

⁶³ Siobhan O’Grady, Evan Hill, and Missy Ryan, “Egypt Shelved Plan to Arm Russia, Agreed to Arm Ukraine, Leak Shows,” *The Washington Post*, published April 17, 2023, <https://www.washingtonpost.com/national-security/2023/04/17/russia-ukraine-egypt-weapons-leaked-documents/>.

⁶⁴ Siobhan O’Grady, Evan Hill, and Missy Ryan, “Egypt Shelved Plan to Arm Russia, Agreed to Arm Ukraine, Leak Shows.”

⁶⁵ Zain Hussain, “Russian Arms Exports to the Middle East and North Africa,” *Manara Magazine*, July 19, 2024, https://manaramagazine.org/2024/07/russian-arms-exports-to-the-middle-east-and-north-africa/?elementor-preview=12547&ver=1721213736#_edn13.

⁶⁶ Zain Hussain, “Russian Arms Exports to the Middle East and North Africa.”

⁶⁷ “Facts and Soviet Economic Aid to Egypt.” *Central Intelligence Agency Archive*

⁶⁸ “Russia (RUS) and Egypt (EGY) Trade,” *The Observatory of Economic Complexity*, accessed October 9, 2024, <https://oec.world/en/profile/bilateral-country/rus/partner/egy>.

⁶⁹ “Russia (RUS) and Egypt (EGY) Trade.” *The Observatory of Economic Complexity*.

⁷⁰ “Wheat in Egypt,” *The Observatory of Economic Complexity*, accessed October 9, 2024, <https://oec.world/en/profile/bilateral-product/wheat/reporter/egy>.

⁷¹ Sarah El Safty, “Egypt Relied on Competitive Russian Wheat as Imports Dipped in 2022-Data,” *Reuters*, published January 12, 2023, <https://www.reuters.com/article/markets/currencies/egypt-relied-on-competitive-russian-wheat-as-imports-dipped-in-2022-data-idUSKBN2TR0ZL>; “Russia (RUS) and Egypt (EGY) Trade.”

⁷² Alexandre Mansourov, “Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership.”

⁷³ Alexandre Mansourov, “Russia-Egypt Relations: From Alliance to Enmity to Strategic Partnership.”

⁷⁴ “Net Foreign Direct Investment,” *Central Bank of Egypt*, published July 22, 2024, <https://www.cbe.org.eg/en/economic-research/time-series/downloadlist?category=623F34508AE148C1969795A8F78FDA49>.

⁷⁵ Nadine Awadallah, Ali Abdelaty, and Ehab Farouk, “Egypt and Russia Sign 50-Year Industrial Zone Agreement,” *Reuters*, published May 23, 2018, <https://www.reuters.com/article/egypt-russia-industry-idUSL5N1SU5SI/>.

⁷⁶ Matthew Fiorelli, “Arms, Ideology, and Alignment: Analyzing U.S.-Soviet Realignment During the Ogaden War,” *Georgetown Security Studies Review* 11, no. 2 (February 1, 2024), <https://repository.digital.georgetown.edu/handle/10822/1087166>.

⁷⁷ Matthew Fiorelli, “Arms, Ideology, and Alignment.”

⁷⁸ “Egypt Vision 2030 Launch,” *Ministry of Planning, Economic Development & International Cooperation of the Republic of Egypt*, accessed January 25, 2025, <https://mped.gov.eg/Highlights?id=1&lang=en&Egypt-Vision-2030-Launch>.

⁷⁹ Sarah el-Safty, “Putin, Sisi Mark New Phase of Egypt’s Russian-Built Nuclear Plant,” ed. Aidan Lewis and Angus MacSwan, *Reuters*, published January 23, 2024, <https://www.reuters.com/business/energy/putin-sisi-mark-new-phase-egypts-russian-built-nuclear-plant-2024-01-23/>.

⁸⁰ “Construction Begins on Egypt’s First Nuclear Power Plant, While Sizewell C Gets Green Light in UK,” *Energy Institute*, published July 27, 2022, <https://knowledge.energyinst.org/new-energy-world/article?id=127163>.

⁸¹ Thaer Mansour, “Russia’s Putin to Visit Egypt for El-Dabaa Nuclear Plant,” *The New Arab*, published January 22, 2024, <https://www.newarab.com/news/russias-putin-visit-egypt-el-dabaa-nuclear-plant>.

⁸² Thaer Mansour, “Russia’s Putin to Visit Egypt for El-Dabaa Nuclear Plant.”

⁸³ Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia,” *Fletcher Russia and Eurasia Program*, published December 28, 2023, <https://sites.tufts.edu/flecherrussia/why-egypts-new-nuclear-plant-is-a-long-term-win-for-russia/>

⁸⁴ Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia.”

⁸⁵ David Dalton, “Egypt / Russia Announces Official Start of Construction at El Dabaa-4 Nuclear Plant,” *NucNet*, published January 23, 2024, <https://www.nucnet.org/news/russia-announces-official-start-of-construction-at-el-dabaa-4-nuclear-plant-1-2-2024>.

⁸⁶ Joy Arkeh, Mohammad Al-Mailam, and Amr Hamzawy, “Climate Change in Egypt: Opportunities and Obstacles,” *Carnegie Endowment for International Peace*, published October 26, 2023, <https://carnegieendowment.org/2023/10/26/climate-change-in-egypt-opportunities-and-obstacles-pub-90854>.

⁸⁷ Marc Ayoub, “Egypt’s Energy Blackouts: A Growing Crisis Amid War,” *The Tahrir Institute for Middle East Policy*, published February 12, 2024, <https://timep.org/2024/02/12/egypts-energy-blackouts-a-growing-crisis-amid-war/>.

⁸⁸ Marc Ayoub, “Egypt’s Energy Blackouts.”

⁸⁹ Eliora Goodman, “Dual Threats: Water Scarcity and Rising Sea Levels in Egypt,” *The Tahrir Institute for Middle East Policy*, published August 20, 2021, <https://timep.org/2021/08/20/dual-threats-water-scarcity-and-rising-sea-levels-in-egypt/>.

⁹⁰ Eliora Goodman, “Dual Threats: Water Scarcity and Rising Sea Levels in Egypt.”

⁹¹ Sahar Albazar, “Egypt’s Economy amidst Regional Conflicts,” *The Washington Institute*, published October 29, 2024, <https://www.washingtoninstitute.org/policy-analysis/egypts-economy-amidst-regional-conflicts>.

⁹² Sahar Albazar, “Egypt’s Economy amidst Regional Conflicts.”

⁹³ Sahar Albazar, “Egypt’s Economy amidst Regional Conflicts.”

⁹⁴ Sahar Albazar, “Egypt’s Economy amidst Regional Conflicts.”

⁹⁵ Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia.”

⁹⁶ Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia.”

⁹⁷ Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia.”

⁹⁸ Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia.”

⁹⁹ Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia.”

¹⁰⁰ Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia.”

¹⁰¹ Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia.”

¹⁰² Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia.”

¹⁰³ Maria Lorenzini, “Why Egypt’s New Nuclear Plant Is a Long-Term Win for Russia.”

¹⁰⁴ “El Dabaa Nuclear Power Plant,” *Power Technology*, published July 14, 2023, <https://www.power-technology.com/projects/el-dabaa-nuclear-power-plant/>.

¹⁰⁵ Anna Connolly, “US-Egypt Relations Strengthen during Uncertain Times,” *IR Insider*, published September 23, 2024, <https://www.irinsider.org/home/3xnp2gpxqex6m8x412ufl3b7shpz63-2f29s-6bpp4-4gj88-x3x2m-rtj9w-r3xt9-drt7n-88xcc>.

¹⁰⁶ “US Cancels \$130M Military Aid for Egypt over Rights Concerns,” *Al Jazeera*, published January 29, 2022, <https://www.aljazeera.com/news/2022/1/29/us-halts-egypt-military-aid-over-rights-after-huge-arms-sale>.

Missing the Soviet Union's Nuclear Test "First Lightning": A Case Study of U.S. Intelligence Failure and Lessons Learned

Mariam Halstian

On August 29, 1949, the Soviet Union successfully tested its first atomic bomb. While the United States was aware of the Soviet atomic project and consistently collected information on its progress, the test, known as "First Lightning," caught U.S. intelligence agencies and policymakers by surprise. This study reconstructs the U.S. intelligence assessment to answer the question: what informed the false temporal forecast of the Soviet Union's acquisition of the atomic bomb? This paper argues that organizational challenges within the post-war U.S. intelligence apparatus, limited collection capabilities, and false assumptions underlying the assessment explain the U.S. intelligence failure. The paper concludes with lessons learned for fostering interagency coordination, enhancing collection capabilities, and overcoming cognitive biases in analysis to improve strategic warning.

Introduction

After the United States conducted the first nuclear test in 1945, it became evident that the atomic bomb was not merely a fantasy but a capability that countries with sufficient expertise and resources could achieve. With the onset of the Cold War, the Soviet Union became the primary concern and main target for U.S. nuclear intelligence.

This paper analyzes U.S. nuclear intelligence on the development of a Soviet atomic bomb. It defines intelligence success as providing a timely warning that helps decisionmakers effectively deal with substantive uncertainty and develop contingency plans.¹ Hence, intelligence failure is the inability to provide timely warning. Drawing on this definition, this paper argues that the U.S. intelligence estimate of the development of a Soviet atomic bomb constituted an intelligence failure because it did not provide a timely warning of the first Soviet nuclear test in August 1949, known as "First Lightning." Consequently, U.S. policymakers did not factor in the accurate timeline of the Soviet nuclear project in their contingency planning. This misevaluation, coupled with the unexpectedly rapid loss of a nuclear

monopoly, affected U.S. foreign policy and defined the Cold War dynamics in the decades to come.

The reasons for the intelligence failure include organizational challenges, limited collection capabilities, and false assumptions underlying the assessment. First, the post-war decentralization of U.S. nuclear intelligence and the subsequent organizational turmoil complicated the interagency exchange of information and impeded the most accurate intelligence projections. Second, the lack of reliable human intelligence sources in the Soviet Union and limited technical collection capabilities resulted in consistent failures to obtain an accurate picture of Soviet atomic development. Finally, U.S. intelligence agencies misjudged the USSR's industrial capabilities, availability of the fissile material necessary for producing a bomb, and scientific potential under communism. These misevaluations reflected cognitive biases underlying key assumptions, such as confirmation, mirror imaging, and anchoring bias.

This study reconstructs the U.S. intelligence assessment to answer the question: what informed the false forecast of the Soviet

Union's acquisition of the atomic bomb? First, it analyzes the dynamics within the U.S. intelligence community that contributed to an inaccurate assessment. Second, it explores the U.S. collection capabilities that influenced the assessment. Third, it examines the assessment's key premises, assumptions, and gaps. The paper concludes with lessons learned to aid in fostering interagency coordination, enhancing collection capabilities, and overcoming cognitive biases in analysis to improve strategic warning.

Theories of Intelligence Failures

The existing literature analyzing intelligence failures suggests that breakdowns happen at the organizational level, are often the result of deficient patterns of thinking, and are influenced by preexisting ideas. In his article "Why Intelligence Failures Are Inevitable," Richard Betts asserts that "crucial mistakes have seldom been made by collectors of raw information, occasionally by professionals who produced finished analyses, but most often by the decision makers who consume the product of intelligence services."² Betts argues that intelligence systems are vulnerable to cognitive biases, organizational inefficiencies, and adversarial efforts to deceive and mislead.³ Besides flaws in intelligence processes, a disconnect between the receipt of intelligence and the decision to act upon it often explains failures.⁴ Betts argues that such a gap between the warning and response may arise from disbelief, overconfidence, or competing policy priorities among decisionmakers.

In his analysis of the attack on Pearl Harbor, The Tet Offensive, the Yom Kippur War, and 9/11, Richard Posner summarizes common features of surprise attacks, many of which relate to intelligence failures.⁵ First, Posner argues that victims often failed to anticipate the attack in part because they

underestimated their enemy.⁶ Second, Posner posits that the victim lacked a deep understanding of the attacker's intentions and capabilities. Victims often assume the attacker's intentions based on what the victim would have done in the attacker's place.⁷ Third, Posner states that the victim reasonably thought the principal danger lay elsewhere in the future.⁸

Robert Jervis' book *Why Intelligence Fails: Lessons from the Iranian Revolution and the Iraq War* provides additional theoretical grounding for analyzing the U.S. intelligence failure to provide strategic warning ahead of the Soviet nuclear test. Jervis focuses on cognitive and political factors that explain intelligence failures. He suggests that people's expectations and needs influence how they interpret the evidence.⁹ Jervis further argues that general beliefs and theories inevitably influence intelligence and policymaking: "People's beliefs are determined more by their general worldviews, predispositions, and ideologies than they are by the sort of specific evidence that can be pieced together by intelligence."¹⁰ Therefore, it is no surprise that policymakers can be skeptical of the analysis produced by those who see the world differently.¹¹ Finally, Jervis discusses the challenges between policymakers and intelligence officials, explaining how different needs and perspectives of each guarantee conflict between "what intelligence at its best can produce and what decision makers seek and need."¹² He notes how political pressures and the demand for confirmation of pre-existing strategies can distort intelligence assessments.

Background: Chronology of U.S. Intelligence Estimates

On August 29, 1949, the Soviet Union successfully tested its first atomic bomb.¹³

While the United States was aware of the Soviet atomic project and collected information on its progress, the test caught U.S. intelligence agencies and policymakers by surprise. Except for U.S. Air Force estimates, U.S. intelligence organizations predicted the USSR would likely acquire a bomb between 1950 and 1953.

Most of the early intelligence estimates did not expect a Soviet atomic test during the 1940s. U.S. intelligence offered its first estimate of the Soviet atomic capability in 1946. The Central Intelligence Group, the CIA's institutional predecessor, recognized the scarcity of data on the Soviet atomic project, stating that "real information relating to this subject is meager."¹⁴ It further stated that the Soviet Union was capable of developing an atomic bomb "at some time between 1950 and 1953."¹⁵ In 1946, the air intelligence element of the Air Staff assessed that the Soviets might detonate a bomb toward the end of 1949.¹⁶ In 1947, the three service intelligence organizations attempted to assess the timeline of Soviet nuclear bomb development. While the Army and Navy intelligence chiefs believed the Soviet Union could have a bomb in 1950 and would "most probably" have it by 1952, Air Force intelligence concluded that the USSR would most probably acquire a bomb between 1949 and 1952.¹⁷ However, the Air Force revised its estimate in early 1949, also concluding that the USSR could not acquire a bomb before 1950.¹⁸ A further interdepartmental intelligence study in 1947 echoed those prevailing assessments. It estimated that it was doubtful the Soviet Union could produce a bomb before 1953 and was almost certain it could not produce one before 1951.¹⁹

In 1948, the CIA's "Estimate of the Status of the Russian Atomic Energy Project" echoed previous forecasts. It assessed that the earliest date by which it was "remotely possible" that

the USSR could have completed its first atomic bomb was mid-1950, but the most probable date was mid-1953.²⁰ The same estimate appeared in a report on August 24, 1949, five days before the Soviet Union tested its first atomic bomb.²¹

Organization: Structural Turmoil and Decentralization of Scientific Intelligence

During World War II, the United States developed an effective intelligence apparatus to assess the German nuclear project and safeguard information concerning U.S. bomb development. In 1942, the United States established the Manhattan Engineer District (MED), led by Brigadier General Leslie Groves.²² The MED centralized U.S. efforts in nuclear research and development and consolidated all nuclear intelligence activities, including foreign espionage, analysis, and counterintelligence.²³ As a result of these efforts, the United States not only developed the first nuclear bomb in 1945 but also pioneered a new field of intelligence—nuclear intelligence—as part of scientific intelligence.²⁴

The clear mandate and centralized structure of U.S. nuclear intelligence in the war period explains its success. First, the MED merged science and intelligence expertise into a unified scientific intelligence organization under its full command.²⁵ Second, the MED successfully exchanged information with other intelligence organizations, including Army Intelligence, Naval Intelligence, and the Office of Special Operations.²⁶ Wartime mobilization of efforts and the unwavering support of U.S. political and military leadership for the MED's exclusive control over scientific intelligence best explain such successful cooperation within the intelligence community. Finally, the MED's Alsos Mission, a scientific intelligence initiative tasked with assessing Germany's

progress in nuclear research and development, established a vast network of intelligence operatives in Europe.²⁷ The integration of scientific and intelligence expertise, effective coordination within the intelligence community, and robust collection capabilities resulted in an accurate assessment that Germany's nuclear project remained in the early stages of development and posed no immediate threat.²⁸

After World War II, the United States dissolved the centralized nuclear intelligence apparatus, and scientific intelligence became an afterthought by the late 1940s.²⁹ In 1947, the National Intelligence Authority (NIA) Directive No.7 assigned responsibility to different agencies for different fields of intelligence collection. However, scientific intelligence was assigned to "each agency in accordance with respective needs," and the directive did not define a lead agency.³⁰

Post-war organizational changes within the intelligence community did not address the lack of a clear mandate for scientific intelligence. In 1946, the Truman administration established the Central Intelligence Group (CIG) to coordinate intelligence reports and estimates from civilian and military intelligence units.³¹ However, the CIG was not included in the NIA Directive No.7 because it was not designed as an intelligence collection organization.³² Within less than six months, the CIG was restructured into the Central Intelligence Agency (CIA). To address the ambiguity of scientific intelligence within the broader intelligence community, the U.S. government established the Office of Scientific Intelligence (OSI) under the CIA at the end of 1948. The OSI was designated as a primary intelligence evaluation, analysis, and production component under the CIA with exclusive responsibility for producing national scientific intelligence.³³

Additionally, the OSI was responsible for guiding collection efforts and assisting in interagency coordination.³⁴

Despite institutional reorganization, the newly created CIA and OSI were not successful in facilitating cooperation between intelligence agencies in the late 1940s. During the first years after its establishment, the CIA maintained a tense relationship with the rest of the intelligence community over its role in nuclear intelligence. The OSI's sole responsibility for scientific intelligence lacked recognition from other intelligence agencies, which hampered information sharing within the intelligence community. For instance, the Atomic Energy Commission (an agency that took over MED's control over the peacetime development of atomic science and technology in 1947) formed its own intelligence division which was not forwarding information to the CIA even when the agency requested information.³⁵ Similarly, the State Department did not forward needed information to the CIA.³⁶ Besides the lack of mandate recognition, the government and defense establishments reportedly questioned the CIA's competence. According to intelligence officer Stephen Penrose, neither the Department of State, Army, or Navy saw value in the CIA's nuclear intelligence assessments and dismissed its reports.³⁷ Finally, the CIA's nuclear intelligence mandate lacked high-level political support. The CIA's Director, Roscoe Hillenkoetter, did not prioritize nuclear intelligence and did not press the Army, Navy, Atomic Energy Commission, or State Department to share information with the CIA.³⁸ John Ohly, Special Assistant to the Secretary of Defense, summarized the post-war interagency dynamic as a "conflict between CIA and the other intelligence agencies which is the product of organizational and personal jealousies, lack

of mutual confidence, and [...] a variety of other factors.”³⁹

Recognizing the ambiguity under the NIA Directive No. 7, the U.S. government implemented new regulations to clarify the role of scientific intelligence. Following the establishment of the OSI, the National Security Council (NSC) released Directive No. 10, “Collection of Foreign Scientific and Technical Data,” in early 1949. The new Directive assigned specific fields within scientific intelligence to specific agencies.⁴⁰ This directive clarified responsibilities over the collection of different fields of scientific intelligence and authorized the CIA to determine which countries to target for collection. Despite these efforts to streamline organization, intelligence units continued to struggle with coordination, and the CIA lacked real authority.⁴¹ In 1949, the United States’ scientific intelligence capabilities remained underdeveloped compared to the war period.

Besides interagency tensions, the post-war years marked an increasing gap between the scientific and intelligence communities, leading to the lack of science-intelligence synergy that proved vital during the war. After the war, many leading scientists returned to their academic posts or pursued opportunities in the private sector, which led to a shortage of qualified scientists in government service.⁴² Further, anti-communist and anti-intellectualist sentiments in public discourse, such as McCarthyism, marked an increasingly hostile relationship between U.S. scientists and the government.⁴³ Finally, the absence of a coherent nuclear policy in the early years of the Cold War hindered nuclear intelligence organization.⁴⁴ Many prominent scientists in the U.S. believed that avoiding a nuclear arms race was imperative.⁴⁵ As a result, those scientists who warned the government

against underestimating the Soviet atomic project alienated themselves from those in power by advocating for the internationalization of atomic energy.⁴⁶ Consequently, their perspectives were silenced by those who shared a prevailing low opinion of Soviet science and who promoted the maintenance of the U.S. atomic monopoly.⁴⁷

The United States’ intelligence transition from war to peacetime resulted in the lack of unified command over scientific intelligence, interagency tensions within the intelligence community, and the lack of synergy between scientific knowledge and intelligence expertise. Although the United States would later strengthen its scientific intelligence organization, it was too late.

Estimating the Soviet Industrial Capabilities

Collection

The data on the Soviet industrial complex reflected common knowledge of existing Soviet scientific and industrial capabilities, a record of its past activities, and the United States’ own experience. Due to the wartime focus on Germany and Japan, U.S. intelligence agencies had not established effective information gathering within the USSR.⁴⁸ Therefore, the data for initial studies of Soviet atomic capability was largely collected from open sources.⁴⁹ For instance, the 1946 CIG report recognized the scarcity of data and mentioned that an estimate of Soviet capabilities could be based “only on a projection from known facts in the light of past experience and reasonable conjecture.”⁵⁰ One such source, American industrialists, informed U.S. intelligence agencies that the Soviet Union did not have the available infrastructure to provide for such a large-scale project or enough men to build or run

an effective uranium separation facility.⁵¹ Their conclusion was based on their past observations from work in the USSR (e.g. the DuPont Company built an ammonia plant in Moscow) and industrial experience in the United States.⁵² The United States also lacked complete information on the Soviet project size, the location of nuclear facilities, and the number of people involved. The 1947 interdepartmental intelligence study referred to reports, which were “often conflicting and vague,” indicating the location of the Soviet atomic development centers, including chemistry, metal refining and research, isotope separation, engineering development, and mining.⁵³ The CIA’s report on the Soviet nuclear project was only released in 1950 and estimated that between 330,000 and 460,000 people were employed on it.⁵⁴

Analysis

Given the scarcity of data, the premise of the USSR’s industrial weakness was based on three assumptions. First, the United States assumed that the Soviet atomic project would require similar infrastructure to the Manhattan Project to develop the bomb.⁵⁵ Second, the U.S. knew that German industry, commonly recognized as one of the strongest in the world before World War II, could not provide the capacity needed for its atomic project.⁵⁶ Third, it relied on “common knowledge” about the low productivity of the Soviet industrial base and the lack of qualified workers required for a project of such scale and sophistication.⁵⁷

Contrary to these assumptions, the Soviet Union managed to build an atomic industry in an economy devastated by the war. Several factors explain this unprecedented speed of industrial scale-up. First, Joseph Stalin was determined to obtain the bomb as quickly as possible and personally gave the highest priority to the project, running it with a

“Russian scope.”⁵⁸ Second, the Soviet command economy was well-equipped to enforce leadership’s priorities and mobilize all needed resources. Coercion and massive use of prisoners who worked as miners and construction workers offset the industrial inferiority of the Soviet Union.⁵⁹

The erroneous judgment regarding the Soviet industrial capacity reflected mirror imaging and the overreliance on the habit of thought, authority, and reasoning. Assessment of the Soviet industry through the lens of U.S. and German experiences in the atomic project development reflected mirror imaging—a cognitive bias that occurs when analysts “project their own mindset onto others or assume that adversaries will act in the same manner as the United States.”⁶⁰ Handicapped by a false analogy, the U.S. intelligence assessment lacked a deeper understanding of the USSR’s intentions and the role of Stalin’s determination to produce a bomb as quickly as possible. U.S. assumptions of Soviet productivity and industrial capacity did not factor in the full potential of the Soviet economy, the priorities of the USSR’s leadership, and what it deemed as acceptable uses of power to achieve these results. The misunderstanding of the full potential of the command economy became part of conventional wisdom, which assumed Soviet industrial weakness. Given the lack of evidence and raw data that could have contradicted this view, this habit of thought gave even greater credence to the authority of the U.S. industrial community. The failure to fully understand the adversary’s perspective led to what Martin Petersen described as the difference between strategic understanding and tactical command of an issue.⁶¹

Estimating the Availability of Uranium and Its Role in the Soviet Nuclear Project

Collection

High-grade uranium ore was one of the key resources required to produce the nuclear bomb. Therefore, initial U.S. collection efforts aimed to understand the global distribution of this material. During World War II, the United States prioritized establishing control of this material not only to ensure an adequate supply to meet U.S. needs but also to hamper the atomic programs of other nations.⁶² By 1945, the mines producing the highest quality uranium ore—those in the Belgian Congo and Canada—were controlled by the United States. Deposits of lower-grade ore, which could be mined relatively quickly, were under U.S. allies' control.⁶³ In addition to the acquisition efforts, the MED contracted with Union Carbide and Chemical to conduct a bibliographic search of 67,000 publications on the global distribution of uranium and thorium.⁶⁴ Researchers also covertly conducted geological fieldwork in 37 countries.⁶⁵ As a result, researchers produced 56 geological reports covering more than 50 countries.⁶⁶

In the post-war years, the United States continued gathering intelligence on the status of Soviet mining activities. This intelligence included information about the USSR's interest in uranium mines in Czechoslovakia and Manchuria, as well as a report by intelligence analyst Henry S. Lowenhaupt, who wrote about nine Soviet mining operations in the German-Czech border. Lowenhaupt acknowledged the weakness of this intelligence, claiming that "not one single absolutely reliable informant had submitted a report on any area mentioned."⁶⁷ Consequently, the data collected between 1945 and 1949 did not prompt any significant revisions to the core assumptions regarding the Soviet possession of low-quality uranium.

Analysis

Informed by data on high-grade uranium deposits, U.S. intelligence analysts assumed that the Soviet Union was unlikely to break the U.S. monopoly of high-grade ore by discovering such deposits in areas under its control.⁶⁸ The United States further judged that low-quality uranium, which the USSR possessed, would not allow for fast nuclear development unless the Soviets achieved a "revolution in extraction techniques."⁶⁹ Furthermore, U.S. intelligence based its projections on the assumption that the USSR would proceed using the low-grade uranium available and that the USSR's methods of processing low-grade ore would not be faster than those known to the United States.⁷⁰

Intelligence assessment had underestimated the degree to which the Soviets compensated for the poor quality of their ore by expanding the scale of their exploitation efforts. The CIA's 1950 report indicated Soviet methods were unexpectedly successful in exploiting their low-grade ores.⁷¹ In addition, Russian scientists and historians later alleged that the Soviet Union acquired 45 tons of uranium suitable for reactor use from East Germany.⁷² This uranium was reportedly seized and transferred to the Soviet Laboratory No. 2 in Moscow.⁷³ If true, the delivery of German uranium to Laboratory No.2 could have allowed scientists to start work on the F-1 nuclear reactor at once.⁷⁴ While German uranium could initially save time, sustaining the program demanded vast resources. The USSR conducted a geological survey with over 250 teams, which uncovered 50 deposits with 84,000 tons of reserves.⁷⁵ Intensive ore processing increased uranium stockpiles from five tons in 1945 to 6,800 tons by 1955.⁷⁶

Similar to the assumption of weak Soviet industrial capabilities, the premise of the

unavailability of uranium exemplified mirror imaging and a lack of data that could have changed the estimate. By mirroring its own experience of using high-quality uranium to produce the bomb, U.S. intelligence misjudged the time required to process low-grade uranium under the Soviet command economy and underestimated the significant resources invested in the atomic project. The failure to obtain data on the Soviets' acquisition of German uranium further strengthened the core assumption of the U.S. monopoly over high-quality uranium.

Estimating Soviet Scientific Potential

Collection

The data collected on Soviet science helped to understand overarching developments in the Soviet nuclear project but brought little strategic value. This information did not offer insights that would help understand the priorities, plans, and policies within the Soviet nuclear project and anticipate the upcoming nuclear test. Although the United States was aware of the scientific team working on the Soviet nuclear project, it lacked information about the project's management because it did not have a high-level intelligence operative in the Kremlin or the scientific institutions involved in the project. Specifically, the United States lacked an operative within the USSR similar to Moe Berg, a U.S. spy who provided information on Germany's nuclear project, or Klaus Fuchs, a Soviet spy who was embedded within the U.S. scientific team working on the bomb. In gathering intelligence on the Soviet scientific team in 1946, U.S. human sources accurately reported the participation of German scientists who the Soviet Union persuaded or coerced to move to the USSR and tasked to work for its uranium enrichment research centers known as Institut A and Institut G.⁷⁷ In 1946, another piece of

U.S. intelligence of "doubtful authenticity" suggested that Peter Kapitza, a Soviet physicist, was the head of the newly created atomic bomb research committee.⁷⁸ While this report correctly identified the establishment of such a committee in 1945, it misidentified Kapitza as its head. The actual chief of the committee was Lavrentiy Beria, the Deputy Prime Minister.⁷⁹ Intelligence also revealed that the director of the Austrian Radium Institute was providing instruction in nuclear physics to the Soviets in Vienna.⁸⁰

Analysis

The premise about the incompatibility of Soviet communism with advanced scientific discovery reflected reasoning in the following scheme:

- I. *Communism limits individual rights and freedoms.*
- II. *Human creativity is possible only when people enjoy individual rights and freedoms; therefore, human creativity is incompatible with communism.*
- III. *Advanced scientific discovery needs human creativity.*
- IV. *A nuclear bomb is an advanced scientific discovery; therefore, it needs human creativity.*
- V. ***The USSR is a communist country, so it has limited creativity. Therefore, it is incompatible with advanced scientific discovery and cannot develop a nuclear bomb.***

The conventional wisdom about the Soviet communist regime said that the ideology was omnipresent in all spheres of life. It held that the Soviet Union demanded universal acceptance of Marxist-Leninist ideology from its scientists, who had to accept this to avoid forced labor camps or death. The result was a system in which politics and science

were inseparable.⁸¹ Consequently, ideology-driven and quasi-scientific works such as “Marxism and Surgery,” “The Dialectics of Graded Steel,” and “The Dialectics of the Internal Combustion Engine” appeared in the Soviet scientific discourse.⁸² Soviet science, as opposed to Western science, culminated in Lysenkoism—the subservience of science to social and political philosophy.⁸³ After World War II, U.S. scientific journals and mainstream periodicals published dozens of articles about the subordination of science to ideology in the Soviet Union.⁸⁴

Following this trend, the U.S. physics community assumed that Lysenkoism would hamstring atomic development, influencing the U.S. intelligence assessment.⁸⁵ The U.S. scientific community knew that Lysenkoism shunned the use of probability and statistical methods, which would denigrate the Soviet progress in the quantum physics required for the development of an atomic bomb.⁸⁶ This assumption helped explain why the Soviet Union was behind the United States in atomic development: “Perhaps the failure of Soviet physics to achieve the Western successes in atomic theory and invention is partially due to the wasteful influence of the philosophy of [Marxism].”⁸⁷ The U.S. intelligence establishment’s view of the Soviet Union further anchored the scientific community’s assessment of the role of state ideology in scientific progress. Leslie Groves, the leader of the U.S. atomic bomb effort, held strong anti-communist sentiment, and he believed that the Soviet Union would never get “men with courage enough to go in and make the mistakes that are necessary to produce such a thing as this.”⁸⁸ U.S. officials supported this assumption, drawing parallels between Germany and the Soviet Union. For instance, the scientific chief of the U.S. Alsos Mission attributed Germany’s failure to develop atomic weapons to the inability of science to function in a totalitarian system.⁸⁹ Contrary

to Germany, this view followed, Americans’ advantage lay in the “free interchange of information by which [the United States] had won out and would continue to win out in any competitive scientific and technological race.”⁹⁰

While U.S. scientific and intelligence communities consistently criticized Soviet ideology’s role in scientific progress, the USSR capitalized on the mobilization and coercion of prominent scientists who were intellectually capable of developing a bomb. The USSR had a long tradition of supporting world-class scientists, and the nuclear project, which involved prominent figures such as Igor Kurchatov and Peter Kapitza, was no exception. Klaus Fuchs, a Soviet operative embedded within the U.S. nuclear project at the MED, later confessed he did not pass much information on the design and operation of the plutonium production pile and was surprised by how “very few questions were put to him on this subject” and by the specificity of questions the Soviets asked him.⁹¹ Indeed, Soviet physicists such as Yulii Khariton, Yakov Zeldovich, and Kirill Shchelkin worked on the physics of detonation and explosion before World War II, suggesting that Soviet scientists were adept at developing solutions independently.⁹² Despite its inefficiencies, the Soviet system effectively capitalized on the expertise of its scientists and coercion to produce the needed result. Arguably, the prospect of being sent to a Gulag in case of failure could have been a stronger motivator and enabler than the freedom to make mistakes and exchange information.

The role of espionage in expediting the Soviet acquisition of an atomic bomb remains a speculative issue. The alleged time the Soviet spies working at the MED could have helped save varies from several months to a decade.⁹³ Yet regardless of how much

time the Soviet Union saved through espionage, both U.S. assumptions about Soviet scientific potential were false. If we presume that Soviet spies expedited the acquisition of a Soviet nuclear bomb, then U.S. intelligence's premise about the importance of trial and error as part of scientific advancement was misapplied, because the USSR gleaned the solutions discovered by U.S. and U.K. scientists. Klaus Fuchs provided a detailed description of the design of the nuclear weapon and confessed he was spying for the USSR only in 1950.⁹⁴ Therefore, this false assumption primarily reflected the failure of U.S. counterintelligence. Alternatively, if one presumes that Soviet espionage did not significantly influence the timeline of the nuclear project, it suggests a failure on the part of the U.S. intelligence community to grasp the potential achievements of highly qualified nuclear physicists who have ample resources.

The most accurate projections of the Air Force intelligence unit illustrate the role of these assumptions on overall estimates. Contrary to the rest of the intelligence and policy communities, the Air Force did not share the prevailing anti-communist bias. Instead, it drew certain "lessons from history," pointing out the mistake that Americans had made in the 1930s in dismissing the Japanese for their race, stature, and potential.⁹⁵ In the postwar period, the Air Force interpreted the peculiarities of the communist regime not as a weakness, but as an enabler for the USSR to produce a bomb under a strict timeline. Apart from Air Force intelligence, some U.S. atomic scientists warned the government and the U.S. public against complacency. For example, an article in the *Bulletin of the Atomic Scientists* in February 1946 described the "high level of research in nuclear physics in Russia," further arguing that the Soviet

Union had enough highly qualified scientists to produce an atomic bomb quickly.⁹⁶

Lessons Learned

The case of the U.S. intelligence assessment of the advent of a Soviet nuclear bomb exemplifies consistent failures both in intelligence and policymaking. These failures span intelligence collection, analysis, and perceptions within the U.S. government and intelligence apparatus that affected the accuracy of their assessments and willingness to factor in alternative opinions. Although the Soviet nuclear test cannot be defined as a surprise attack in conventional terms, the U.S. intelligence failure to provide a strategic warning of the Soviet atomic project shares several of the features that Richard Posner argues make up the "anatomy of successful surprise attacks."⁹⁷ First, the United States' perception of the USSR's industrial and scientific weakness contributed to the failure to anticipate an earlier nuclear test. Second, the United States lacked a deep understanding of the USSR's intentions and capabilities and based its expectations on its own experience in developing a nuclear bomb. Third, the United States was aware of the presence of an upcoming "threat" of the Soviet bomb but had reasons to think the principal danger of the loss of nuclear monopoly lay later in the future. The United States found itself in a vicious cycle.⁹⁸ The perception of the Soviet Union's inferiority led to a mistaken belief in the United States' long-term nuclear monopoly. Consequently, this influenced the cost-benefit considerations of investing more resources in bolstering collection capabilities. It also diminished the sense of urgency regarding organizational changes and the central role of scientific intelligence within the intelligence community. As a result, a lack of actionable intelligence from the Soviet Union and a weakened nuclear intelligence apparatus

continued to reinforce prevailing assumptions until the moment the Soviet nuclear test disproved them.

This case offers several lessons to improve intelligence organization, collection, and analysis. While the recommendations discussed here pertain to the U.S. intelligence community, with its unique culture and structure, the general utility of the lessons learned from this intelligence failure extends to other intelligence agencies as well.

While institutional changes often reflect evolving challenges and policy priorities, the U.S. government should first evaluate the capabilities of existing agencies and institutions before creating new units and/or reorganizing old structures. This case study shows that the decentralization of U.S. nuclear intelligence after World War II led to diminishing returns and ineffectiveness in the first years of the structural changes. To become an actor with strong capabilities, any organization needs time, institutional memory, and established connections across the government. The little time the United States had before the Soviet Union broke its nuclear monopoly was spent on restructuring the intelligence community, identifying roles and responsibilities, and arguing over the mandate and subordination. The centralized war-time nuclear intelligence could have been better equipped to provide more accurate estimates of the Soviet nuclear project.

In efforts to improve interagency coordination, the U.S. government should ensure that the outlier's opinion is considered at the interagency level. It is unclear why the only dissenting analysis by Air Force intelligence was never seriously considered. As an outlier, it could have drawn the attention of the rest of the intelligence community and policymakers. Possible

reasons why the assessment was never factored into the discourse include interservice competition and the predisposition of policymakers towards the more conservative projection that confirmed their established view. Additional review of dissenting opinions from Air Force intelligence, as well as those in the U.S. scientific community, could have helped review and scrutinize prevailing assumptions. This case illustrated that "consensus is valuable ... but widespread agreement and shared assumptions do not mean the agreements and assumptions are correct."⁹⁹

Ensuring the availability of data by enhancing collection capabilities should remain a priority for the U.S. government. This case study shows that the United States should have invested more resources into building its human and technical collection capabilities to generate data-driven hypotheses. The subsequent development of the long-range detection system and the advent of surveillance aircraft such as U-2 or satellites such as Corona acknowledged the need to improve technical collection capabilities. Arguably, intelligence failures today might happen not due to the lack of data but rather due to the inability to discern a real threat from information noise.¹⁰⁰ However, the case of the failure to detect the USSR's possession of East Germany's uranium demonstrates how missing even one piece of information can affect intelligence estimates.

Questioning and revising assumptions should be a standardized practice across intelligence and policy establishments. Identifying core assumptions can help to scrutinize, reassess, and potentially identify gaps in premises. For example, a useful analytic review from this case study would be reassessing the centrality of the "importance of enjoying rights and

freedoms” assumption to the “ability to develop the bomb” conclusion. In cases where intelligence agencies lack data, they should put extra effort into understanding whether various “ways of knowing” indeed produce reliable knowledge. For this, additional scrutiny should be given in evaluating the role of conventional wisdom, authority, and reasoning to avoid the layering effect and anchoring on erroneous judgments.¹⁰¹ In attempts to counter cognitive biases, U.S. intelligence agencies implement techniques such as red teaming, devil’s advocacy, competitive assessments, and engagement with outside substantive experts who test assumptions.¹⁰²

The case of the inaccurate assessment of the Soviet nuclear project shows that these efforts will be helpful only if intelligence analysts and policymakers possess a deep understanding of history and culture. They should also understand how power in a particular country is acquired, the preferred way of exercising power, and the acceptable and unacceptable uses of power.¹⁰³ The U.S. intelligence and government establishments not only mirrored the U.S. experience in nuclear development but also lacked a deeper understanding of Soviet intentions and the country’s strategic culture. The biggest challenge in this endeavor is to overcome mirror-imaging, instead thinking of the histories and culture of the countries the same way the people and leaders of those countries would.

The lessons learned from this case study aim to address the issues that Richard Betts identified as “unresolvable paradoxes and barriers to analytic and decisional accuracy.”¹⁰⁴ The relevance of the challenges outlined in this paper proves his argument. Despite acknowledging this somewhat fatalistic perspective, this paper contends that a streamlined intelligence organization,

advancements in collection capabilities, and refined analysis can yield more accurate intelligence estimates.

Conclusion and Further Research

This case study explains how organizational shortcomings, limited data collection, and false assumptions about the Soviet Union’s industrial capacity, access to fissile material, and scientific potential led U.S. intelligence and policymakers to miscalculate the timing of the Soviet nuclear test.

The findings of this study open several avenues for further research. One avenue includes examining how lessons from this intelligence failure influenced subsequent intelligence practices in the United States, both in the immediate aftermath of the Soviet nuclear test and over the long term. Future research could also explore whether the U.S. intelligence community took specific actions in direct response to this miscalculation or as part of broader shifts in Cold War intelligence practices. Additionally, further inquiry could examine the relationship between the U.S. intelligence community and outlier voices, such as the Air Force and those in the scientific community who challenged the prevailing consensus on Soviet capabilities. Understanding how the U.S. government received, integrated, or dismissed dissenting assessments could provide insights into institutional dynamics and decision-making processes in the early Cold War. Finally, this study suggests that the centralized scientific intelligence structures developed during wartime may have been more effective in anticipating the Soviet nuclear test. However, while centralization can enhance intelligence effectiveness in times of war, it may also introduce risks during peacetime and stifle innovation and alternative perspectives. Future research could investigate whether

decentralized scientific intelligence has, in certain cases, contributed to more accurate strategic warnings or intelligence assessments.

About the Author: *Mariam Halstian is a Master's student in the Security Studies Program at Georgetown University, concentrating in intelligence studies and technology & security. Her research focuses on disinformation and influence operations, technology policy, and Eastern Europe. At Georgetown University, Mariam is a columnist at the Georgetown Security Studies Review and a fellow at the Georgetown AI Association. Mariam was formerly a program officer at IREX's Learn to Discern, a nationwide project on building Ukrainian society's resilience to disinformation. She also worked at the National Democratic Institute and the NATO Representation to Ukraine.*

-
- ¹ “Improving CIA Analytic Performance: Strategic Warning,” *Occasional Papers of The Sherman Kent Center for Intelligence Analysis* 1, no. 1 (September 2002): 2.
- ² Richard K. Betts, “Analysis, War, and Decision: Why Intelligence Failures Are Inevitable,” *World Politics* 31, no. 1 (1978): 61.
- ³ Richard K. Betts, “Analysis, War, and Decision: Why Intelligence Failures Are Inevitable,” *World Politics* 31, no. 1 (1978): 63.
- ⁴ Betts, 63.
- ⁵ Richard A. Posner, *Preventing Surprise Attacks: Intelligence Reform in the Wake of 9/11* (Lanham, MD: Rowman and Littlefield, 2005), 85.
- ⁶ Richard A. Posner, *Preventing Surprise Attacks: Intelligence Reform in the Wake of 9/11* (Lanham, MD: Rowman and Littlefield, 2005), 85.
- ⁷ Posner, 85.
- ⁸ Posner, 85.
- ⁹ Robert Jervis, *Why Intelligence Fails: Lessons from the Iranian Revolution and the Iraq War* (Cornell University Press, 2010), 4, <https://www.jstor.org/stable/10.7591/j.ctt7z6f8>.
- ¹⁰ Jervis, 170.
- ¹¹ Jervis, 170.
- ¹² Jervis, 158.
- ¹³ “Soviet Atomic Program - 1946 - Nuclear Museum,” [https://ahf.Nuclearmuseum.Org/](https://ahf.nuclearmuseum.org/) (blog), <https://ahf.nuclearmuseum.org/ahf/history/soviet-atomic-program-1946/>.
- ¹⁴ “Soviet Capabilities for the Development and Production of Certain Types of Weapons and Equipment” (Central Intelligence Group, 31 October 1946).
- ¹⁵ “Soviet Capabilities for the Development and Production of Certain Types of Weapons and Equipment.”
- ¹⁶ Jeffrey T. Richelson, *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea*, 1st ed. (New York: W.W. Norton & Company, 2006), 76.
- ¹⁷ Richelson, 76.; L. Aronsen, “Seeing Red: U.S. Air Force Assessments of the Soviet Union, 1945-1949,” *Intelligence and National Security* 16, no. 2 (June 2001): 121, <https://doi.org/10.1080/714002887>.
- ¹⁸ Richelson, *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea*, 77.
- ¹⁹ “Memorandum by the Director of Central Intelligence (Hillenkoetter),” Office of the Historian, 15 December 1947, <https://history.state.gov/historicaldocuments/frus1947v01/d450>.
- ²⁰ “Estimate of the Status of the Russian Atomic Energy Project,” Atomic Archive, 25 July 1948, <https://www.atomicarchive.com/resources/documents/hydrogen/soviet-status.html>.
- ²¹ Donald P. Steury, “How the CIA Missed Stalin’s Bomb,” *Studies in Intelligence* 49, no. 1 (2005): 3.
- ²² “A District Name Intended to Hide the Development of the Atomic Bomb,” U.S. Army Corps of Engineers Headquarters, n.d., <https://www.usace.army.mil/About/History/Historical-Vignettes/Military-Construction-Combat/113-Atomic-Bomb.aspx>.
- ²³ Vince Houghton, *The Nuclear Spies: America’s Atomic Intelligence Operation against Hitler and Stalin* (Cornell University Press, 2019), 180, <https://www.jstor.org/stable/10.7591/j.ctv8jnznn>.
- ²⁴ Houghton, 2.
- ²⁵ Houghton, 39.
- ²⁶ Houghton, 39.
- ²⁷ Houghton, 69.
- ²⁸ Houghton, 181.

-
- ²⁹ Houghton, 129.
- ³⁰ Houghton, 130.
- ³¹ Richelson, *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea*, 71.
- ³² Richelson, *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea*, 71.
- ³³ Houghton, *The Nuclear Spies*, 130.
- ³⁴ Houghton, 130.
- ³⁵ Houghton, 145.
- ³⁶ Houghton, 145.
- ³⁷ Houghton, 146.
- ³⁸ Houghton, 146.
- ³⁹ David F. Rudgers, *Creating the Secret State: The Origins of the Central Intelligence Agency, 1943-1947* (Lawrence, Kansas: University Press of Kansas, 2000), 153.
- ⁴⁰ Houghton, 131.
- ⁴¹ Houghton, 131.
- ⁴² Houghton, 126.
- ⁴³ Houghton, 128.
- ⁴⁴ Houghton, 132.
- ⁴⁵ Houghton, 134.
- ⁴⁶ Houghton, 161.
- ⁴⁷ Houghton, 161.
- ⁴⁸ Charles A. Ziegler, "Intelligence Assessments of Soviet Atomic Capability, 1945–1949: Myths, Monopolies and Maskirovka," *Intelligence and National Security* 12, no. 4 (October 1997): 10, <https://doi.org/10.1080/02684529708432446>.
- ⁴⁹ Ziegler, 10.
- ⁵⁰ "Soviet Capabilities for the Development and Production of Certain Types of Weapons and Equipment."
- ⁵¹ Houghton, 162, 163.
- ⁵² Houghton, 163.
- ⁵³ "Memorandum by the Director of Central Intelligence (Hillenkoetter)."
- ⁵⁴ David Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy 1939-1956* (Yale University Press, 1994), 172.
- ⁵⁵ Houghton, *The Nuclear Spies*, 162.
- ⁵⁶ Houghton, 162.
- ⁵⁷ Houghton, 162, 163.
- ⁵⁸ Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy 1939-1956*, 221.
- ⁵⁹ Holloway, 172.
- ⁶⁰ James Kwoun, "Cognitive Biases and the Need for Analytic Tradecraft Standards in Large-Scale Ground Combat Operations," March 2021, 42, https://www.ikn.army.mil/apps/MIPBW/MIPB_Features/Kwoun.pdf.
- ⁶¹ Martin Petersen, "What I Learned in 40 Years of Doing Intelligence Analysis for US Foreign Policymakers," *Studies in Intelligence* 55, no. 1 (n.d.): 18.

-
- ⁶² Ziegler, "Intelligence Assessments of Soviet Atomic Capability, 1945–1949," 8.
- ⁶³ Ziegler, 9.
- ⁶⁴ Ziegler, 8.
- ⁶⁵ Ziegler, 8.
- ⁶⁶ Ziegler, 8.
- ⁶⁷ Richelson, *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea*, 71.
- ⁶⁸ Ziegler, "Intelligence Assessments of Soviet Atomic Capability, 1945–1949," 5.
- ⁶⁹ Charles A. Ziegler, "Intelligence Assessments of Soviet Atomic Capability, 1945–1949: Myths, Monopolies and Maskirovka," *Intelligence and National Security* 12, no. 4 (October 1997): 11, <https://doi.org/10.1080/02684529708432446>.
- ⁷⁰ Ziegler, 12.
- ⁷¹ Ziegler, "Intelligence Assessments of Soviet Atomic Capability, 1945–1949," 17.
- ⁷² Thomas Reed and Arnold Kramish, "Trinity at Dubna," *Physics Today* 49, no. 11 (1 November 1996): 33, <https://doi.org/10.1063/1.881546>.
- ⁷³ Reed and Kramish, 33.
- ⁷⁴ Reed and Kramish, 33.
- ⁷⁵ Ziegler, "Intelligence Assessments of Soviet Atomic Capability, 1945–1949," 17.
- ⁷⁶ Ziegler, 17.
- ⁷⁷ Richelson, 66, 69.
- ⁷⁸ Richelson, 70.
- ⁷⁹ Richelson, 70.
- ⁸⁰ Richelson, 71.
- ⁸¹ Houghton, *The Nuclear Spies*, 169.
- ⁸² Houghton, 169.
- ⁸³ Richelson, *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea*, 170.
- ⁸⁴ Houghton, *The Nuclear Spies*, 170.
- ⁸⁵ Houghton, 170.
- ⁸⁶ Houghton, 172.
- ⁸⁷ Houghton, 172.
- ⁸⁸ Houghton, 173.
- ⁸⁹ Houghton, 175.
- ⁹⁰ Houghton, 175.
- ⁹¹ Holloway, 222.
- ⁹² David Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy 1939-1956* (Yale University Press, 1994), 222.
- ⁹³ David Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy 1939-1956* (Yale University Press, 1994), 222; Soviet Atomic Program - 1946 - Nuclear Museum."
- ⁹⁴ Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy 1939-1956*, 222.
- ⁹⁵ Aronsen, "Seeing Red," 121.

⁹⁶ Houghton, *The Nuclear Spies*, 159.

⁹⁷ Richard A. Posner, *Preventing Surprise Attacks: Intelligence Reform in the Wake of 9/11* (Lanham, MD: Rowman and Littlefield, 2005), 85.

⁹⁸ Houghton, *The Nuclear Spies*, 4.

⁹⁹ Frank Watanabe, "Fifteen Axioms for Intelligence Analysts," *Studies in Intelligence* 40, no. 5 (1997): 46.

¹⁰⁰ "Too Much Information: Ineffective Intelligence Collection," Harvard International Review, August 18, 2019, <https://hir.harvard.edu/too-much-information/>.

¹⁰¹ James Bruce, "Making Analysis More Reliable: Why Epistemology Matters to Intelligence," in *Analyzing Intelligence: Origins, Obstacles and Innovations* (Georgetown University Press, 2008).

¹⁰² "Improving CIA Analytic Performance: Strategic Warning," *Occasional Papers of The Sherman Kent Center for Intelligence Analysis* 1, no. 1 (September 2002): 7.

¹⁰³ Petersen, "What I Learned in 40 Years of Doing Intelligence Analysis for U.S. Foreign Policymakers," 18.

¹⁰⁴ Betts, "Analysis, War, and Decision: Why Intelligence Failures Are Inevitable," 87.

The Global Shift to Tactical Nuclear Weapons: A Threat to Strategic Deterrence

By Tin Pak and Sam Lee

This article argues that the growing integration of tactical nuclear weapons into global military arsenals and strategies significantly increases the risk of conventional conflicts escalating into nuclear war. With heightened tensions and the eruption of major wars across the globe, nations are disregarding the theoretical premise that nuclear weapons should be reserved as a tool of last resort. Instead, they are increasingly considering the use of lower-yield and shorter-range nuclear weapons in regional conflicts to gain a battlefield advantage against a conventionally superior adversary or to break a stalemated conflict. The article analyzes the implications of this shift to tactical nuclear weapons in key hotspots around the world, including Russia-Ukraine, the Korean Peninsula, Israel-Iran, the People's Republic of China-Taiwan, and India-Pakistan. By analyzing these powers' development of tactical nuclear capabilities and military doctrines, the article demonstrates how tactical nuclear weapons are undermining strategic stability, increasing the risk of inadvertent nuclear war.

Introduction

Nuclear weapons have long represented the pinnacle of mass destruction, prompting numerous multinational and bilateral arms control agreements to curb their proliferation and reduce existing stockpiles. Key treaties, such as the Non-Proliferation Treaty, the New START agreement, and the Comprehensive Test Ban Treaty, aim to limit the spread of nuclear capabilities and promote disarmament. However, in recent years, there has been a concerning shift away from these established frameworks. Particularly, major powers are increasingly incorporating tactical nuclear weapons into their military strategies and threatening their use, often overlooking the inherent risk of nuclear escalation. Given this shift, there is a heightened likelihood that a conventional conflict among these powers could inadvertently escalate into a full-scale nuclear war.

Nuclear weapons are often categorized as either 'strategic' or 'tactical.' Establishing a clear definition of strategic and tactical nuclear weapons is extremely difficult, as "there are no finite limits or boundaries

between these levels," according to the Doctrine for the Armed Forces of the United States.¹ For instance, relatively small-scale tactical operations can have an outsized impact in war, such as the destruction of satellites or the elimination of commanding officers. Therefore, attempts to define these two levels of war will always be incomplete. Because of this ambiguity, the debate continues in policy circles on establishing standard criteria for these weapons.

Nonetheless, for the purposes of this article, the authors will abide flexibly by the following definitions. Strategic nuclear weapons are high-yield and long-range weapons used directly against targets critical to the overall war effort of an adversary. Examples of critical targets include military command centers, major airfields, and highly populated urban-industrial areas. Tactical nuclear weapons, in contrast, are lower-yield and shorter-range warheads intended for battlefield use against limited targets with fewer long-term effects on the enemy's warfighting capacity. Examples of limited targets are battalion-sized infantry units, ammunition dumps, and even armored units. Both types of weapons can also be deployed

indirectly for their secondary effects, such as nuclear strikes against uninhabited areas aimed at pressuring an enemy to concede in fear of escalation. As mentioned, weapons designed for strategic or tactical effects can be utilized contrary to those intentions. For instance, a tactical nuclear weapon could be directed at a major command post, such as the Pentagon or the Kremlin. With this consideration, the definition adopted here would strictly abide by the technical and intended design of the weapon when categorizing them. In the case of a tactical nuclear weapon targeting the Pentagon or the Kremlin, the nuclear warhead would still be classified as a tactical weapon since it was originally designed as a lower-yield and shorter-range system despite its employment for strategic effect against a major command center.

Another major caveat concerns the psychological pressure associated with nuclear weapons and the threat of their use. The precedent set by the nuclear bombings of Hiroshima and Nagasaki in World War II has created an almost elemental fear of nuclear weapons. Since the two nuclear detonations, a normative taboo around nuclear weapons has developed.² The use of nuclear weapons is associated with an apocalyptic level of destruction, a depiction reified in popular media. Therefore, in most societies, the public generally assumes that nuclear weapons will not—and should never—be used, even in the direst of circumstances. While it is difficult to assess the exact reaction to a nuclear strike, the psychological impact would be devastating—particularly on a population subjected to even a limited tactical nuclear strike. Because of the disproportionate psychological impact of nuclear weapons, and the fear and panic their use would most likely inspire, an overwhelming strategic response to the use of tactical nuclear weapons is probable, thus

driving escalation in a scenario where a warring party would choose to employ tactical nuclear weapons. Tactical nuclear weapons inherently bear broader strategic and political dimensions—but distinctions in yield, range, and intended target are still important, as dictated by the literature.

Given the limited historical use yet outsized importance of nuclear weapons, multiple theories have emerged to explain how they would impact the trajectory of a major war. The dominant underlying theories within policy-making circles are the Mutually Assured Destruction (MAD) and Nuclear Utilization Target Selection (NUTS) theories. MAD suggests that the destructive potential of nuclear weapons for both the aggressor and defender is so great that no political aim could justify their use in a conflict between two nuclear powers.³ Central to this theory is the notion that even a limited nuclear conflict would rapidly escalate into a full-scale war of nuclear annihilation. Harvey Wheeler succinctly summarizes this scenario, noting, “If either ‘wins,’ it is the end of both.”⁴ Consequently, MAD theorists view nuclear weapons solely as a strategic deterrent, ensuring the very basic survival of a nation, and believe they should not be utilized in conventional conflicts. Based on this assessment, MAD theorists suggest that powers should only maintain a nuclear arsenal of strategic weapons to deter an existential threat. Tactical nuclear weapons have little room in this theoretical framework. Since the end of the Cold War, this has been the declared policy of most nuclear powers, and an initial period of reduced tactical nuclear arsenals suggested that nuclear weapons would primarily serve as strategic deterrents rather than as means of warfighting. However, it must be noted that this generalization overlooks that all powers did not uniformly accept the principles of MAD

throughout the post-Cold War period. Since nuclear weapons policy greatly depends on the relative position in which a nation finds its military capabilities vis-à-vis its adversaries, countries follow nuclear policies that reflect their unique geopolitical positions. In a world of intense competition, there will always be states that view nuclear weapons as an important tool to compensate for their perceived inferiorities. Contrary to that, relatively stronger states will view them as unnecessarily risky to maintain. Following this premise, Kristin Ven Bruusgaard points out that whether a state relies on tactical nuclear weapons is contingent on its conventional capabilities.⁵ If a power feels confident in deterring threats conventionally, it will not think that it is necessary to maintain a strong tactical nuclear arsenal. The inverse is true as well, with states that lack confidence in their relative conventional capabilities relying on increased nuclear brinkmanship. This is why states like Russia placed greater emphasis on their nuclear arsenals post-Cold War, and why the United States drastically reduced its deployed tactical nuclear force. Russia's conventional capabilities were decimated following the fall of the Soviet Union, while the United States' relative conventional power dramatically increased. Russia's Military Doctrine of 2000 reflected its prioritization of tactical nuclear weapons to deter NATO and the United States, which they observed had profoundly more modern conventional capabilities than they did.⁶

In contrast to MAD, NUTS theorists suggest that maintaining nuclear weapons solely as a strategic deterrent for an apocalyptic nuclear war undermines national security.⁷ They argue that by prohibiting flexibility in the deployment of nuclear weapons, MAD does not adequately deter limited regional aggression. In essence, if a state only maintains high-yield, expensive strategic

nuclear weapons, its adversaries can realistically assume that this state would only deploy such weapons if its very survival was threatened. Hence, there is a broad range of aggression below this threshold that would only merit a conventional response by a strategically armed nuclear power. This is a weakness that adversaries—particularly those armed with their own tactical nuclear arsenal—can exploit. If an adversary used a tactical nuclear weapon on the battlefield, a strategically-armed state would be trapped by the horns of a dilemma—should it: 1) submit to the adversary to avoid further escalation; 2) carry on via conventional means and risk subsequent tactical nuclear strikes by the adversary; or 3) massively escalate the conflict by using a strategic nuclear weapon with severe repercussions, potentially prompting a nuclear war? Thus, NUTS theorists advocate for states to develop tactical nuclear arsenals so they have the flexibility necessary to respond (or threaten to respond) to adversary tactical nuclear arsenals. Proponents of NUTS argue that such hardening would prevent the adversary from achieving escalation dominance and exploiting weaknesses in a state's posture. Accordingly, tactical nuclear weapons can serve as an effective signaling and foreign policy tool to prevent exploitation and demand political concessions—and on the battlefield, they would allow a more flexible and proportionate response to certain types of adversary aggression.

In accordance with NUTS theory, in its invasion of Ukraine, Russia maintains a diverse spectrum of nuclear capabilities in both scale and range. President Vladimir Putin has expressed his reliance on nuclear coercion through the threat of using tactical nuclear weapons on Ukraine to dissuade further NATO assistance to the Ukrainian government.⁸ Russia's saber-rattling is evident in the over 200 instances of Russian

official statements referencing the possible use of nuclear weapons in the context of the war in Ukraine. The risk of nuclear escalation presents an existential threat to NATO allies, preempting any strong moves toward direct intervention on the alliance's part.⁹

In policymaking, NUTS theorists often clash with those in favor of MAD. Debates on the use of nuclear weapons by the United States during the Korean War represented the institutional clash between these two schools of thought. General Douglas MacArthur sought to deploy tactical nuclear weapons against targets in the northern provinces of the People's Republic of China (PRC) to cripple the advance of the People's Liberation Army on the Korean peninsula. This request was denied by President Harry Truman, who feared an escalation to World War III and, therefore, fired MacArthur for his general insubordination and divergence of opinion regarding the use of nuclear weapons as the commander of United States forces in the theater. In the minds of NUTS theorists, the non-use of tactical nuclear weapons, in this instance, prevented the United States from fully leveraging its military superiority, leading to a stalemated conflict.

NUTS theorists argue that a MAD doctrine raises the credible threshold for nuclear use above reasonable levels, thereby allowing adversaries to act unilaterally beneath this threshold. Instead, the former advocate for the integration of tactical nuclear weapons into conventional war planning to deter these lower-order threats and make full use of their superior military capabilities. They believe that escalation can be controlled to a greater degree than MAD theorists suggest. Indeed, Herman Kahn establishes 44 rungs of escalation as a metaphorical ladder that can be observed and adjusted in times of a nuclear crisis.¹⁰

With these frameworks outlined, this paper argues that nations are increasingly developing and fielding tactical nuclear weapons. For the first time since the end of the Cold War, states are shifting away from strategies based on MAD, and are, so to speak, going NUTS. Indeed, Richard Haass, former Director of Policy Planning for the U.S. Department of State and former President of the Council on Foreign Relations, argues that the world is entering the "Dangerous Decade," a period marked by rising tensions and a decline in international governance that makes conflicts more likely and thus increases the chance of inadvertent nuclear war.¹¹ This article presents five case studies that seek to trace this shift toward tactical nuclear arsenals. These cases focus on confrontations where the threat of nuclear war is most pronounced due to both increasing tensions and greater reliance on tactical nuclear weapons. In the following, the article investigates Russia-Ukraine, the Korean Peninsula, Israel-Iran, PRC-Taiwan, and Pakistan-India. Based on these case studies, this paper argues that the increased size of tactical nuclear arsenals has dramatically increased the likelihood of nuclear war globally.

Russia-Ukraine

Russia, the world's largest nuclear power, has been threatening to use nuclear weapons in Ukraine since the beginning of its full-scale invasion in 2022. The Russian government considers nuclear weapons a critical deterrent for maintaining its sphere of influence in Eastern Europe and preventing NATO encroachment. As Russia's invasion drags on, the potential deployment of tactical nuclear warheads risks the escalation of the war into a larger regional or global conflict. The Bulletin of the Atomic Scientists estimates that Russia's nuclear arsenal contains 4,380 nuclear warheads.¹² Analysts

suggest that, of this stockpile, roughly 1,710 warheads are currently fielded, with 870 on land-based ballistic missiles, 640 on submarine-based ballistic missiles, and 200 at various heavy bomber bases. Russia is also believed to possess an additional 1,200 retired warheads awaiting dismantlement. Additionally, Russia is believed to have 1,558 nonstrategic (i.e., tactical) warheads. It must be noted that these estimates are conservative, and other assessments put the number of Russian warheads as high as 5,580.¹³

The nuclear doctrine of the Russian Federation has undergone significant alterations in recent months. Previously, Russia's doctrine was based on its *Foundations of State Policy of the Russian Federation in the Area of Nuclear Deterrence* document, which outlined Russian policies for deploying nuclear weapons.¹⁴ These conditions include deploying them in response to a nuclear attack “as well as in the event of aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is in jeopardy.”¹⁵ However, in response to the Ukrainian offensive in the Kursk Oblast beginning in August of 2024, Russia has threatened to deploy nuclear weapons against NATO nations. This Ukrainian offensive represented a major escalation in the conflict, with Russian territory occupied by a foreign nation for the first time since World War II. In addition to his threat to deploy nuclear weapons, Russian President Vladimir Putin announced a change in Russia's nuclear doctrine during a meeting of Russia's Security Council. He declared that “[a]ggression against Russia or Belarus by any non-nuclear state, with the participation or support of a nuclear state, will be treated as a joint attack on the Russian Federation.”¹⁶ This shift in doctrine carries significant

implications, as it ensnares nuclear powers such as the United States, France, and the United Kingdom in a “joint attack” against Russia by virtue of their ongoing support for Ukraine. With this new doctrine, Russia expands on its definition of aggression, outlined in its *Foundations of State Policy of the Russian Federation in the Area of Nuclear Deterrence* document as a direct attack, implicating states that provide indirect support to their enemy combatants—thus widening the door for nuclear retaliation.

Such extreme policy shifts within the Kremlin are reinforced as NATO countries consider more direct actions to assist Ukraine's defense, such as the United States, France's, and the United Kingdom's decision to permit Ukraine to use their missile systems to strike targets within the borders of Russia.¹⁷ In response, Russia fired a newly developed intermediate-range hypersonic ballistic missile at the Ukrainian city of Dnipro. Putin stated that attacks using long-range missiles provided by NATO countries to Ukraine against Russia “will mean that NATO countries—the United States and European countries—are at war with Russia.”¹⁸ Moreover, the Kremlin has also refused to rule out striking NATO targets outside Ukraine's territory and has stated that the potential deployment of French troops in Ukraine will be seen as “readiness for direct confrontation with Russia.”¹⁹

Additionally, Putin initiated military drills that involved what the Russian Ministry of Defense calls “the practical training in the preparation and use of tactical nuclear weapons.”²⁰ This is the first instance in which Russia has included tactical nuclear weapons in its military exercises since the end of the Cold War. Alongside Russia's decision to station nuclear weapons in neighboring Belarus, these developments indicate an increased readiness to deploy tactical nuclear

weapons in response to further NATO intervention.²¹ These moves are indicative of an overall changing balance of power against Russia, where its military power is declining relative to the United States and NATO. Some of these weaknesses include structural gaps in high-tech sectors, such as microelectronics and microchips. Sanctions placed on Russia by the West have further exacerbated these weaknesses, particularly regarding advanced computer chips, semiconductors, and electronics. This forces Russia to rely more on its Cold War nuclear arsenal to deter aggression and pursue its revisionist aims.²²

There are several possible rationales behind Russia's potential use of tactical nuclear weapons in a conflict. The first is that Russia may deploy them as a signaling tactic.²³ A tactical nuclear weapon could be detonated either over a sparsely populated area within Ukraine or the Black Sea to demonstrate to NATO that Russia is committed to winning the war at all costs. This strategy would produce minimal casualties but would nonetheless most likely exert enormous pressure on Western decision-makers to reevaluate their support for Ukraine. A nuclear detonation, even with minimal or no casualties as well as marginal military utility, would prompt panic among Western populations and lead to political pressure to cease military support and agree to unfavorable concessions for fear of triggering additional nuclear strikes.

Another possibility is that Russia might use a tactical nuclear weapon to gain a battlefield advantage over Ukraine. Attacking defensive positions and critical infrastructure with these weapons would substantially damage Ukraine's military capabilities and will to fight, leading to a potential collapse of Ukrainian resistance. In the eastern Ukrainian city of Pokrovsk, there are heavy

concentrations of Ukrainian troops dug in positions outside the city. Tactical nuclear strikes on battalion-level command posts or supply depots along this narrow front could deliver a critical blow to Ukrainian forces, allowing the Russians to exploit a collapse of the defensive line.

These strategies, in turn, could pressure NATO to limit its involvement in Ukraine and allow Russia to achieve a breakthrough in an otherwise stalemated conflict. The use of nuclear weapons as either a signaling tactic or as a direct strike would break the nuclear taboo, creating fears of an expanded nuclear war across Europe, which may deter further direct assistance by NATO to Ukraine.

Facing the possible deployment of tactical nuclear weapons by Russia are the nuclear arsenals of the United States, which has adopted a policy of flexible deterrence. Under this policy, the United States seeks to deter all forms of attacks by utilizing its diversified nuclear arsenal. The United States maintains a wide range of tactical nuclear weapons throughout Europe, including 230 B61 nuclear gravity bombs, which are low-yield nuclear warheads ranging up to 50 kilotons delivered via fighter-bombers, especially the F-35 Joint Strike Fighter.²⁴ 100 of these B61 gravity bombs are deployed throughout Italy, Germany, Turkey, Belgium, and the Netherlands. Additionally, the United States' 2018 Nuclear Posture Review (NPR) announced the rollout of the five-kiloton W76-2 low-yield Trident submarine warhead in direct response to Russia's continued inclusion of a large number of tactical nuclear warheads in their arsenal.²⁵ The National Nuclear Security Administration states that the W76-2 warhead will provide the United States "an assured ability to respond in kind to a low-yield nuclear attack."²⁶

Additionally, the 2018 NPR also announced the reintroduction of a Nuclear-Armed Sea-Launched Cruise Missile (SLCM-N), which was withdrawn from active service in 1992 following the end of the Cold War.²⁷ The Obama administration took a further step and recommended the retirement of the SLCM-N in 2010. The Trump administration reversed these policies in the 2018 NPR, announcing a modernization program and reintegration of the SLCM-N into the United States' nuclear arsenal. The 2018 NPR suggested that the SLCM-N would strengthen the United States' "non-strategic regional presence" by addressing the need for "flexible and low-yield options" in the U.S. nuclear arsenal. The National Defense Authorization Act for Fiscal Year 2024 instructs the military to achieve operational capability for the SLCM-N by 2034.²⁸ The deployment of the low-yield nuclear gravity bombs, W76-2 warheads, and the SLCM-N ensures that the United States maintains a credible deterrent to Russian nuclear attacks below the strategic threshold.

Further complicating matters is the uncertain future of the New START treaty between the United States and Russia.²⁹ Initially signed in 2010, the treaty limits the number of deployed intercontinental ballistic missiles, submarine-launched ballistic missiles, and heavy bombers capable of carrying nuclear warheads to 700 per country. The treaty stipulates a maximum of 1,550 nuclear warheads to be deployed on these delivery systems. Despite the focus of the treaty on strategic nuclear weapons, many of these weapons could fall under the definition of tactical nuclear weapons employed in this article. For example, a smaller-yield and short-range tactical nuclear missile could be launched from a submarine. This makes the treaty significant in regulating potential tactical nuclear capabilities. Additionally, it served as a platform to decrease tensions

between Russia and the United States via a mutual agreement to limit their overall nuclear stockpiles. Initially ratified in 2011, it is currently up for renewal in 2026. However, Russia suspended its participation in the treaty in 2023 in response to U.S. aid and military packages sent to Ukraine.³⁰ As long as the war in Ukraine continues, Russia is unlikely to renew its participation in the treaty in 2026. A nuclear arms race would likely ensue if the treaty were to expire without renewal, leading to a massive growth of the strategic and tactical nuclear arsenals of both powers.

In addition to the New START treaty, the breakdown of the Intermediate-Range Nuclear Forces (INF) treaty also further increases the odds of a major nuclear arms race. Signed in 1987, this treaty banned the United States and Russia from possessing any nuclear or conventionally armed ballistic missiles, cruise missiles, and missile launchers with a short range of less than 1,000 km or an intermediate range of between 1,000–3,000 kilometers.³¹ The United States chose to withdraw from the INF in 2019 due to Russia's development of the Novator 9M729 ground-launched cruise missile.³² This new missile is capable of reaching ranges that are within the intermediate limits set in the INF treaty.³³ The collapse of the INF could lead to the unregulated development of tactical and intermediate nuclear weapons. In conjunction with the stalling of the new START, there are no longer any bilateral agreements keeping both nuclear powers in check.

These developments risk escalating the war in Ukraine into a larger regional or global conflict. For instance, the further intervention of NATO forces in Ukraine could provoke a nuclear response by Russia.³⁴ If the Kremlin perceives that increased NATO support for Ukraine is shifting the balance of power

against it, it may deem it necessary, “as a matter of life and death,” to utilize tactical nuclear weapons in the ways outlined above.³⁵ A nuclear attack on NATO allies would invoke the alliance’s mutual defense provision, leading to a great power conflict.

The Korean Peninsula

The Democratic People’s Republic of Korea, hereafter referred to as North Korea, has intensified its short-range ballistic missile tests and unveiled new tactical nuclear-capable weapon systems. Hence, there are some indications of a shift toward a tactical nuclear posture. These developments aim to prepare for potential regional conflicts, particularly against the United States-South Korea alliance. Moreover, strengthened defense ties with Russia and the PRC have further emboldened North Korea, raising the risk that a limited nuclear conflict on the Korean Peninsula could escalate into a broader great power war.

North Korea has significantly increased its missile testing activity, conducting 109 tests since 2019.³⁶ Of these, 70 tests involved its new assortment of nuclear-capable short-range missiles, such as the KN-23 and KN-25, indicating a shift from its previous focus on intermediate and intercontinental-range missiles aimed at the U.S. mainland as a form of strategic deterrence. Conversely, these new short-range systems are designed for battlefield use and would be employed against targets on the Korean Peninsula or against the United States bases in Japan. Both the KN-23 and KN-25 missiles are equipped with maneuverable reentry vehicles that can change trajectory during descent, allowing them to evade interception by anti-missile defense systems.³⁷ Additionally, these missiles can be launched from various mobile platforms, increasing their survivability in a

conflict by complicating counter-battery strategies.

In September 2023, North Korea unveiled a new tactical nuclear attack submarine capable of launching ten ballistic missiles, a significant expansion over the earlier Romeo-class submarines that could only launch three missiles.³⁸ Kim Jong Un announced plans to convert North Korea’s remaining 19 Romeo-class submarines to this new model, thereby increasing the country’s tactical nuclear capabilities at sea. In the same year, North Korea tested its first-ever nuclear-armed unmanned underwater vehicle, called the Haeil.³⁹ This weapon is designed to deliver a low-yield nuclear warhead against naval assets, detonating a warhead underwater, and generating what state-run media described as a “super-scale radioactive tsunami.”⁴⁰ While this description of the weapon’s potency may not be entirely accurate, its introduction is nonetheless noteworthy. The Haeil’s intended use for targeting docked naval assets and its low yield suggest that military planners in Pyongyang envision this vessel for tactical battlefield scenarios. With these advancements, former South Korean Defense Minister Shin Won-Sik stated in a recent interview that North Korea’s development of tactical nuclear weapons “is believed to be in the final stages.”⁴¹

This tactical shift is compounded by North Korea’s emphasis on preemptive strikes, indicating that its military doctrine may prioritize the early use of nuclear weapons to counter perceived threats. The disparity in conventional military capabilities between North Korea and the United States-South Korea alliance incentivizes North Korea to consider preemptive nuclear strikes in the event of a conflict. Moreover, its military doctrine permits the use of nuclear weapons “to repel invasion or attack from a hostile nuclear weapons state,” suggesting a

readiness to retaliate against conventional attacks by the United States-South Korea forces with nuclear weapons.⁴² Early advances by United States-South Korean conventional forces in a conflict would pressure North Korea to use tactical nuclear weapons to halt their progress, mirroring the U.S. deployment of nuclear-armed artillery in the Fulda Gap during the Cold War to defeat a Soviet armored thrust into Western Europe. In this historical case, facing a much larger conventional force, the United States relied on its tactical nuclear weapons as an asymmetric deterrent against Soviet aggression.

In North Korea's case, its posture aims to demonstrate its willingness to use tactical nuclear weapons to destroy the vanguard of an adversary's force, thereby forcing the United States and its allies to seek concessions rather than pursue a pyrrhic victory. This strategy becomes more likely if the United States targets North Korea's nuclear forces, creating a "use it or lose it" scenario.⁴³ In such a situation, North Korea faces the ultimate choice of either losing its primary deterrent—leaving it vulnerable to overwhelming conventional attacks—or launching a preemptive nuclear strike to preserve the regime.

In June 2023, North Korea and Russia signed the Comprehensive Strategic Partnership Treaty, pledging to "immediately provide military and other assistance by all means available" if either were attacked.⁴⁴ Under this new partnership, North Korea has sent up to 12,000 troops to fight alongside Russian forces in the Kursk region.⁴⁵ Additionally, the North Koreans continue to supply Russia with critical ammunition from their Soviet-era stockpiles. This treaty also enhanced cooperation in technology, economics, and "peaceful atomic energy" between the two nations. Alongside its Mutual Assistance

Treaty with the PRC, North Korea's security framework is now more robust than ever—bolstered by defense commitments from two nuclear-armed powers.⁴⁶ With its new bilateral defense treaty with Russia, North Korea will be more willing to accept the risks of nuclear escalation during a crisis. By providing North Korea with security guarantees, Russia and the PRC incentivize greater nuclear brinkmanship by Kim Jong Un's regime, increasing the likelihood of a tactical nuclear confrontation with the United States-South Korea alliance, risking escalation into a global nuclear conflict with three of the world's largest nuclear powers.

Israel-Iran

With the beginning of the ceasefire between Israel and Hamas, hostilities between the two parties appear to have been halted for the moment. However, this development overlooks the fact that tensions between Israel and Iran have been escalating for the past few years, including direct exchanges of fire between the two states. These unprecedented levels of escalation significantly enhance the threat of a potential use of tactical nuclear weapons by Israel against Iran.⁴⁷ Israel's policy of nuclear ambiguity complicates assessments of its nuclear doctrine and capabilities. However, based on historical precedents, government statements, as well as the likely means of delivery, one may conclude that Israel could reasonably maintain low-yield, tactical nuclear weapons.⁴⁸

Israel has refused to state whether it possesses nuclear weapons, but it is estimated to have up to 90 nuclear warheads along with the materials needed to produce an additional 200.⁴⁹ The Israeli military can launch these nuclear warheads from either its F-35 JSFs or its Jericho ballistic missile systems. Moreover, Israel possesses several Dolphin-

class submarines purchased from Germany that can carry nuclear-armed missiles, enhancing its ability to conduct a second strike if its other delivery systems are destroyed. According to information from a whistleblower inside Israel's nuclear program, investigative journalist Seymour Hersh concluded in his book *The Samson Option* that Israel is "capable of manufacturing one of the most sophisticated weapons in the nuclear arsenal—a low-yield neutron bomb."⁵⁰ It must be noted that Hersh's sources are anonymous and unconfirmed. In addition, alternative academic research into Israel's nuclear program remains limited due to the high level of secrecy surrounding the exact characteristics of the country's alleged arsenal.

There have been several instances where Israel has considered deploying its nuclear arsenal. During the Six-Day War of 1967, the Israeli military devised a covert operation to detonate a small improvised nuclear device over Mt. Sinai in Egypt if an Egyptian attack appeared imminent.⁵¹ Israeli leadership hoped that detonating a nuclear weapon close to Egyptian forces would signal their willingness to escalate to nuclear war, thereby deterring Egypt from further aggression. However, Israeli forces achieved impressive conventional advances in the war, so the plan was scrapped. Similarly, in the Yom Kippur War of 1973, amidst fears that Israel would lose the Golan Heights to Syrian forces, Defense Minister Moshe Dayan reportedly requested that the Prime Minister authorize the preparation of nuclear weapons to halt the Arab armies' advance.⁵² These cases demonstrate that Israel has considered using nuclear weapons to prevent military defeat in conventional wars. This strategy was outlined in *The Samson Option*, where Hersh argues, based on the precedents of 1967 and 1973, that Israel does indeed

consider the actual use of nuclear weapons as a necessary means of credible deterrence, in line with the prescription of the NUTS doctrine.⁵³ It is important to note here that the dynamic between Israel and its Arab neighbors is altered by the fact that no other state in the region possesses nuclear weapons.

Today, the likelihood of an Arab coalition in the same manner as the one formed in the 1960s remains low due to the presence of various peace agreements between individual Arab states and Israel alongside the vastly diverging interests of the Arab world. Israel has managed to deliver a major setback to Iran and its proxies through the degradation of Hamas and Hezbollah, the recent collapse of the pro-Iranian Assad regime in Syria, and Israel's direct missile strikes on Iranian air defense assets. Despite these developments, the threat of a future alliance forming against Israel remains possible. If a future anti-Israel alliance were to form with a larger conventional force and improved non-state proxy network, the threat of an invasion could spur the use of tactical nuclear weapons as a last line of defense, as outlined in the *Samson Option*.

Further complicating the situation are Iran's nuclear ambitions. The Iranian government officially insists that its nuclear program is solely focused on obtaining nuclear energy and claims it does not yet possess the materials needed for a nuclear warhead.⁵⁴ However, recent expansions at its nuclear enrichment facilities could allow Iran to create the materials necessary for a nuclear weapon.⁵⁵ A recent United Kingdom House of Commons report on the status of Iran's nuclear program believes that the country is coming closer to achieving the uranium enrichment level needed to produce nuclear weapons.⁵⁶ Additionally, public opinion within Iran, which must be taken with a grain

of salt due to its repressive government, increasingly supports the country obtaining nuclear weapons as a means of deterring foreign aggression.⁵⁷ Moreover, following the United States' withdrawal from the Joint Comprehensive Plan of Action and the reimposition of sanctions on Iran, international efforts to curb Iran's nuclear program peacefully have lost legitimacy.⁵⁸ Nonetheless, the new Iranian President, Masoud Pezeshkian, has recently indicated a willingness to reopen negotiations with the United States to have sanctions lifted in exchange for concessions on its nuclear program.⁵⁹ Additionally, with the rapid fall of the Assad regime in Syria, Iran's strategic position in the Middle East has suffered a critical blow as its weakened proxy forces in Lebanon and Gaza have now been isolated.⁶⁰ These developments may place greater pressure on a weakened Iran to forfeit its nuclear ambitions and pursue a more conciliatory approach toward repairing its relationship with the West.

These developments, however, have also further heightened the tensions between Iran and Israel, which has taken a more unilateral approach to deterring Iranian nuclear ambitions. In 2021, Prime Minister Benjamin Netanyahu declared, "I will never allow Iran to obtain the nuclear capability to carry out its genocidal goal of eliminating Israel,"⁶¹ indicating his strong willingness to use Israel's full military might to prevent Iran from developing a nuclear arsenal. If Israel were to believe that Iran was close to developing nuclear weapons, this could trigger preemptive strikes by Israel on Iran's nuclear facilities, leading to a rapid escalatory spiral.

Israel's historic willingness to launch preemptive strikes on the nuclear programs of its adversaries underscores this threat. In 1981, Israel bombed Iraq's Osirak nuclear

reactor—marking the first known instance of a nuclear facility being targeted militarily.⁶² Israeli intelligence believed the reactor could produce enriched uranium for nuclear warheads. This operation established the so-called "Begin Doctrine," named for then-Israeli Prime Minister Menachem Begin. This principled doctrine postulates that no regional actor committed to the destruction of Israel can be allowed to obtain weapons of mass destruction.⁶³ This doctrine granted the Israeli military significant latitude to conduct preemptive strikes without limitations on the means and scope of such attacks. This includes potentially deploying tactical nuclear weapons in accordance with their hardline policy against allowing the proliferation of nuclear weapons and their willingness to use nuclear weapons to defend critical national interests. This stance was reaffirmed in 2007 when Israel bombed a nuclear reactor in Syria, indicating its continued readiness to prevent the proliferation of nuclear weapons to its enemies at all costs.⁶⁴

The Begin Doctrine would undoubtedly guide Israeli conduct during a potential full-scale conflict with Iran and its proxies. On October 25, 2024, Israel launched coordinated airstrikes against Iran's air defense facilities, allegedly destroying most, if not all, of Iran's long-range surface-to-air missile batteries and long-range detection radars. For now, Israel has assured the United States that they would not strike nuclear or oil facilities in Iran in retaliation to Iran's firing of 180 missiles against Israel.⁶⁵ However, this promise is predicated on Iran not actively seeking to develop nuclear weapons. If they did so, based on the Begin Doctrine, Israel would likely strike Iran's nuclear facilities. Understanding this threat, Iran has been strengthening its nuclear sites.⁶⁶ According to Ehud Olmert, former Prime Minister of Israel, Iran's Natanz uranium enrichment site

is sheltered in a bunker buried at least 60 meters (around 200 feet) below ground—impenetrable by conventional strikes.⁶⁷ Subsequently, Olmert has also stated that the Israelis lack both the conventional firepower and the aircraft needed to conduct a successful attack on Iran's nuclear facilities. This presents Israel with a last-ditch option of deploying tactical nuclear weapons to pre-emptively damage or destroy Iran's heavily defended nuclear facilities.

Although Israel has caused significant damage to its adversaries in the region, Israel could be threatened with a prolonged war of attrition if hostilities resume in the near future. Such a war could overstretch its military capabilities and wear out its populace. Compounding this issue is the waning international support for Israel due to the large number of civilian deaths from its military operations in Gaza, threatening to isolate Israel from its military allies in the West.⁶⁸ Granted, the election of Donald Trump, who has strong pro-Israel leanings, makes any major break with the United States unlikely. Public sentiment in many Arab nations increasingly opposes the existence of the Israeli state due to its occupation of the Gaza Strip and other Palestinian territories. Consequently, Israeli leadership may determine that breaking its nuclear ambiguity by declaring its possession of a tactical nuclear arsenal is necessary to both deter future efforts at creating anti-Israeli alliances and to prevent Iran's development of nuclear weapons. By publicly declaring its nuclear arsenal, it complicates the risk calculation of its adversaries from making any strong moves toward degrading Israel's core national interests.

The People's Republic of China-Taiwan

The PRC has increased the readiness of its nuclear force and expanded its tactical

nuclear arsenal. However, the PRC's opacity regarding its nuclear doctrine and its declared no-first-use policy makes it difficult to determine the extent to which they have incorporated tactical nuclear weapons into its military strategy. This section will outline indications that may signal a transition to more tactical nuclear weapons.

The Pentagon estimates that the People's Liberation Army's current stockpile of 500 nuclear warheads will increase to 1,000 by 2035.⁶⁹ Coupled with the development of dual-use weapon systems capable of deploying tactical nuclear warheads, this posture indicates a greater interest by the PLA to include nuclear weapons in their defense posture. These developments are critical for Xi Jinping's goal of making the PLA a world-class force by 2049.⁷⁰

The development of new dual-use capable delivery systems indicates the PLA's increased tactical nuclear capabilities. In 2016, the PLA began fielding the DF-26 intermediate ballistic missile, a system that is 'hot-swappable' in that it can deliver and seamlessly switch between both conventional and nuclear payloads.⁷¹ The United States Department of Defense views the DF-26 as the PLA's "most likely weapon system to field a lower-yield warhead in the near term," making it one of the primary systems to launch tactical nuclear weapons in a regional war.⁷² The number of DF-26 launchers has increased from between 18–30 in 2018 to 250 in 2023.⁷³ Moreover, the Pentagon reports that the PRC is constructing 350 new ballistic missile silos capable of launching both conventional and nuclear warheads. Once completed, the PLA will have more of these dual-use missile silos than Russia, representing the most significant expansion of its nuclear capabilities in its history.

Following its first nuclear test in 1964, the PRC declared to “never be the first to use nuclear weapons at any time and under any circumstances.” Additionally, the PRC followed a policy of maintaining only a minimum number of strategic nuclear weapons needed to deter aggression from the great powers. Mao Zedong and Deng Xiaopeng both strongly emphasized the purely strategic counterattack and limited nature of the PLA’s nuclear arsenal. When discussing the future of the PLA’s nuclear arsenal, Deng remarked: “When we have the power to counterattack, we won’t continue to develop them.”⁷⁴ Subsequent leaders of the PRC have refrained from publicly shifting away from these two principles and have largely avoided any major statements surrounding nuclear policy. Therefore, under this no-first-use policy and minimum deterrent principle, tactical nuclear weapons officially remain outside the scope of the PLA’s nuclear doctrine.

There have been signs of the erosion of the PRC’s no-first-use policy. The United States Department of Defense report on the *Military and Security Developments Involving the People’s Republic of China 2024* states that the PLA nuclear strategy likely includes “consideration of a nuclear first strike in response to nonnuclear attacks... threatening the viability of the PRC’s nuclear forces or C2 [command and control], or that approximates the strategic effects of a nuclear strike.”⁷⁵ This report suggests that the PLA likely considers using nuclear weapons in a conventional conflict if it believes that its nuclear deterrent or its leadership is at risk, contradicting its stated policy of only using nuclear weapons to deter nuclear threats.

Despite these developments, beyond its repeated no-first-use declaration, official open-source documents regarding its nuclear doctrine are not available, thus preventing

confident assessments of the PRC’s intentions to shift towards an increased emphasis on tactical nuclear weapons in its nuclear doctrine. Nonetheless, the PRC’s overall warfighting strategy, published through an assortment of PLA documents, can help outline the principles by which its nuclear doctrine likely abides. The most central of these concepts is the PLA’s active defense doctrine. Initiated in 1980, this concept altered the PLA’s “Luring the Enemy in Deep” strategy articulated by Mao Zedong, which emphasized strategic retreat and protracted guerilla warfare.⁷⁶ Instead, the new active defense strategy entailed having a more forward military presence and increased readiness so that threats could be quickly stalled and then countered. Active defense requires the PLA to be prepared to rapidly and effectively counterattack through combined arms, thus having a foundation in offensive operations. The PLA’s *Science of Campaigns* document states that “only an offensive defense can be truly Active Defense.”⁷⁷

Expanding on the offensive nature of their active defense concept, the United States Department of Defense believes that the PLA’s doctrine now “encompasses offensive and preemptive aspects.”⁷⁸ This is also reflected in open-source wargames on a potential PRC-United States conflict over Taiwan conducted by both the Center for Strategic and International Studies and the Center for a New American Security. In both simulations, the PLA delivers conventional first strikes against United States bases across the Pacific, including Guam and Okinawa, at the outset of a theoretical invasion of Taiwan.⁷⁹ The logic driving the PLA in the simulations is that the risk of United States intervention in an attack on Taiwan, despite the ambiguous nature of its security pledges, is high enough to justify preemptive attacks against their capabilities in the region to

forestall rapid responses against their invading forces.⁸⁰ While wargames cannot reflect the psychological constitution, intentions, and beliefs of the PRC's key decisionmakers, they illustrate the apparent utility and logic of preemptive action in such a scenario.

The operational creep of the PRC's active defense strategy to encompass preemptive attacks is in line with the PLA's emphasis on "informatized" warfare. Following the end of the Cold War, the PLA has put increasing emphasis on sudden and paralyzing attacks on critical communication and electrical infrastructures, according to the PRC's Central Military Commission's guiding strategic document titled *The Science of Military Strategy*.⁸¹ Under this doctrine, the PLA seeks to "concentrate various information attack strengths to suddenly initiate attacks against the enemy to cause the enemy to be too surprised to defend."

Moreover, they seek to achieve information domination through cyber-attacks. High-altitude electromagnetic pulse weapons (HEMP)—which are nuclear warheads that detonate at a 30-40 km altitude, emitting pulses of long wavelength radiofrequency electromagnetic radiation that can damage electronic circuits—have been described as the PLA's ideal first strike weapon.⁸² A low-yield HEMP at, say, the 10-kiloton level can produce the same electromagnetic frequency as a 1,000-kiloton-yield HEMP, just over a smaller radius.⁸³ Therefore, a tactical nuclear warhead makes an ideal HEMP for a regional attack against a specific target—such as Taiwan. A Taiwan National Defense report states that "The EMP attack scenario presents the only attack option that meets the demand for making the first, paralyzing strike of a war, paving the way for the other troops to attack Taiwan."⁸⁴

According to the United States EMP Task Force on National and Homeland Security, the PRC views HEMPs as one of its most critical cyber weapons as, according to an Institute for National Strategic Studies report, electromagnetic weapons serve as the "bridge" between soft and hard cyber attacks.⁸⁵ Moreover, the same Task Force also states that the PRC categorizes HEMPs as only a cyber weapon despite its use of a nuclear warhead, suggesting a lowered threshold of use for the PLA as it theoretically would not need to abide by standard nuclear doctrine.⁸⁶

In regard to how the PLA would intend to use its expanded tactical nuclear capabilities, the wargame conducted by the Center for a New American Security included the limited use of nuclear weapons by the PLA in a theoretical conflict with the United States over the status of Taiwan.⁸⁷ Towards the end of the simulation, as both the Red and Blue teams ratcheted up tensions through a tit-for-tat escalatory ladder, the Red team eventually detonated a tactical nuclear weapon near Hawaii, creating an electromagnetic pulse that disabled non-hardened electronics in and around the island chain.

That said, the leaders of the PRC historically have ensured that decision-making for conventional and nuclear operations remained separate to ensure that the nuclear arsenal remains firmly in the hands of the political leadership, as analyzed by Taylor Fravel.⁸⁸ Instead, the Central Military Commission, which is the highest political authority in the military and is chaired by the General Secretary of the Chinese Communist Party, maintains direct control over all nuclear weapons through the People's Liberation Army Rocket Force. Therefore, the PLA's nuclear doctrine likely diverges from the traditional military doctrine of active and preemptive defense. Because of

the tight political control of its nuclear weapons, Fravel suggests that the PLA's nuclear arsenal remains purely strategic and decision-making remains in the hand of the PRC's supreme leadership.⁸⁹ The incorporation of tactical nuclear weapons into war planning would require a greater degree of delegated authority over the control of the nuclear arsenal, which conflicts with the long-held Chinese view of nuclear doctrine.

Nonetheless, the PRC's rapid expansion of its nuclear arsenal, development of dual-use weapons systems, and erosion of its no-first-use policy indicate a significant shift toward a more tactical nuclear posture. This tactical shift introduces greater ambiguity in the PRC's nuclear strategy, as it blurs the line between conventional and nuclear capabilities and increases the likelihood of their deployment in regional conflicts, particularly in the Taiwan Strait.

Pakistan-India

The longstanding territorial dispute between Pakistan and India over the Jammu and Kashmir region has brought these two nuclear powers close to nuclear war on multiple occasions. Since their respective founding in 1947, both countries have claimed sovereignty over the entire region. After multiple conflicts, the 1972 Simla Agreement established a provisional military Line of Control (LoC) that divides the region into two separately administered areas.⁹⁰ However, occasional skirmishes have erupted along this temporary border, with Pakistan continuing to support insurgents operating in Indian-controlled areas of Jammu and Kashmir. The already tense relationship between the two powers escalated further after both countries became nuclear-armed states—India tested its first nuclear weapon in 1974, and Pakistan conducted its first nuclear tests in 1998.

India has a stated policy of no-first-use for its nuclear weapons. However, contradictory statements from Indian officials have raised doubts about its commitment to this doctrine. In 2003, India announced that it reserved the right to respond to large-scale biological or chemical attacks with nuclear weapons, which undermined its no-first-use pledge.⁹¹ In August 2019, India's Defense Minister Rajnath Singh suggested that India's adherence to its no-first-use policy “depends on the circumstances,” further weakening the credibility of its nuclear stance. Facing increased threats from the PRC in the north, India has sought to expand and modernize its nuclear forces to deter the PRC and Pakistan, paralleling the United States' current modernization of its nuclear arsenal to confront potential conflicts in Europe and Asia.⁹² India's nuclear arsenal is now estimated to consist of 160 warheads, with ongoing developments in ballistic and cruise missile capabilities.⁹³ Nonetheless, there is no evidence to suggest that tactical nuclear weapons are part of India's military doctrine, and its nuclear posture remains focused on strategic deterrence.

Pakistan, by contrast, has never declared a no-first-use policy and reserves the right to use tactical nuclear weapons in a conventional conflict according to its doctrine of full-spectrum deterrence.⁹⁴ Accordingly, Pakistan maintains a diverse arsenal of nuclear warheads across various yields, encompassing the tactical and strategic levels. This includes low-yield tactical warheads intended to deter and counter limited conventional attacks by India that do not warrant a full-scale strategic nuclear response. Pakistan's emphasis on fielding tactical nuclear warheads is a form of deterrence against India's ‘Cold Start’ doctrine—a military strategy aimed at enabling rapid, conventional incursions into

Pakistan in the event of hostilities without crossing the threshold that would justify Pakistan's strategic nuclear retaliation.⁹⁵

Following border skirmishes in 2019, India increased its military presence in Kashmir by deploying an additional 10,000 soldiers to the region.⁹⁶ Additionally, India launched airstrikes against supposed terrorist facilities in Pakistan proper.⁹⁷ Shortly thereafter, the Hindu nationalist-dominated parliament revoked Article 370 of India's constitution, stripping the Jammu and Kashmir territory of its semi-autonomous status.⁹⁸ In the wake of this legislative move, Indian Prime Minister Narendra Modi implemented a hardline approach to quelling civil unrest in the Muslim-majority region. Since then, tensions between India and Pakistan have escalated, marked by a significant rise in cross-border shootings, targeted assassinations, and hostile diplomatic exchanges. In 2021, both countries agreed to halt cross-border shootings at the LoC.⁹⁹ Despite this positive development, little has been improved in their overall relations, which remain fraught.¹⁰⁰ More recently, during the 2023 Shanghai Cooperation Organization summit, Indian and Pakistani foreign ministers exchanged combative remarks, underscoring the continued deterioration of bilateral relations.¹⁰¹ Specifically, India's foreign minister called his Pakistani counterpart the "spokesperson of a terrorism industry."

The heightened militarization and instability of the Kashmir region increase the likelihood of a conflict that could potentially involve nuclear weapons. Conventional Indian incursions in the region under its Cold Start Doctrine could provoke a tactical nuclear response from Pakistan in accordance with its nuclear doctrine of full-spectrum deterrence. In response, India would likely retaliate with its nuclear arsenal, leading to an escalatory spiral that could culminate in an all-out

nuclear war. Similar conventional attacks in the region initiated by Pakistan would likely not lead to nuclear retaliation by India, based on its declared no-first-use policy, lack of tactical nuclear warheads, and confidence in its conventional capabilities to repulse such attacks.

Winding Back the Doomsday Clock

The growing integration of tactical nuclear weapons into the warfighting strategies of major powers has dangerously lowered the threshold for nuclear use. Such strategies blur the line between conventional and nuclear warfare, making it increasingly difficult to manage escalation and reduce the chances for de-escalation once hostilities have begun. In the cases analyzed, it is evident that countries like Russia, Pakistan, North Korea, the United States, and possibly Israel and the PRC have integrated tactical nuclear weapons as a more central component of their military strategy. This shift threatens to escalate what might previously have been limited local or regional conflicts into potential flashpoints for nuclear wars.

In the cases of Russia, Pakistan, North Korea, and the United States, these countries have declared their willingness to use tactical nuclear weapons. The Kremlin endorsed the use of tactical nuclear weapons in its *Foundations of State Policy of the Russian Federation in the Area of Nuclear Deterrence* document, alongside recent provocative threats of nuclear escalation by Putin. Pakistan follows a full-spectrum nuclear doctrine, utilizing the breadth of its nuclear arsenal, from low-yield to high-yield warheads, to deter a diverse array of threats from India. North Korea brazenly continues to test nuclear-capable shorter-range missiles and announced the rollout of new tactical nuclear weapons in recent years. Additionally, the United States continues to

abide by its flexible nuclear deterrence strategy, whereby it seeks to deter adversaries, mainly Russia and the PRC, from engaging in any scale of nuclear warfare. Similar to Pakistan, this posture entails maintaining a wide range of tactical nuclear weapons to respond to a variety of crises across the spectrum of threat levels.

On the other hand, countries like Israel and the PRC maintain more ambiguity regarding the role tactical nuclear weapons play in their wartime strategies. Israel refuses to explicitly acknowledge its possession of nuclear weapons, making any analysis of its tactical nuclear arsenal speculative. In the case of the PRC, it still publicly abides by its no-first-use policy, which promises that nuclear weapons would be only used as strategic retaliation against nuclear attacks against them. Moreover, despite developing dual-use capabilities, the PRC's nuclear doctrine remains purposefully unclear, contributing to increased caution by its rivals and greater instability as its red lines are more ambiguous. Finally, accurate intelligence of India's nuclear arsenal remains limited. Despite comments by certain officials that have weakened its no-first-use policy, India seems to remain set on maintaining a primarily strategic nuclear arsenal.

In all these case studies, tactical nuclear weapons are contributing to increased strategic instability. The powers analyzed each faces an existential threat in the form of a rival state or coalition of opposing factions. This increases the appeal of using tactical nuclear weapons to preempt a total conventional defeat in the cases of Israel, North Korea, and Pakistan. For the cases of Russia and the PRC, who seek to annex their opposing state, tactical nuclear weapons provide a tempting opportunity to swiftly crush resistance, as is occurring in Ukraine and may happen in Taiwan.

During the Cold War, the United States and the Soviet Union amassed large nuclear arsenals, bringing both powers dangerously close to nuclear war over disputes that seem minor given the level of damage nuclear conflict would cause, such as during the Berlin Crisis of 1961 and the Cuban Missile Crisis of 1962. These near-catastrophic events, alongside the high economic costs incurred through the arms race, prompted both nations to negotiate landmark arms control agreements, such as the Nuclear Non-Proliferation Treaty and the Strategic Arms Limitation Talks, which contributed to a period of stability. These historical precedents provide compelling cases for why today's nuclear powers must recognize the dangers of tactical nuclear weapons and work together to establish new arms control frameworks for their own sake, not only for their adversaries.

To mitigate these risks, there is a critical need for stronger and more comprehensive international arms control agreements that specifically address the deployment and use of tactical nuclear weapons. Establishing such agreements, however, presents significant challenges. Declining confidence in international institutions—exemplified by the United Nations' divided response to Russia's invasion of Ukraine—has weakened the enforcement mechanisms and credibility of international cooperation in maintaining global peace and security.¹⁰² Despite these setbacks, history has shown that effective arms control is often driven not by goodwill but by *realpolitik* considerations and mutual self-interest. For instance, the Strategic Arms Limitation Talks treaties came about through the desire to ease tensions between the United States and the Soviet Union during the period of “detente.”¹⁰³ Leaders from both countries, following the near miss of a disastrous nuclear war during the Cuban Missile Crisis, recognized the risk of under-estimating the

threat of rapid nuclear escalation. This prompted the desire to negotiate the regulation of nuclear arsenals, a massive compromise only made possible by the existential fear of a nuclear war.

Alternatively, if states fail to pursue arms limitation negotiations, more hawkish policy advocates suggest a muscular approach, whereby coercive measures are pushed to force nuclear actors to the table.¹⁰⁴ This strategy is most apparent in the international sanctions, led by the United States, levied against North Korea for its continued nuclear arms development. However, such coercive measures may only work for smaller powers. When framed in great power rivalries, attempts to utilize comparable measures against the PRC and Russia will prove much less effective. As demonstrated in the Russian invasion of Ukraine, the sanctions placed on Russia failed to achieve the desired results. The Kremlin was able to find alternative sources of trade and revenue.¹⁰⁵ Additionally, attempts to dislodge Russia from the international community via diplomatic pressure on non-aligned powers have failed, with Russia's participation in other multinational organizations continuing and even strengthening in the case of BRICS.¹⁰⁶

Rebuilding political will or coercing one another to negotiate nuclear weapon agreements remain a difficult tasks as treaties such as New START and the INF falter in the heat of regional conflicts and renewed great-power competition, while sanctions regimes, such as those placed against Russia and North Korea are skirted. Therefore, it may take another costly arms race and the prospect of near-total disastrous nuclear war to create the political appetite for arms control agreements and to make major powers realize the fundamental necessity of regulating their nuclear arsenals. The price of any arms

control agreement and the major concessions entailed therein for all parties outweigh living in a world of unregulated tactical nuclear weapons where the possibility of inadvertent nuclear escalation is ever present.

Further Research

The paper makes the argument that the faltering of strategic arms control treaties, such as the New START agreement, will lead to greater developments of tactical nuclear arsenals. This argument rests on the assumption that the increased transparency and improved relations that such arms treaties entail would also contribute to the self-regulation of tactical nuclear weapons despite their direct omission in the primarily strategically focused agreements. A point of further research would be to test this assumption and investigate if strategic arms treaties do actually have a broader effect on sub-strategic nuclear arsenals. This can be accomplished by conducting a comparative analysis of the growth of tactical nuclear arsenals in conjunction with the signing or discontinuation of arms treaties.

Moreover, this paper follows a very narrow definition of tactical nuclear weapons, only looking at the weapon's range and yield as the sole determining factors of its classification. This narrow definition overlooks the complex nature of the tactical-strategic spectrum of attacks, where weapons of various designs can be used for purposes beyond their supposed intent. It would be valuable to delve deeper into creating a more nuanced understanding of the tactical and strategic dichotomy to sharpen the delineation between these levels of attacks, thus facilitating more effective research on tactical nuclear weapons.

Another point of interest for further analysis would be the potential development of

nuclear weapons by Iran. If Iran were to develop a nuclear arsenal, it would dramatically alter the balance of power in the region and increase the scope and intensity of a potential conflict rising between Iran and Israel. It would be worth exploring the cost-benefit calculations for Iran in developing a nuclear weapon considering the international condemnation such an action would entail and the increased likelihood of military and diplomatic pressure being placed on the regime.

About the author: *Tin Pak is an undergraduate Jackson School Cybersecurity Research Fellow at the University of Washington, specializing in international security and nuclear deterrence. Tin is currently a Visiting Scholar at Taiwan's National Defense University. He has previously served as a Primary Liaison Officer for Papua New Guinea at the APEC meetings and is a National Bureau of Asian Research Leaders Fellow.*

About the author: *Sam Lee is an undergraduate at the University of Washington majoring in Political Science. His research focuses on international security and American foreign policy.*

-
- ¹ Andrew Harvey, “The Levels of War as Levels of Analysis,” *Military Review* 2021, retrieved January 25, 2025, <https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/ND-21/Harvey-Levels-of-War-1.pdf>.
- ² Nina Tannenwald, “The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use,” *International Organization* 53, no. 3 (1999): 433–468.
- ³ Henry D. Sokolski, ed., *Getting MAD: Nuclear Mutual Assured Destruction, Its Origins and Practice* (Strategic Studies Institute, US Army War College, 2004), <https://apps.dtic.mil/sti/tr/pdf/ADA428336.pdf>.
- ⁴ Eugene Burdick and Harvey Wheeler, *Fail-Safe* (New York: McGraw-Hill, 1962), 106.
- ⁵ Kristin Ven Bruusgaard, “Russian Nuclear Strategy and Conventional Inferiority,” *Journal of Strategic Studies* 44, no. 1 (2021): 3–35, <https://doi.org/10.1080/01402390.2020.1818070>.
- ⁶ “Military Doctrine of the Russian Federation,” *Presidential Decree No. 706, April 21, 2000*, retrieved February 7, 2025, <http://www.kremlin.ru/acts/bank/15386>.
- ⁷ Colby Elbridge and Oriana Skylar Mastro, “If You Want Peace, Prepare for Nuclear War: A Strategy for the New Great-Power Rivalry,” *Foreign Affairs*, October 15, 2018, <https://www.foreignaffairs.com/articles/china/2018-10-15/if-you-want-peace-prepare-nuclear-war>.
- ⁸ “Nuclear Signaling during the War in Ukraine,” *Center for Strategic and International Studies*, retrieved February 1, 2025, <https://nuclearussiaukraine.csis.org/#about.As>.
- ⁹ Lauren Sukin, “Rattling the Nuclear Saber: What Russia’s Nuclear Threats Really Mean,” *Carnegie Endowment for International Peace*, May 4, 2023, <https://carnegieendowment.org/research/2023/05/rattling-the-nuclear-saber-what-russias-nuclear-threats-really-mean?lang=en>.
- ¹⁰ Herman Kahn, *On Escalation: Metaphors and Scenarios* (Routledge, 2017).
- ¹¹ Richard Haass, “The Dangerous Decade: A Foreign Policy for a World in Crisis,” *Foreign Affairs*, September 6, 2022, <https://www.foreignaffairs.com/united-states/dangerous-decade-foreign-policy-world-crisis-richard-haass>.
- ¹² Hans M. Kristensen et al., “Russian Nuclear Weapons, 2024,” *Bulletin of the Atomic Scientists*, March 7, 2024, <https://thebulletin.org/premium/2024-03/russian-nuclear-weapons-2024/#post-heading>.
- ¹³ Hans M. Kristensen and Matt Korda, “World Nuclear Forces,” in *SIPRI Yearbook 2024 Armaments, Disarmament and International Security* (Oxford University Press: 2024), <https://www.sipri.org/yearbook/2024/07>.
- ¹⁴ “Foundations of State Policy of the Russian Federation in the Area of Nuclear Deterrence,” *Presidential Executive Order No. 355, June 2, 2020*, accessed January 25, 2025, <http://en.kremlin.ru/acts/news/63447>.
- ¹⁵ Maxim Trudolyubov, “Russia’s Nuclear Doctrine Change Is More Cautious Than It May Appear,” *The Wilson Center Blog*, September 27, 2024, <https://www.wilsoncenter.org/blog-post/russias-nuclear-doctrine-change-more-cautious-it-may-appear>.
- ¹⁶ Trudolyubov, “Russia’s Nuclear Doctrine Change.”
- ¹⁷ Peter Dickinson, “UK Gives Ukraine Green Light to Use British Weapons Inside Russia,” *Atlantic Council*, May 3, 2024, <https://www.atlanticcouncil.org/blogs/ukrainealert/uk-gives-ukraine-green-light-to-use-british-weapons-inside-russia/>.
- ¹⁸ Laura Gozzi, “Russia Warns of Consequences Over Western Involvement in Ukraine,” *BBC News*, September 20, 2024, <https://www.bbc.com/news/articles/cq5npwdv3wzo>.
- ¹⁹ Gozzi, “Russia Warns of Consequences.”
- ²⁰ “Russia Launches Nuclear Drills as Ukraine War Continues,” *AP News*, October 25, 2023, <https://apnews.com/article/russia-nuclear-drills-ukraine-war-62ad37602b0cf2901bf82a75e593294d>.
- ²¹ Anna Kozlovska, “Russia’s Nuclear Weapons in Belarus: What’s Next for Putin?” *Foreign Policy*, March 14, 2024, <https://foreignpolicy.com/2024/03/14/russia-nuclear-weapons-belarus-putin/>.
- ²² Mathieu Boulégué, “NATO Must Find Ways to Accelerate the Decline of Russia’s Military Industry,” *Chatham House*, July 2024, <https://www.chathamhouse.org/2024/07/nato-must-find-ways-accelerate-decline-russias-military-industry>.
- ²³ J. Andrés Gannon, “If Russia Goes Nuclear: Three Scenarios for the Ukraine War,” *Council on Foreign Relations*, November 9, 2022, <https://www.cfr.org/article/if-russia-goes-nuclear-three-scenarios-ukraine-war>.

-
- ²⁴ “Report on the Nuclear Employment Strategy of the United States,” Defense Technical Information Center, June 12, 2013, <https://apps.dtic.mil/sti/citations/ADA590745>.
- ²⁵ Hans M. Kristensen, “US Deploys New Low-Yield Nuclear Submarine Warhead,” *Federation of American Scientists*, January 29, 2020. <https://fas.org/publication/w76-2deployed/>.
- ²⁶ “W76-2 Deployed,” *Federation of American Scientists*, last modified January 29, 2020, <https://fas.org/publication/w76-2deployed/>.
- ²⁷ Anya L. Fink, “U.S. Nuclear-Armed Sea-Launched Cruise Missile (SLCM-N). IF12084,” *Congressional Research Service*, updated June 1, 2023. <https://crsreports.congress.gov/product/pdf/IF/IF12084>.
- ²⁸ Ankit Panda and Matthew Kroenig, “The US Is Building a Nuclear Sea-Launched Cruise Missile. Congress Must Make Sure It’s Built Right,” *Atlantic Council*, January 31, 2024, <https://www.atlanticcouncil.org/blogs/new-atlanticist/the-us-is-building-a-nuclear-sea-launched-cruise-missile-congress-must-make-sure-its-built-right/>.
- ²⁹ “New START Treaty,” U.S. Department of State, accessed October 1, 2024. <https://www.state.gov/new-start/>.
- ³⁰ “New START Treaty.”
- ³¹ “Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles (INF Treaty),” U.S. Department of State, accessed January 24, 2025. <https://2009-2017.state.gov/t/avc/trty/102360.htm>.
- ³² Frank Rose, “The End of an Era? The INF Treaty, New START, and the Future of Strategic Stability,” *Brookings*, February 12, 2019, <https://www.brookings.edu/articles/the-end-of-an-era-the-inf-treaty-new-start-and-the-future-of-strategic-stability/>.
- ³³ “SSC-8 (Novator 9M729).” *Center for Strategic and International Studies*, accessed January 24, 2025, <https://missilethreat.csis.org/missile/ssc-8-novator-9m729/>.
- ³⁴ Frederick Bryan, Mark Cozad, and Alexandra Stark, “Understanding the Risk of Escalation in the War in Ukraine,” *RAND Corporation*, September 21, 2023, https://www.rand.org/pubs/research_briefs/RBA2807-1.html.
- ³⁵ “Putin Says Ukraine ‘Matter of Life and Death’ for Russia,” *The Moscow Times*, February 18, 2024, <https://www.themoscowtimes.com/2024/02/18/putin-says-ukraine-matter-of-life-and-death-for-russia-a84134>.
- ³⁶ “The CNS North Korea Missile Test Database,” *Nuclear Threat Initiative*, April 15, 2024, <https://www.nti.org/analysis/articles/cns-north-korea-missile-test-database/>.
- ³⁷ “KN-23,” *Center for Strategic and International Studies*, accessed October 22, 2024, <https://missilethreat.csis.org/missile/kn-23/>.
- ³⁸ Vann H. Van Diepen, “The Sleeper Has Awakened: Six Key Takeaways From the Rollout of North Korea’s ‘Tactical Nuclear Attack Submarine.’” *38 North*, September 11, 2023, <https://www.38north.org/2023/09/the-sleeper-has-awakened-six-key-takeaways-from-the-roll-out-of-north-koreas-tactical-nuclear-attack-submarine/>.
- ³⁹ Vann H. Van Diepen, “North Korea’s New ‘Unmanned Underwater Nuclear Attack Craft’: Red October or White Elephant?” *38 North*, April 6, 2023, <https://www.38north.org/2023/04/north-koreas-new-unmanned-underwater-nuclear-attack-craft-red-october-or-white-elephant/>.
- ⁴⁰ Kim Tong-Hyung, “North Korea claims to test a ‘radioactive tsunami’ weapon at sea,” *PBS News*, March 24, 2023, <https://www.pbs.org/newshour/politics/north-korea-claims-to-test-a-radioactive-tsunami-weapon-at-sea>.
- ⁴¹ Jon Herskovitz, “North Korea Issues Nuclear Warning Ahead of U.S. Election.” *Newsweek*, April 3, 2023. <https://www.newsweek.com/north-korea-nuclear-warning-us-election-1931415>.
- ⁴² “Law on Consolidating the Position of Nuclear Weapons State.” Pyongyang: Supreme People’s Assembly, April 1, 2013. <http://www.kcna.co.jp/item/2013/201304/news01/20130401-25ee.html>.
- ⁴³ Eun A. Jo Lee and Nuno P. Monteiro, “Nuclear Weapons and Alliance Politics: How the US Manages Extended Deterrence.” *Journal of Conflict Resolution* 68, no. 1 (2024): 105-135. <https://doi.org/10.1177/00220027231185154>.
- ⁴⁴ “DPRK-Russia Treaty on Comprehensive Strategic Partnership,” *KCNA Watch*, June 20, 2024, <https://kcnawatch.org/newstream/1718870859-459880358/dprk-russia-treaty-on-comprehensive-strategic-partnership/>.

-
- ⁴⁵ “Pentagon Says 10K North Korean Troops in Kursk Oblast,” *U.S. Department of Defense*, accessed January 18, 2025, <https://www.defense.gov/News/News-Stories/Article/Article/3955757/pentagon-says-10k-north-korean-troops-in-kursk-oblast/>.
- ⁴⁶ Lindsay Maizland and Eleanor Albert, “Understanding the China-North Korea Relationship,” *Council on Foreign Relations*, March 7, 2024, <https://www.cfr.org/backgrounder/china-north-korea-relationship>.
- ⁴⁷ Henry Sokolski, “Wargame simulated a conflict between Israel and Iran: It quickly went nuclear,” *Bulletin of Atomic Scientists*, February 27, 2024, <https://thebulletin.org/2024/02/wargame-simulated-a-conflict-between-israel-and-iran-it-quickly-went-nuclear/>.
- ⁴⁸ Hans M. Kristensen and Matt Korda, “Nuclear Notebook: Israeli Nuclear Weapons, 2022,” *Bulletin of the Atomic Scientists*, January 17, 2022, <https://thebulletin.org/premium/2022-01/nuclear-notebook-israeli-nuclear-weapons-2022/>.
- ⁴⁹ Hans M. Kristensen and Matt Korda, “Nuclear Notebook: Israeli Nuclear Weapons, 2022.”
- ⁵⁰ Seymour M. Hersh, *The Samson Option: Israel's Nuclear Arsenal and American Foreign Policy* (New York: Random House, 1991).
- ⁵¹ Avner Cohen, “Israel’s Secret Plan to Nuke the Egyptian Desert,” *Politico*, June 5, 2017, <https://www.politico.eu/article/israels-secret-plan-to-nuke-the-egyptian-desert/>.
- ⁵² Hersh, *The Samson Option*.
- ⁵³ Hersh, *The Samson Option*.
- ⁵⁴ “Iran Installing and Starting Cascades of Advanced Centrifuges amid Nuclear Tension,” *NBC News*, September 5, 2023, <https://www.nbcnews.com/news/world/iran-installing-starting-cascades-advanced-centrifuges-nuclear-tension-rcna157142>.
- ⁵⁵ “Iran Set to Dramatically Increase Uranium Enrichment,” *Jewish News Syndicate*, June 20, 2024, <https://www.jns.org/iran-set-to-dramatically-increase-uranium-enrichment/>.
- ⁵⁶ “Military Assistance to Ukraine: Briefing Paper CBP-9870,” *House of Commons Library*, accessed January 25, 2025, <https://commonslibrary.parliament.uk/research-briefings/cbp-9870/>.
- ⁵⁷ Peyman Asadzadeh, “A Majority of Iranians Now Favor Possessing Nuclear Weapons. Their Leaders Take Note,” *Bulletin of the Atomic Scientists*, June 13, 2024, <https://thebulletin.org/2024/06/a-majority-of-iranians-now-favor-possessing-nuclear-weapons-their-leaders-take-note/>.
- ⁵⁸ Kali Robinson, “What Is the Iran Nuclear Deal?” *Council on Foreign Relations*, last modified October 27, 2023, <https://www.cfr.org/backgrounder/what-iran-nuclear-deal>.
- ⁵⁹ “Iranian President Opens Door to New Nuclear Talks,” *Arms Control Association*, October 2024, <https://www.armscontrol.org/act/2024-10/news/iranian-president-opens-door-new-nuclear-talks>.
- ⁶⁰ Alisa J. Rubin, “Iran’s Syria Strategy: The Axis of Resistance,” *The New York Times*, December 8, 2024, <https://www.nytimes.com/2024/12/08/world/middleeast/irans-syria-axis-of-resistance.html>.
- ⁶¹ “Iran’s Enriched Uranium Stockpile Grows as Nuclear Deal Talks Resume,” *BBC*, April 12, 2021, <https://www.bbc.com/news/world-middle-east-56715520>.
- ⁶² “Israeli Attack on Iraq’s Osirak 1981: Setback or Impetus for Nuclear Weapons?” *National Security Archive*, June 7, 2021, <https://nsarchive.gwu.edu/briefing-book/iraq-nuclear-vault/2021-06-07/osirak-israels-strike-iraqs-nuclear-reactor-40-years-later>.
- ⁶³ Ian Talbot, “Airpower Strategy and Deterrence in the Middle East: Analyzing the Implications of Iranian Ballistic Missiles,” *Æther: A Journal of Strategic Airpower & Spacepower* 2, no. 4 (2022): 75-98. https://www.airuniversity.af.edu/Portals/10/ÆtherJournal/Journals/Volume-2_Number-4/Talbot.pdf.
- ⁶⁴ Yossi Melman and Dan Raviv, “Three Minutes Over Syria: How Israel Destroyed Assad’s Nuclear Reactor,” *The Times of Israel*, March 21, 2018, <https://www.timesofisrael.com/three-minutes-over-syria-how-israel-destroyed-assads-nuclear-reactor/>.
- ⁶⁵ “Iran Update, October 28, 2024,” *Institute for the Study of War*, October 28, 2024, <https://www.understandingwar.org/backgrounder/iran-update-october-28-2024>.
- ⁶⁶ Geraint Alun Hughes, “An Israeli Attack on Iran’s Nuclear Weapons Programme Is Unlikely – Here’s Why,” *The Conversation*, October 28, 2024, <https://theconversation.com/an-israeli-attack-on-irans-nuclear-weapons-programme-is-unlikely-heres-why-228049>.

-
- ⁶⁷ “Ehud Olmert Interview: Gaza, Iran, and Netanyahu,” *The National*, February 22, 2024, <https://www.thenationalnews.com/mena/palestine-israel/2024/02/22/ehud-olmert-interview-gaza-iran-netanyahu/>.
- ⁶⁸ Tara Law, “Israel’s Global Reputation Is Declining Amid Conflict, Poll Shows,” *Time*, June 26, 2024, <https://time.com/6559293/morning-consult-israel-global-opinion/>.
- ⁶⁹ Hans M. Kristensen, Matt Korda, Eliana Johns, and Mackenzie Knight, “Chinese Nuclear Weapons, 2024,” *Bulletin of the Atomic Scientists* 80, no. 1 (2024): 49-72. <https://thebulletin.org/premium/2024-01/chinese-nuclear-weapons-2024/>.
- ⁷⁰ Ebony Bowden, “China Seeking ‘World-Class’ Military by 2049, Pentagon Report Says,” *New York Post*, November 9, 2021, <https://nypost.com/2021/11/09/china-seeking-world-class-military-by-2049-pentagon-report/>.
- ⁷¹ “DF-26,” *Center for Strategic and International Studies*, January 8, 2018, <https://missilethreat.csis.org/missile/dong-feng-26-df-26/>.
- ⁷² “Military and Security Developments Involving the People’s Republic of China 2023,” *U.S. Department of Defense*, October 19, 2023, <https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>.
- ⁷³ Hans M. Kristensen et al. “Chinese Nuclear Weapons, 2024.”
- ⁷⁴ M. Taylor Fravel, *Active Defense: China's Military Strategy Since 1949* (Princeton University Press: 2019), 239.
- ⁷⁵ “Military and Security Developments Involving the People’s Republic of China 2024: Annual Report to Congress,” *U.S. Department of Defense*, December 18, 2024, <https://media.defense.gov/2024/Dec/18/2003615520/-1/-1/0/MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA-2024.PDF>.
- ⁷⁶ Fravel, *Active Defense*. 107-138.
- ⁷⁷ Zhang Yuliang, “In Their Own Words: Foreign Military Thought – Science of Campaigns (2006),” *China Aerospace Studies Institute*, November 23, 2020, [https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2020-12-02%20In%20Their%20Own%20Words-%20Science%20of%20Campaigns%20\(2006\).pdf?ver=hma387iK8lQcZQ1x9ktt-Q%3d%3d](https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2020-12-02%20In%20Their%20Own%20Words-%20Science%20of%20Campaigns%20(2006).pdf?ver=hma387iK8lQcZQ1x9ktt-Q%3d%3d).
- ⁷⁸ “Military and Security Developments Involving the People’s Republic of China 2024,” *U.S. Department of Defense*.
- ⁷⁹ Mark F. Cancian, Matthew Cancian, and Eric Heginbotham, “The First Battle of the Next War: Wargaming a Chinese Invasion of Taiwan,” *Center for Strategic and International Studies*, January 9, 2023, <https://www.csis.org/analysis/first-battle-next-war-wargaming-chinese-invasion-taiwan>.
- ⁸⁰ Stacie Pettyjohn, Becca Wasser and Chris Dougherty, “Dangerous Straits: Wargaming a Future Conflict over Taiwan,” *Center for a New American Security*, June 15, 2022, <https://www.cnas.org/publications/reports/dangerous-straits-wargaming-a-future-conflict-over-taiwan>.
- ⁸¹ Xiao Tianliang, “In Their Own Words: Foreign Military Thought – Science of Military Strategy (2020),” *China Aerospace Studies Institute*, January 26, 2022, <https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2022-01-26%202020%20Science%20of%20Military%20Strategy.pdf>.
- ⁸² Peter Vincent Pry, “Nuclear EMP attack scenarios and combined-arms cyber warfare,” *Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack*, July 2017, <https://apps.dtic.mil/sti/pdfs/AD1097009.pdf>.
- ⁸³ William Radasky and Peter Pry, “BLACKOUT WARFARE: High-Altitude Electromagnetic Pulse (HEMP) Attack On The U.S. Electric Power Grid,” *EMP Task Force on National and Homeland Security*, August 2021, <https://emptaskforce.us/wp-content/uploads/2021/08/BLACKOUTWARFAREhempREPORTfinal21X.pdf>.
- ⁸⁴ Peter Pry, “CHINA: EMP THREAT – The People’s Republic of China Military Doctrine, Plans, and Capabilities for Electromagnetic Pulse (EMP) Attack,” *EMP Task Force on National and Homeland Security*, June 10, 2020, <https://freedommail.us/wp-content/uploads/2021/01/CHINAempTHREAT2020logo1.pdf>.
- ⁸⁵ John Costello and Joel McReynolds, “China’s Strategic Support Force: A Force for a New Era,” *China Strategic Perspectives* 13 (2018), <https://ndupress.ndu.edu/Portals/68/Documents/stratperspective/china/china-perspectives-13.pdf>.
- ⁸⁶ Pry, “CHINA: EMP THREAT.”
- ⁸⁷ Pettyjohn et al. “Dangerous Straits.”
- ⁸⁸ Fravel, *Active Defense*, 236.

⁸⁹ Fravel, *Active Defense*, 269.

⁹⁰ “Conflict Between India and Pakistan.” *Council on Foreign Relations*, last modified April 9, 2024, <https://www.cfr.org/global-conflict-tracker/conflict/conflict-between-india-and-pakistan>.

⁹¹ Hans M. Kristensen and Matt Korda, “Nuclear Notebook: How Many Nuclear Weapons Does India Have in 2022?” *Bulletin of the Atomic Scientists*, July 11, 2022, <https://thebulletin.org/premium/2022-07/nuclear-notebook-how-many-nuclear-weapons-does-india-have-in-2022/>.

⁹² “The Strategic Competition: Chinese and Russian Influence Operations,” *U.S. Department of Defense*, April 2023, <https://apps.dtic.mil/sti/trecms/pdf/AD1183539.pdf>.

⁹³ Hans M. Kristensen and Matt Korda, “Nuclear Notebook: How Many Nuclear Weapons Does India Have in 2022?”

⁹⁴ Hans M. Kristensen, Matt Korda, and Eliana Johns, “Pakistan Nuclear Weapons, 2023,” *Bulletin of the Atomic Scientists* 79, no. 5 (September 2023): 329-345, <https://doi.org/10.1080/00963402.2023.2245260>.

⁹⁵ Franz-Stefan Gady, “Is the Indian Military Capable of Executing the Cold Start Doctrine?” *The Diplomat*, January 29, 2019, <https://thediplomat.com/2019/01/is-the-indian-military-capable-of-executing-the-cold-start-doctrine/>.

⁹⁶ “India Deploys 10,000 More Troops to Kashmir as Tensions Rise,” *Associated Press*, last modified July 27, 2019, <https://apnews.com/general-news-3fba5daae33c499c95e89a76828e9afc>.

⁹⁷ “India-Pakistan Air Strike Claims: What You Need to Know,” *CNBC*, February 27, 2019, <https://www.cnbc.com/2019/02/27/india-pakistan-air-strike-claims-what-you-need-to-know.html>.

⁹⁸ “Article 370: What Happened with Kashmir and Why It Matters,” *BBC*, last modified August 6, 2019, <https://www.bbc.com/news/world-asia-india-49234708>.

⁹⁹ “India, Pakistan Agree to Stop Cross-Border Firing in Kashmir,” *Al Jazeera*, February 25, 2021, <https://www.aljazeera.com/news/2021/2/25/india-pakistan-agree-to-stop-cross-border-firing-in-kashmir>.

¹⁰⁰ “India, Pakistan Agree to Stop Firing at Kashmir Border,” *DW News*, February 25, 2021, <https://www.dw.com/en/india-pakistan-agree-to-stop-firing-at-kashmir-border/a-56683894>.

¹⁰¹ “At SCO Summit, India and Pakistan Squabble over Kashmir, Terrorism,” *Al Jazeera*, last modified May 8, 2023, <https://www.aljazeera.com/news/2023/5/8/at-sco-summit-india-pakistan-squabble-over-kashmir-terrorism>.

¹⁰² Edith M. Lederer, “At UN, Divisions over Russia’s War in Ukraine, Protests in Iran and a Widening Gulf between North and South Threaten Global Unity,” *AP News*, September 20, 2023, <https://apnews.com/article/un-leadership-peace-gaza-ukraine-sudan-biden-7802b51c48347b2004665a6a7725e1dd>.

¹⁰³ “Treaty on the Non-Proliferation of Nuclear Weapons (NPT),” *U.S. Department of State*, accessed January 25, 2025, <https://2009-2017.state.gov/t/isn/5191.html>.

¹⁰⁴ “What to Know About Sanctions on North Korea,” *Council on Foreign Relations*, last modified July 28, 2022, <https://www.cfr.org/background/north-korea-sanctions-un-nuclear-weapons>.

¹⁰⁵ “Preventing Russian Export Control and Sanctions Evasion: Updated Guidance for Industry,” *Group of 7*, September 24, 2024, <https://www.bis.gov/media/documents/g7-updated-guidance-industry-preventing-russian-export-control-and-sanctions>.

¹⁰⁶ Hung Tran, “The Underestimated Implications of the BRICS Summit in Russia,” *Atlantic Council*, November 1, 2024, <https://www.atlanticcouncil.org/blogs/econographics/the-underestimated-implications-of-the-brics-summit-in-russia/>.

Lessons for Counterterrorism: China and the East Turkistan Islamic Movement (ETIM)

Apurva Ramakrishnan

China's struggle against the East Turkistan Islamic Movement (ETIM) highlights a complex interplay between terrorism, state security, and human rights. As ETIM pursues its goal of creating an autonomous Islamic state for the Uyghur population, China's heavy-handed counterterrorism measures have sparked global debate on their effectiveness and ethical implications. This paper traces the causes and tactics of ETIM terrorism and analyses China's counterterrorism strategy, its implications, and outcomes. Though China's counterterrorism strategy was a limited tactical success, it was an overall strategic failure in delegitimizing ETIM and gaining international support, and it cannot be universally adopted in its entirety. Finally, the paper analyzes how China's counterterrorism policies drew widespread criticism and contributed to regional instability due to the proliferation of ETIM members across Central Asia.

Introduction to ETIM

The East Turkistan Islamic Movement (ETIM) is a terrorist organization in the People's Republic of China (PRC) aimed at creating an autonomous Islamic state for the Chinese Uyghur population. Researchers trace ETIM's roots back to the Uyghur minority in Xinjiang, who have long sought greater autonomy and religious freedom. As a separatist fundamentalist group, ETIM's goal was to establish an independent Islamic state in Xinjiang, leading to a series of violent confrontations with the Chinese government. Over the years, ETIM has launched several terror attacks to further its cause, and the PRC responded with equal heavy-handedness. This paper examines the complexities of counterterrorism in a tightly controlled state environment by situating ETIM's objectives within broader regional tensions and examining the Chinese government's response.

The limited reliable evidence on ETIM from primary sources, coupled with disagreements among scholars and policymakers on the extent of the ETIM threat, make it difficult to ascertain the true nature of ETIM's terrorist motivations. A major barrier to research on ETIM is the Chinese government's extensive

censorship policies, the implicit bias of Chinese media outlets, and the lack of direct access to sources from Xinjiang.¹ As of December 2024, several ETIM case records from the PRC remain inaccessible to the general public, and the author of this paper has exercised the utmost caution when making arguments sourced from the Chinese media. Nonetheless, despite arguments on whether there is sufficient evidence to classify ETIM as a terrorist organization, the paper draws on Ganor's definition of terrorism as "the use of, or threat to use violence, to achieve a political objective where the targets of terrorism are civilians."² In doing so, this paper asserts that the activities of the group support its classification as a terrorist organization and traces the origins of the East Turkistan Islamic Movement to the PRC's Uyghur minority in Xinjiang and their long struggle for self-determination.

Origins and Evolution of the East Turkistan Islamic Movement

The Uyghurs are an ethnic group that originated from the Turkic rule in Central Asia. Today's Uyghurs, who are followers of Islam, live in several parts of Central Asia with the majority residing in Xinjiang, in

northwest China.³ In the early 20th century, the Uyghurs displayed strong support for the establishment of the People's Republic of China (PRC). However, Mao Zedong's 1966 cultural revolution that placed Muslims at the forefront of anti-religious and ethnic nationalist critiques, and Deng Xiaoping's post-1978 liberal reforms that allowed greater mobility for Chinese Muslims to the Middle East, led to an influx of Islamist-reformist ideologies in China.⁴

Researchers trace ETIM's origins back to the early 1940s, with the establishment of the Turkistan Islamic Party (TIP), which engaged in several skirmishes and uprisings against Chinese forces. In 1956, TIP officially rebranded itself as the East Turkistan Islamic Movement, and remained inactive due to mass governmental arrests, until it was revived in 1980 by Dia Uddin bin Yousef.⁵ The 1986 Urumqi uprising and the 1990 Baren Rebellion in Xinjiang led to greater PRC attention on ETIM activities, the mass arrests of dissidents, and the tightening of security measures.⁶ Following a spate of bus bombings and attacks on government infrastructure in the 1990s, ETIM underwent a more prominent resurgence under the leadership of Hasan Mahsum in 1997, who discarded political activism for radical militancy to forward the Uyghur cause.⁷

As a relatively small group, the volume of ETIM activities varied, with the most visible and prominent clusters of attacks occurring in the 1990s, 2002, 2005, and 2008. Official Chinese reports from the 1990s were ambiguous, attributing terrorist attacks to "East Turkistan terrorist organizations." Most of these attacks were bombings and targeted assassination attempts against Muslim clerics who were aligned with the Han government.⁸ Though some ambiguity in official Chinese reports may be attributed to translation gaps, testimonies from

Xinjiang reflect that ETIM leadership maintained a strong sphere of influence over political and militant activities in Xinjiang. Several Uyghurs interrogated in Guantanamo Bay—a U.S. military detention camp—testified that despite not formally joining any organization, their trainers taught them to fight the Chinese government, and they considered Hasan Mahsum to be their leader.⁹ Therefore, ETIM could have been involved in the terrorist attacks emanating from Xinjiang, whether tacitly through approval or explicitly through logistical and material support.

In 2002, a terrorist attack plotted against the United States Embassy in Kyrgyzstan drew international attention to the organization, and in September 2002, the U.S. Department of State petitioned the United Nations Security Council to designate ETIM as a terrorist organization.¹⁰ Subsequent NATO operations and air strikes also destroyed ETIM training facilities in Afghanistan and Pakistan, killing several of its members.¹¹ In 2003, Abdul Haq al-Turkistani assumed leadership of ETIM following Mahsum's death, and in 2005, ETIM members orchestrated a major bus bombing in Fujian.¹² From 2007–2008 onwards, ETIM began expanding its online presence and releasing propaganda material, along with video evidence of attacks such as the execution of three Han Chinese in April 2008.¹³

The intensity and volume of ETIM attacks increased from 2008 onwards, with extensive armed attacks, assassination attempts, and bombings targeting civilians, government officials, and public infrastructure. The group sought to capitalize on the 2008 Beijing Olympics as a platform to spread their message and gain international support. The global terrorism landscape during this time and the growing publicity of the PRC's counterterrorism measures increased support

for the Uyghur cause from terrorist organizations like Al-Qaeda, thereby integrating the conflict in Western China as part of the broader jihadist movement.¹⁴ This propaganda effort was reflected following the 2013 Tiananmen Square bombing, where a propaganda video ETIM released claiming responsibility for the attack stated, “The people have learned who is the real enemy and they returned to their religion.”¹⁵ Owing to the PRC’s 1996 “Strike Hard” policy, its re-education efforts from 2014 onwards, and the 2017 establishment of internment camps in Xinjiang to detain Uyghurs, the Chinese government claimed that the number of direct terrorist attacks within the PRC reduced.¹⁶ However, this also led to ETIM members dispersing to other countries in Central Asia and allying with local jihadist groups. In recent years, the PRC claims that ETIM has rebranded itself as the “Turkistan Islamic Party” (TIP) and remains active in countries like Pakistan, Afghanistan, Syria, and countries in Central Asia.¹⁷ Despite leadership changes and external pressures, the group persisted, as evident in its media presence and continued engagement with radical ideologies.

Ideology and Objectives

ETIM’s struggle is born of radical Islamist philosophies as well as socio-economic and ethnic struggles for self-determination. The fundamental objective of ETIM is the creation of a separate state for the Uyghurs in Xinjiang along ethnic and religious lines. They have defined goals of primarily defeating the “near enemy,” whom they identify as Han China, and then eventually moving on to the “far enemy,” referring to Western countries.¹⁸ ETIM’s overarching strategic objective to establish a global Caliphate remains similar to that of other jihadi groups.

On the ideological front, ETIM proposes both a separatist and fundamentalist belief system focused on Sunni doctrines and a violent form of jihadi extremism. They believe that militancy is the “only viable approach to establishing an East Turkistani state governed by fundamentalist Islam” and call for Islamic rule based on *Shari’a* law to all of society either through the conversion of non-believers or the levying of religious tax (*jizya*) on non-Muslims as a means of subjugating them.¹⁹ As part of their ideology, they refute all forms of secular practices, including the PRC’s communism and the West’s democracy.²⁰ Their broader Islamist ideological beliefs and organizational objectives enable them to develop closer networks with similarly aligned terrorist organizations, thereby increasing prospects for cross-border terror attacks. Moreover, ETIM legitimized its tactics among the citizens of various Muslim nations by reframing the ethnic origins of the group to include religious dimensions.

Sources of Support: Logistics, Finance, and Transnational Relationships

Financial, logistical, and covert and explicit endorsement of ETIM’s ideological motivations has demonstrated a long history of solidarity for ETIM from Muslim sympathizers across the globe. Some driving factors for support include religious solidarity, sympathy for perceived injustices the Uyghurs faced, and other geopolitical considerations like opposing the PRC’s growing regional influence.²¹ Though the exact details of financial support ETIM received are unknown, the PRC alleges that the group received as much as \$130,000 from a member of the Saudi Uyghur diaspora and that a significant portion of their funding comes from kidnappings, trafficking, robberies, and other forms of organized crime.²² ETIM also has several splinter

movements—such as the Eastern Turkistan Information Center (ETIC), and the World Uyghur Youth Congress (WUYC)—aimed at achieving Turkistani independence, operating both within the PRC and abroad. Chinese government documents allege the presence and operation of these groups in countries like Turkey.²³ The extent of autonomy these ‘splinters’ exercise and the exact nature of their relationship with ETIM is unknown, however, the PRC considers them all part of the larger ‘East Turkistan’ terrorist network.

The PRC has also asserted that ETIM maintains a well-cultivated network with other jihadi organizations, chief among these being Al-Qaeda and its factions in Iraq and South Asia, the Afghan Taliban and its splinters in Pakistan, and the Uzbekistan Islamic Movement.²⁴ The testimonies of the Uyghur detainees at Guantanamo during the United States’ War on Terror further confirmed ETIM’s presence in Central Asia and the Middle East.²⁵ In 2001, the PRC mission to the UN released a statement claiming that Mahsum had met with bin Laden in 1999 and received around \$300,000 from him and the Taliban for “ETIM activities” in 2000.²⁶ Further, reports of ETIM members receiving training alongside Al-Qaeda recruits at the Tora Bora camps in Afghanistan, and their current leader Abdul Haq, hold a high status in Al-Qaeda as a member of their Shura Council—the chief advisory and legislative body—since 2005.²⁷ Much of the information known about ETIM’s relationship with Al-Qaeda comes from the testimonies of Uyghur detainees in Guantanamo Bay and subsequent reports from the U.S. government.

In 2017, Chinese officials reported that the Islamic State of Iraq and the Levant (ISIL)-trained Uyghurs had returned to the PRC to

commit terrorist acts, and despite the split between ISIL and ETIM, they shared similar anti-China sentiments.²⁸ Both groups accused the Chinese government of oppressing Muslims and tried to recruit Uyghurs from the PRC—creating a dilemma for Uyghur separatists, torn between two radical organizations. The tensions in Xinjiang persisted as ETIM expanded its activities globally, where other terrorist organizations exploited their desire for freedom and involved Uyghur militants in various terrorist operations. A major example is the role ETIM’s militants played in the Syrian civil war, where they engaged in several armed confrontations and suicide bombings, most notably during the 2015 Idlib Offensive.²⁹ ETIM members have also perpetrated other attacks like the 2015 bombings in Bangkok and Mali and plotted attacks in Dubai in 2008 and Oslo in 2010.³⁰ Their contribution to global jihad, along with the solidarity they receive from other terrorist organizations, enables them to procure money and resources to sustain their activities.

Evaluating Responses: An Analysis of the Strengths and Weaknesses of the PRC’s Counterterrorism Strategy

There is a complex relationship between the Chinese government and ETIM, who both have vested interests in the Xinjiang region. While the Uyghurs stake a historical and ethnic claim to the territory, Xinjiang’s strategic location connecting the PRC with parts of India, Afghanistan, Pakistan, Tajikistan, Kyrgyzstan, and Kazakhstan is vital for the PRC’s security and trade interests. Moreover, Xinjiang is rich in natural gas and oil reserves—amounting to almost one-third of the country’s supply—an indispensable part of the PRC’s economy.³¹ In such a situation, a threat to Xinjiang is construed as a threat to Chinese national interests.

Domestically, the PRC has maintained a combination of kinetic and non-kinetic efforts to contain jihadist militancy and maintain national security. In 2014, the PRC launched a renewed “Strike Hard” campaign against terrorism and violent extremism in its western provinces. The first iteration of the Strike Hard campaign in Xinjiang included measures like mass arrests, strict controls on religious expression, and heightened police presence.³² However, China escalated these efforts during its second Strike Hard wave in 2014, implementing widespread surveillance, arbitrary detentions, and forced political indoctrination, culminating in the internment camp system.³³ As part of this campaign, there were also more restrictions on religious and personal freedom that manifested in the form of bans against religious attire, and restrictions on religious customs like fasting during Ramadan, growing beards, and attending religious gatherings.³⁴ Authorities also imposed limits on Uyghur-language education, increased state control over mosques, and conducted ideological re-education programs to align religious practices with Communist Party directives.³⁵ The PRC also conducted frequent raids in Xinjiang and arrested citizens with suspected links to ETIM or other terrorist organizations. However, the extent to which arrested individuals were subjected to fair judicial and detention processes remains unknown.

In 2020, several units of the PRC’s military and police forces held joint counterterrorism drills and launched “Mountain Eagle Commando,” a special operations unit tasked with counterterrorism missions, particularly in Xinjiang.³⁶ The PRC has also made use of advanced technological capabilities such as iris scanners for surveillance and uses its media to raise public awareness of the ETIM problem.³⁷ This harsh crackdown on the citizens of the PRC’s northwestern province

not only allowed greater Chinese control over potential security threats but also raised several concerns about the abuse of power and human rights violations that may not be proportional to the perceived threat levels in Xinjiang.

On the international front, the PRC has maintained strong national rhetoric of ETIM remaining a primary focus of their counterterrorism missions and has often equated the threat ETIM poses as akin to that of Al-Qaeda following 9/11. The PRC used the 9/11 attacks as an opportunity to publicize the ETIM issue further and sought to secure U.S. cooperation claiming that ETIM was a legitimate threat to international security that sought to pit “modern states such as the United States and China against ‘non-state Islamic foes.’”³⁸ The PRC thus exploited the post-9/11 international context to elevate the perceived significance of the ETIM issue, portraying it as a shared concern that required collaboration among nations to address perceived Islamist threats to international security. However, though the post-9/11 context marked by the U.S.-led War on Terror initially provided the PRC with tactical gains through hard power measures, it ultimately resulted in strategic losses by altering the regional balance of power in the United States’ favor.³⁹ This shift undermined the PRC’s long-term objectives of legitimacy and control in Xinjiang and limited Beijing’s ability to shape the regional security landscape unilaterally.

One of the earliest Chinese efforts for international security cooperation against Islamist terrorism in Xinjiang can be traced back to 1996 with the establishment of the ‘Shanghai Five’— now known as the Shanghai Cooperation Organization (SCO)—in collaboration with Russia, Kazakhstan, Tajikistan, and Kyrgyzstan.⁴⁰ As part of the SCO, the PRC has reaffirmed its

commitment to fighting against the “three evils” of terrorism, separatism, and religious extremism.⁴¹ In 2022, Chinese President Xi Jinping launched the Global Security Initiative (GSI), calling for solidarity among nations to address evolving risks and challenges. The GSI highlights a need for security cooperation through regional and international organizations and reaffirms that one of its goals is to “Strengthen the UN’s role as the central coordinator in the global fight against terrorism.”⁴² This initiative indicates a growing willingness of the PRC to move towards multilateral security cooperation, actively participate in the processes of international institutions, and establish itself as an important stakeholder in regional stability. However, while the GSI emphasizes sovereign equality and peaceful dispute resolution, scholars express concerns about its potential misuse to justify state oppression or major power domination, as well as about whether the GSI policies align with its actual implementations.⁴³ Furthermore, some scholars cast doubt that the Global Security Initiative is a strategic plan to challenge the U.S.-led world order and promote the PRC’s governance model.⁴⁴ Ultimately, given that the PRC remains tight-lipped about its security situation in Xinjiang, and denies outsiders access to the region, concerns about the credibility of Chinese intentions for cooperation remain valid.

The PRC’s Successful Efforts in Xinjiang

The extent of the PRC’s success in its counterterrorism operations against ETIM and its affiliates is difficult to measure and ascertain owing to the lack of public access to reliable information. However, public governmental records indicate the strengths of some aspects of their counterterrorism strategy. Primarily, ETIM leadership decapitation efforts and the strengthening of local security forces at the pinnacle of the

PRC’s counterterrorism strategy played to their advantage. The exact details of ETIM members and leaders that the Chinese government arrested are unknown, however, over the years, the PRC has released numerous reports of raids conducted in Xinjiang leading to the arrest of ETIM affiliates. Chinese law enforcement agencies respond swiftly to incidents and threats of terror attacks. For example, Chinese authorities arrested five individuals allegedly associated with the 2014 Urumqi blast after they were found in Hotan a few days later at an incriminating explosive-making site.⁴⁵ Though Chinese authorities have released no further details on the arrests or the evidence recovered, it is worthwhile to note that the dramatic reduction in the known cases of ETIM and other terrorist attacks coincides with the PRC’s increased kinetic operations, as evidenced in Figure 1.

In the case of ETIM’s activities, leadership decapitation has mostly proved effective in weakening the group, even if not directly a consequence of the PRC’s efforts. For example, a 2003 Pakistani counterterrorism operation in Waziristan killed Hasan Mahsum, ETIM leader since 1997, and CIA drone strikes in Afghanistan around 2012 killed other leaders like Abdul Shakoor al-Turkistani.⁴⁶ Since killing these leaders, ETIM membership’s centralization and their ability to orchestrate organized attacks in the PRC has reduced. The PRC also invested in economic development in Xinjiang—which boosted a positive GDP growth of 3.4% in 2020.⁴⁷ Continued economic growth in the region could have positive ramifications in terms of counterterrorism objectives, as it might lead to fewer incentives for radicalization and participation in terrorist activities. While the PRC’s heavy-handed approach has worked in its favor as there are fewer attacks or terrorist threats in the region, they have also had unforeseen consequences.

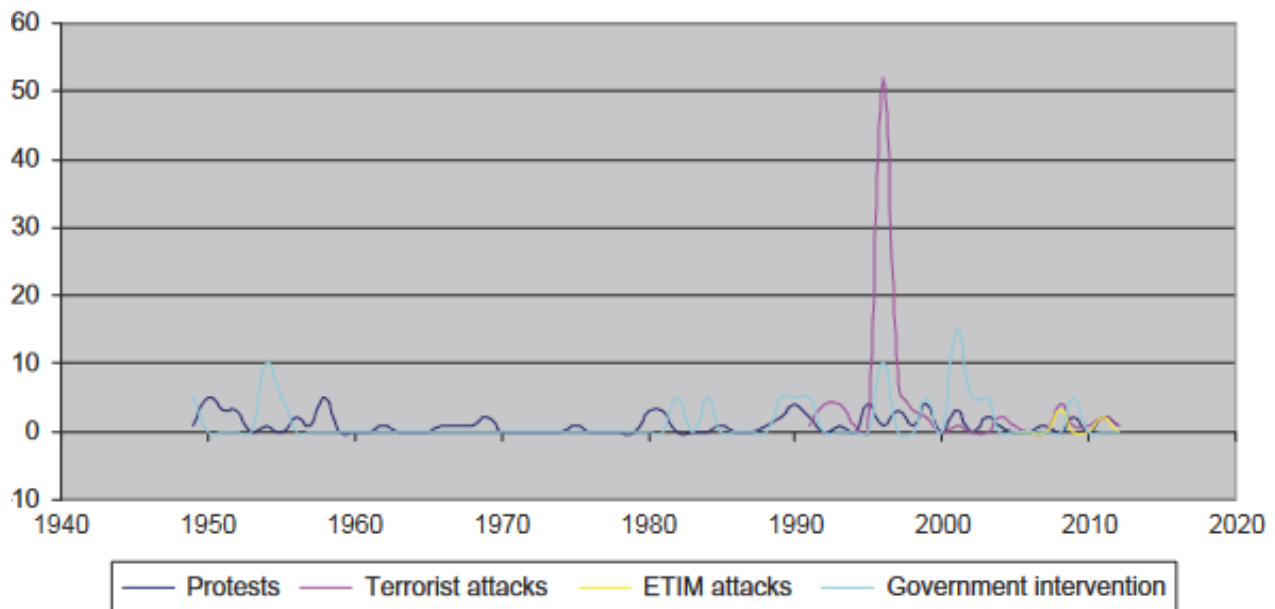


Figure 1: Terrorist attacks in China from the late 1940s. (Since ETIM began making its digital presence known only in the late 2000s, it is difficult to ascertain exactly how many attacks ETIM specifically caused between 1990 and the 2000s, and not all other “Turkistani terrorist organizations.”) Source: Pokalova, “Authoritarian Regimes against Terrorism: Lessons from China,”⁴⁸

The PRC’s Weaknesses: Why the PRC Failed at Achieving its Overall Strategic Objectives

The issues of Uyghur nationalism and ETIM’s terrorist threat have become conflated due to the Chinese administration’s inability to concisely and consistently define what comprises ‘terrorist activities.’ The Human Rights Watch in China reported that post-9/11, Chinese authorities in Xinjiang extensively labeled Uyghur residents as terrorists.⁴⁹ Consequently, the Uyghurs have been subjected to an intensified regime of mass surveillance, extra-judicial arrests, internment, and forced labor—among other measures.⁵⁰ Further, though the PRC’s 2007 anti-terrorism draft law aimed at better defining legal frameworks for identifying and detaining terrorists per international conventions, it never set a definitive timeframe or a course of action to achieve the same.⁵¹ Due to its ambiguity, the PRC may have made several extra-judicial arrests and further alienated an entire community by

conflating legitimate terrorist threats from a particular group with an entire ethno-religious identity. As Crenshaw argues, a state’s inability to create inclusive spaces for political participation and the expression of minority grievances leads to terrorism being the “resort of an extremist faction of this broader [social] movement.”⁵² When coercive measures become oppressive, they exacerbate tensions, contribute to further radicalization, and lead to an unending cycle of violence and repression.

Despite a decrease in the frequency of attacks in recent years, evidence suggests that the underlying grievances remain unresolved. For instance, the 2022 UN report highlights the continued sense of alienation and frustration within Uyghur communities both in Xinjiang and abroad, in addition to increasing human rights concerns for the detainees.⁵³ Scholars like Cunningham also link prolonged periods of Uyghur alienation with increased radicalization.⁵⁴ As long as

these grievances are not addressed, the risk of attacks or support for extremist ideologies may persist, as marginalized populations may turn to violence when their legitimate demands are ignored.

The PRC's heavy-handed approach also resulted in a massive loss of international support for its counterterrorism campaign, impacting the willingness of international organizations and states to collaborate with it. Concerns of human rights abuses, restrictions on religious and personal freedom, and allegations of forced labor and cultural repression have turned international attention away from ETIM to the treatment of the Uyghur detainees in Xinjiang. Countries like the United States, Canada, the European Union, and others imposed sanctions on Chinese officials and entities associated with the Xinjiang policies.⁵⁵ The United States also revoked ETIM's terrorist designation in 2020 and refused to extradite the detained Uyghur militants fearing for their safety in the PRC, with several Central Asian countries following suit and refusing to expel their own Uyghur refugees.⁵⁶ The consequence of this loss of support is that the PRC can no longer achieve the level of international cooperation it expected through its various global counterterrorism initiatives and has strained its diplomatic relations and soft power.

Finally, the PRC's heavy-handed approach also led to the proliferation of the Uyghur threat network in neighboring countries, and generated sympathy and support for Uyghur separatism among diaspora communities, thereby gravely threatening regional stability and posing a security threat to the PRC's immediate neighbors including Russia and India.⁵⁷ ETIM shifted its base to Afghanistan in 1977 until the U.S. bombing campaigns in 2001, subsequently moving its headquarters to Waziristan in Pakistan where it still

remains.⁵⁸ Though the only credible attack ETIM directly plotted was the U.S. Embassy bombing in Kyrgyzstan, several militants integrated with local terrorist groups in Central Asian and Middle Eastern countries and joined their respective campaigns, posing a significant security threat in Asia. The unintended consequence of regional destabilization and the cross-border dispersion of Uyghur militants is evident as neighboring countries now grapple with the challenges of addressing Uyghur extremism within their borders, posing a complex security dilemma for the broader region.

Ultimately, the PRC's overarching strategy of erasing the group's existence failed, seeing how ETIM members continued to operate in the region. Further, the PRC's heavy-handedness created opportunities for other terrorist organizations to recruit the displaced Uyghurs, leaving the PRC vulnerable to external terrorist threats. Additionally, their unwillingness to collaborate with international partners and lack of credible evidence to back their claims is why they failed to achieve international support for their operations. Finally, the PRC's rigidity and stringency in what it perceives to be a successful counterterrorism campaign is the driving force behind its failure to achieve its objectives of de-radicalization and group elimination.

Measures of Success: Assessing the Implications of the PRC's Response to ETIM

There is a strong correlation between a state's regime type and its choice of counterterrorism policy, and as a globally powerful authoritarian government, democratic frameworks like transparency or accountability did not constrain the PRC's responses to ETIM's perceived threat. Instead, the Chinese administration measured

‘success’ against ETIM as their ability to maintain national security by reducing the volume and intensity of attacks, promoting social stability and harmony aligned with their political ideologies, and securing international support. To achieve these metrics, the PRC focused on massive containment, coercive de-radicalization, and stringent military crackdowns on group activities, members, and entire communities. The outcome of these policies leads to the question of whether these were the right metrics for the PRC to set to achieve its goals. From a national security perspective, the PRC’s measures of success have been accurate for the most part—even if inappropriately executed. Prioritizing national security, refusing to negotiate with terrorist groups, and diplomatically pressuring states that are sympathetic to terrorist organizations are tried and tested strategies of success. However, the PRC’s success was limited because it focused on heavy-handed security measures rather than addressing the root causes of the Uyghur separatist issue. As Alterman assessed, “Negotiations with those perpetrating violence are not the solution to every problem; by the same token, many terrorist campaigns cannot be stopped by law enforcement actions alone.”⁵⁹

Moreover, the promotion of social stability along the lines of a very specific ideological system is problematic and short-lived. To contain Xinjiang’s cultural diversity and heterogeneous population, the Chinese government imposed secularism through re-education and banned religious practices to align with the Chinese Communist Party’s (CCP) ideology.⁶⁰ While promoting social stability is a national security concern, tying it exclusively to a specific, government-imposed ideological framework may not be an appropriate metric of success. Even if the PRC achieves short-term stability, it risks

exacerbating tensions and the resurgence of terrorist organizations in the long run. This is because its policies risk deepening resentment among Uyghurs, who may perceive them as an assault on their identity and religious beliefs.⁶¹ Scholars like McCauley and Moskalenko highlight that radicalization at both the individual and group levels often occurs in response to perceived threats to an ingroup’s identity.⁶² If the Uyghur’s grievances intensify, they may become a catalyst for radicalization, driving individuals to support or join terrorist organizations as a form of resistance against state oppression. A more inclusive and culturally sensitive approach is thus needed to address the complex and diverse socio-cultural landscape of Xinjiang and promote lasting stability. Ultimately, the PRC’s chances of success depend on the long-term sustainability of social stability achieved through such specific ideological measures, and until the PRC provides greater access to evidence for its supposed successes, its metrics remain an untestable hypothesis.

How Have Great Power Politics Impacted the PRC’s Metrics of Success?

The nature of Russian and American engagements in the region, and their respective domestic political and economic interests, impacted the PRC’s global fight against ETIM by influencing public perceptions on the nature of the threat and the PRC’s counterterrorism policies. While Russia has expressed support for the PRC due to its own struggles with ethno-religious separatist movements and terrorism in territories like Chechnya, the United States has adopted varying perspectives on ETIM over the years.

The United States’ response has been nuanced and influenced by the nature of the geopolitical threats it faced. In 2002, the State

Department declared that ETIM “has committed, or poses a significant risk of committing, acts of terrorism that threaten the security of U.S. nationals or the national security, foreign policy, or economy of the United States.”⁶³ However, the 2020 administration under President Trump revoked ETIM’s terrorist designation claiming that it had been inactive since the 2000s. Despite the PRC’s insistence that the ETIM now existed as the “Turkistan Islamic Party,” the United States refuted their claim stating that there was “insufficient evidence.”⁶⁴ This policy stems from the belief that the PRC uses ETIM’s terrorist designation as a justification for its domestic policies and human rights violations in Xinjiang. The United States has framed its criticism of China’s actions in Xinjiang through the lens of democracy and human rights, as proven by official State Department statements, as well as sanctions, and domestic laws such as the Uyghur Forced Labor Prevention Act which prohibits the import of Xinjiang-based goods that are suspected of being produced using forced labor.⁶⁵ However, its stance also serves as a means to counter China’s growing global influence, as these measures further contributed to international scrutiny, with several Western states imposing sanctions on Chinese officials.⁶⁶

By leveraging the ETIM issue on international platforms, the United States positioned itself as a defender of human rights while simultaneously countering China’s economic and soft power influence in key geopolitical regions. In 2021 Beijing condemned the United States’ approach, claiming that “The United States and other Western countries started to support separatist and terrorist activities in Xinjiang out of geopolitical purposes to destabilize the PRC and contain its development.”⁶⁷ The Uyghur issue could thus potentially serve as

a platform for the United States to widen its sphere of influence in the context of its great power competition with Russia and the PRC.

On the other hand, great power politics also influenced the support the PRC received from countries in the Middle East. Several Muslim-majority countries like Saudi Arabia, Pakistan, Qatar, Oman, Syria, and the United Arab Emirates have voiced strong support for Chinese policies in Xinjiang as recently as 2019.⁶⁸ These countries’ respective strategic and geopolitical goals are a major driving force behind their support. While Pakistan relies on the PRC as a balancing force in its strained relations with India, the Middle East has witnessed growing economic and diplomatic ties with the PRC, which has inserted itself as an important stakeholder in the region. This is evident through the China-Arab States Summit and the China-GCC Summit held for the first time in 2022.⁶⁹ This proves that the PRC’s metrics of success in managing the narrative around Uyghur terrorism and gaining international support are intertwined with the complex dynamics of great power politics and shaping global perspectives based on geopolitical considerations.

Alternate Strategies: What the PRC Could Have Done Instead

The PRC’s kinetic efforts against ETIM terrorism in Xinjiang were relatively successful as evidenced by the reduced number of attacks in the region. However, in doing so, they only stalled the problem. At the root of Uyghur dissatisfaction with the PRC lies the government’s unwillingness to work *with* the community and instead work *against* them. Explicit Islamist and jihadi ideologies were not a part of ETIM’s rhetoric at the onset of its separatist movement.⁷⁰ It was at this stage that the PRC could have preemptively addressed underlying ethnic grievances through open dialogue with the

Uyghur community and created a political space for them. Additionally, while the PRC's ideological commitment to national homogeneity made assimilation efforts inevitable, these efforts could have been recalibrated to emphasize inclusion rather than coercion and focused on finding mutually acceptable solutions to the causes of conflict. The CCP has historically displayed a willingness for cultural and ideological flexibility to achieve broader strategic goals. One example of this is how the CCP adapted its ideology to justify its rule in the face of economic reforms that seemingly contradict communist principles.⁷¹ This includes incorporating elements of Confucianism and traditional Chinese culture into its propaganda, despite previously rejecting these as feudal.⁷² Instead of suppressing religious and cultural identity outright, the state could have integrated Uyghur cultural expressions into a broader narrative of Chinese identity—similar to how the PRC promotes cultural tourism in Tibet.⁷³ In doing so, religious and cultural practices could have been framed as components of a unified but diverse Chinese civilization, rather than as antithetical to it. Such controlled political engagement and localized governance mechanisms would have allowed for limited, yet strategic expressions of cultural autonomy that aligned with the CCP's operational framework.

Furthermore, the PRC could have greatly benefited from employing Nell's "hearts and minds" strategy, wherein, "The answer [to the uprising] lies not in pouring more troops into the jungle, but in the hearts and minds of the people."⁷⁴ The obvious roadblocks to adopting this strategy would be the PRC government's propagation of strong nationalist ideologies and a homogenous Chinese identity. However, a CCP-compatible 'hearts and minds' strategy would have focused on leveraging economic

incentives and controlled religious concessions to cultivate loyalty, rather than resorting to mass detentions. Programs that emphasized economic prosperity—such as infrastructure projects under the Belt and Road Initiative (BRI)—could have been tied explicitly to Uyghur self-sufficiency, and used as a means to mitigate the uneven distribution of the BRI's benefits between the Uyghurs and the Han Chinese.⁷⁵ Additionally, rather than blanket crackdowns, the PRC could have utilized state-sanctioned religious institutions, allowing for a version of Islam that aligned with state ideology.⁷⁶ This is a model China has applied elsewhere, including its management of state-approved Catholicism, Protestantism, and Buddhism.⁷⁷ Such measures would demonstrate that religious control does not have to be purely repressive, and can also be channeled toward state goals. Through such measures, a 'hearts and minds' strategy might have enabled the PRC to foster trust and address the root causes of dissent, effectively countering Uyghur militancy and building lasting stability in Xinjiang.

Scholars also suggest that dismantling terrorist organizations from within and engaging local communities in counterterrorism efforts have greater prospects of success.⁷⁸ In the PRC's case, instead of employing heavy-handed measures like internment camps, the government should have directed deradicalization efforts specifically toward the group and its activities, with a nuanced understanding of the factors contributing to radicalization. The ideal models for this would be the highly successful deradicalization programs in countries like Saudi Arabia and Indonesia, which focused on ideological rehabilitation and reintegration through vocational training, psychological counseling, and controlled exposure to moderate religious scholars.⁷⁹ By

thus integrating ideological rehabilitation with state-sanctioned narratives and pathways for socioeconomic mobility, the PRC could have pursued a counterterrorism strategy that aligned with its centralized authority while reducing the long-term risk of radicalization.

Moreover, in addition to police and military action, the Chinese government could have also benefited from community-based policing strategies that reinforced local governance structures rather than replacing them entirely. Research shows that in the case of Islamist groups, hard policing among the Muslim community becomes counterproductive because authorities are regarded with suspicion and skepticism.⁸⁰ In such a situation, the PRC should have established mechanisms for building trust with the Uyghur community to encourage cooperation against groups like ETIM while simultaneously maintaining positive relationships with local populations.

Finally, by expanding military diplomacy and engaging more transparently with international security frameworks, the PRC could align its counterterrorism efforts with its broader geopolitical ambitions and policies. For instance, the PRC's existing military diplomacy efforts—such as joint counterterrorism exercises with countries like Pakistan—could have been expanded into multilateral intelligence-sharing networks that align with its broader geopolitical ambitions.⁸¹ The PRC could have also leveraged its economic ties and soft power projections in Southeast Asia, Africa, and Latin America to create parallel counterterrorism frameworks that rival Western-dominated institutions.⁸² While the PRC has historically resisted Western counterterrorism frameworks, a more transparent engagement with its existing partners, and with UN-led initiatives, could

have helped the PRC reframe its Xinjiang policies as part of a legitimate global counterterrorism effort rather than an internal crackdown on ethnic minorities. This would have fostered diplomatic support from states wary of Western hegemony in security affairs, while also mitigating international criticism for the PRC's handling of the ETIM issue.

Conclusion

The ETIM question is salient in a world riddled with ethnic tensions—particularly amid the rise of terrorism as a response to the perceived governmental negligence of certain communities. However, measures to strengthen security should prioritize intelligence-led actions targeting specific threats rather than blanket measures alienating entire communities. Future research would benefit from examining how counterterrorism strategies can integrate security concerns with political and cultural reconciliation, particularly in the context of authoritarian regimes. Given the evolving nature of terrorist threats, research should also explore how emerging technologies, like artificial intelligence and surveillance technologies, are shaping state responses to extremism, and whether they exacerbate or mitigate underlying tensions.

The PRC's approach to ETIM and the broader Uyghur dissent offers a case study of the challenges of balancing national security with socio-political legitimacy. The PRC's model, focused on internal stability, can offer insights into state-centric approaches, but the ramifications of its heavy-handed measures highlight the risks of prioritizing repression over engagement. Some aspects of the PRC's efforts are valuable lessons, such as their investments in enhanced technological capabilities and economic development, as well as the strengthening of their security forces. However, sustainable security is

achieved through proactive governance, inclusive policymaking, and strategic adaptability in counterterrorism efforts. Finding a balance between national security imperatives and the human elements of terrorism and counterterrorism operations is the key to successful, enduring security.

About the Author: *Apurva Ramakrishnan is a Master's student in the Security Studies Program at Georgetown University's Walsh School of Foreign Service. Originally from India, she grew up in several Middle Eastern countries. Currently pursuing a concentration in Terrorism and Substate Violence, she focuses on the manifestations of Jihadi-Salafi violent extremism across Asia. Apurva holds a triple-major Bachelor's in Political Science, History, and English from Christ University, India, and previously served in the Army Wing of the Indian Ministry of Defense's National Cadet Corps.*

- ¹ Due to the lack of transparency on evidence, the author acknowledges that the publicized reports might be the Chinese government's attempt to delegitimize both the group, and the broader Uyghur struggle for self-determination.
- ² Boaz Ganor, "Defining Terrorism: Is One Man's Terrorist Another Man's Freedom Fighter?," *Police Practice and Research* 3, no. 4 (January 1, 2002): 294. <https://doi.org/10.1080/1561426022000032060>.
- ³ Christopher P. Cunningham, "Counterterrorism in Xinjiang: The Etim, China, and the Uyghurs," *International Journal on World Peace* 29, no. 3 (September 1, 2012): 9. <https://www.proquest.com/scholarly-journals/counterterrorism-xinjiang-etim-china-uyghurs/docview/1319492115/se-2>.
- ⁴ Dru C. Gladney, "Islam in China From the First World War," in *Cambridge University Press eBooks*, 2000, 679–679, <https://doi.org/10.1017/cho9780521838269.025>; Andrew T.H. Tan, "The Terrorist Threat in the Asia-Pacific: The Current Situation and How It Can Be Improved," *Korean Journal of Defense Analysis* 20, no. 3 (September 1, 2008): 205-206. <https://doi.org/10.1080/10163270802309063>.
- ⁵ J. Todd Reed and Diana Raschke, *The ETIM: China's Islamic Militants and the Global Terrorist Threat* (Praeger, 2010), 47.
- ⁶ Gladney, "Islam in China from the First World War," 679.
- ⁷ Vyacheslav Oseledko, "China: The Evolution of ETIM," Stratfor, May 13, 2008. <https://worldview.stratfor.com/article/china-evolution-etim>.
- ⁸ Reed and Raschke, *The ETIM: China's Islamic Militants and the Global Terrorist Threat*, 54.
- ⁹ Reed and Raschke, 74-75.
- ¹⁰ U.S. Department of State and Philip T. Reeker, "Designation of the Eastern Turkistan Islamic Movement Under UNSC Resolutions 1267 and 1390," Press release, September 11, 2002. <https://2001-2009.state.gov/r/pa/prs/ps/2002/13403.htm>.
- ¹¹ Terri Moon Cronk, "U.S. Forces Strike Taliban, East Turkestan Islamic Movement Training S," U.S. Department of Defense, February 7, 2018. <https://www.defense.gov/News/News-Stories/Article/Article/1435247/us-forces-strike-taliban-east-turkestan-islamic-movement-training-sites/>.
- ¹² Phillip B. K Potter, "Terrorism in China: Growing Threats with Global Implications." *Strategic Studies Quarterly* 7, no. 4 (2013): 74–75. <http://www.jstor.org/stable/26270778>.
- ¹³ Reed and Raschke, *The ETIM: China's Islamic Militants and the Global Terrorist Threat*, 63.
- ¹⁴ Potter, "Terrorism in China: Growing Threats with Global Implications," 82. ; Lucy Hornby, "Isis Uighurs Threaten 'Rivers of Blood' in China." *FT.Com* (Mar 02, 2017). <https://www.proquest.com/trade-journals/isis-uighurs-threaten-rivers-blood-china/docview/1882863062/se-2>.
- ¹⁵ Jonathan Kaiman, "Islamist Group Claims Responsibility for Attack on China's Tiananmen Square." *The Guardian*, November 25, 2013. <https://www.theguardian.com/world/2013/nov/25/islamist-china-tiananmen-beijing-attack>.
- ¹⁶ Maria A. Soloshcheva, "The Uyghur Terrorism: Phenomenon and Genesis." *Iran and the Caucasus* 21, no. 4 (December 23, 2017): 424. <https://doi.org/10.1163/1573384x-20170408>. ; Information Office of the People's Government of Xinjiang Uyghur Autonomous Region. "Fight Against Terrorism and Extremism in Xinjiang: Truth and Facts," Embassy of the People's Republic of China in the State of Kuwait, August 2022. <https://kw.china-embassy.gov.cn/eng/zgxw/202209/P020220912088416288194.pdf>.
- ¹⁷ Permanent Mission of the People's Republic of China to the UN. "Remarks by Ambassador Zhang Jun at Security Council Briefing on Threats to International Peace and Security Caused by Terrorist Acts," February 9, 2022. http://un.china-mission.gov.cn/eng/hyyfy/202202/t20220210_10640687.htm.
- ¹⁸ Reed and Raschke, *The ETIM: China's Islamic Militants and the Global Terrorist Threat*, 50-51.
- ¹⁹ Reed and Raschke.
- ²⁰ Reed and Raschke.
- ²¹ Rémi Castets, "The Uyghurs in Xinjiang – the Malaise Grows," *China Perspectives* 2003, no. 5 (October 1, 2003). <https://doi.org/10.4000/chinaperspectives.648>.
- ²² Reed and Raschke, 72.

²³ Reed and Raschke, 77

²⁴ Permanent Mission of the People's Republic of China to the UN. "Remarks by Ambassador Zhang Jun at Security Council Briefing on Threats to International Peace and Security Caused by Terrorist Acts."

²⁵ Weijian Shan, "Xinjiang: What the West Doesn't Tell You about China's War on Terror." Embassy of the People's Republic of China in the Kingdom of Belgium, April 14, 2021. http://be.china-embassy.gov.cn/eng/zt/xinjiangEN1/202104/t20210420_9046348.htm.

²⁶ Permanent Mission of the People's Republic of China to the UN. "Terrorist Activities Perpetrated by 'Eastern Turkistan' organizations and Their Links with Osama Bin Laden and the Taliban." Press release, November 29, 2001. http://un.china-mission.gov.cn/eng/zt/fk/200111/t20011129_8413907.htm.

²⁷ Potter, "Terrorism in China: Growing Threats with Global Implications," 75.

²⁸ Soloshcheva, "The Uyghur Terrorism: Phenomenon and Genesis," 421–423.

²⁹ Caleb Weiss, "Turkistan Islamic Party in Syria Involved in New Idlib Offensive." FDD's Long War Journal, April 23, 2015. <https://www.longwarjournal.org/archives/2015/04/turkistan-islamic-party-in-syria-involved-in-new-idlib-offensive.php>

³⁰ Elena Pokalova, "Authoritarian Regimes against Terrorism: Lessons from China." *Critical Studies on Terrorism* 6, no. 2 (August 1, 2013): 290. <https://doi.org/10.1080/17539153.2012.753202>; Murray Scot Tanner and James Bellacqua. "China's Response to Terrorism." CNA. U.S.-China Economic and Security Review Commission, June 2016. https://www.uscc.gov/sites/default/files/Research/Chinas%20Response%20to%20Terrorism_CNA061616.pdf.

³¹ Gardner Bovingdon, *The Uyghurs: Strangers in Their Own Land* (Columbia University Press, 2010), 11.

³² Soloshcheva, "The Uyghur Terrorism: Phenomenon and Genesis," 424.

³³ Ibid, 423.

³⁴ Office of International Religious Freedom. "International Religious Freedom Report." *United States Department of State*. United States Department of State, November 26, 2019. <https://www.state.gov/report/custom/1ea644402f/>.

³⁵ Soloshcheva, "The Uyghur Terrorism: Phenomenon and Genesis," 423–426.

³⁶ Nodirbek Soliev, "China." *Counter Terrorist Trends and Analyses* 13, no. 1 (January 2021): 99. <https://www.jstor.org/stable/26979988?seq=1>.

³⁷ Ibid. 99–100.

³⁸ Cunningham, "Counterterrorism in Xinjiang: The Etim, China, and the Uyghurs," 20.

³⁹ Mohan Malik, "Dragon on Terrorism: Assessing China's Tactical Gains and Strategic Losses Post-September 11," October 1, 2002. <https://doi.org/10.21236/ada409339>.

⁴⁰ Oseledko, "China: The Evolution of ETIM."

⁴¹ Soloshcheva, "The Uyghur Terrorism: Phenomenon and Genesis," 423.

⁴² Ministry of Foreign Affairs. "The Global Security Initiative Concept Paper." People's Republic of China, February 21, 2023. https://www.fmprc.gov.cn/mfa_eng/wjbxw/202302/t20230221_11028348.html.

⁴³ Ka Lok Yip, "Reading China's Global Security Initiative Through an International Legal Lens," *Deleted Journal*, March 25, 2024. <https://doi.org/10.1177/2753412x241240259>.

⁴⁴ Dennis Wilder, "China's Bid to Remake the World Order," *Georgetown Journal of International Affairs* 25, no. 1 (June 1, 2024): 71–76. <https://doi.org/10.1353/gia.2024.a934888>.

⁴⁵ Michael Martina, "China Breaks up Another 'terrorist Gang' in Xinjiang." Reuters, May 27, 2014. <https://www.reuters.com/article/idUSKBN0E70XW/>.

⁴⁶ Elizabeth B. Davis, "Uyghur Muslim Ethnic Separatism in Xinjiang, China." *Asian Affairs: An American Review* 35, no. 1 (April 1, 2008): 22. <https://doi.org/10.3200/aafs.35.1.15-30>.

⁴⁷ Qian Zhou and Zoey Zhang. "Investing in Xinjiang: Economy, Industry, Trade, and Investment Profile." China Briefing News, April 9, 2021. <https://www.china-briefing.com/news/investing-in-xinjiang-economy-industry-trade-and-investment-profile/>.

-
- ⁴⁸ Pokalova, “Authoritarian Regimes against Terrorism: Lessons from China,” 288.
- ⁴⁹ Human Rights Watch. “Devastating Blows: Religious Repression of Uyghurs in Xinjiang.” Human Rights Watch, April 11, 2005. <https://www.hrw.org/report/2005/04/11/devastating-blows/religious-repression-uyghurs-xinjiang#1907>
- ⁵⁰ Dahlia Peterson and James Millward, “China’s System of Oppression in Xinjiang: How It Developed and How to Curb It,” September 1, 2020. <https://doi.org/10.51593/20200017>.
- ⁵¹ Ibid. ; Zhu Zhe, “Experts: Anti-Terrorism Law on Cards.” *China Daily*, May 31, 2007. https://www.chinadaily.com.cn/china/2007-05/31/content_883861.htm.
- ⁵² Martha Crenshaw, “The Causes of Terrorism.” *Comparative Politics* 13, no. 4 (July 1, 1981): 383–385. <https://doi.org/10.2307/421717>.
- ⁵³ “OHCHR Assessment of Human Rights Concerns in the Xinjiang Uyghur Autonomous Region, People’s Republic of China,” United Nations, August 2022. <https://www.ohchr.org/sites/default/files/documents/countries/2022-08-31/22-08-31-final-assesment.pdf>.
- ⁵⁴ Cunningham, “Counterterrorism in Xinjiang: The Etim, China, and the Uyghurs,” 19-20.
- ⁵⁵ “Uighurs: Western Countries Sanction China Over Rights Abuses,” *BBC*, March 22, 2021. <https://www.bbc.com/news/world-europe-56487162>.
- ⁵⁶ “Despite States’ Failure, Uyghurs and Rights Groups Won’t Give up Efforts to Hold China Accountable at the UN.” ISHR, October 12, 2022. <https://ishr.ch/latest-updates/despite-states-failure-uyghurs-and-rights-groups-wont-give-up-efforts-to-hold-china-accountable-at-the-un/>.
- ⁵⁷ Rohan Gunaratna, “Understanding the Challenge of Ideological Extremism,” UNISCI DOAJ (DOAJ: Directory of Open Access Journals), October 1, 2008, 116. <https://www.ucm.es/data/cont/media/www/pag-72511/UNISCI%20DP%2018%20-%20GUNARATNA.pdf>.
- ⁵⁸ Amy Chew, “Uyghur Separatist Group Rebuilds Bases in Afghanistan Even as China-Taliban Ties Grow,” *South China Morning Post*, July 28, 2022. <https://www.scmp.com/week-asia/politics/article/3186820/uyghur-separatist-group-rebuilds-bases-afghanistan-even-china> ; Reed and Raschke, *The ETIM: China’s Islamic Militants and the Global Terrorist Threat*, 76-77.
- ⁵⁹ Jon B. Alterman, “How Terrorism Ends,” United States Institute of Peace, May 5, 1999. <https://www.usip.org/publications/1999/05/how-terrorism-ends>.
- ⁶⁰ Lindsay Maizland, “China’s Repression of Uyghurs in Xinjiang,” Council on Foreign Relations, September 22, 2022. <https://www.cfr.org/background/china-xinjiang-uyghurs-muslims-repression-genocide-human-rights>.
- ⁶¹ Cunningham, “Counterterrorism in Xinjiang: The Etim, China, and the Uyghurs,” 19-20.
- ⁶² Clark McCauley and Sophia Moskalenko, “Mechanisms of Political Radicalization: Pathways Toward Terrorism,” *Terrorism and Political Violence* 20, no. 3 (July 1, 2008): 415–33. <https://doi.org/10.1080/09546550802073367>.
- ⁶³ “Determination Pursuant to Section 1(b) of Executive Order 13224 Relating to the Eastern Turkistan Islamic Movement (ETIM),” U.S. National Archives, August 6, 2002. <https://www.federalregister.gov/documents/2002/09/06/02-22737/determination-pursuant-to-section-1b-of-executive-order-13224-relating-to-the-eastern-turkistan>.
- ⁶⁴ Soliev, “China,” 96–97.
- ⁶⁵ “Against Their Will: The Situation in Xinjiang,” Department of Labor, n.d. <https://www.dol.gov/agencies/ilab/against-their-will-the-situation-in-xinjiang>.
- ⁶⁶ “Uighurs: Western Countries Sanction China Over Rights Abuses,” *BBC*, March 22, 2021, <https://www.bbc.com/news/world-europe-56487162>.
- ⁶⁷ “China (Includes Tibet, Xinjiang, Hong Kong, and Macau): Xinjiang,” United States Department of State, 2021. <https://www.state.gov/reports/2021-report-on-international-religious-freedom/china/xinjiang/> ; “Things to Know about All the Lies on Xinjiang: How Have They Come About?” Embassy of the People’s Republic of China in the Kingdom of Belgium, April 29, 2021. http://be.china-embassy.gov.cn/eng/zt/xinjiangEN1/202104/t20210429_10167649.htm.mi
- ⁶⁸ Tom Miles, “Saudi Arabia and Russia among 37 States Backing China’s Xinjiang Policy,” *Reuters*, July 15, 2019. <https://www.reuters.com/article/us-china-xinjiang-rights-idUSKCN1U721X/>.

-
- ⁶⁹ Mohammad Eslami and Maria Papageorgiou, "China's Increasing Role in the Middle East: Implications for Regional and International Dynamics," *Georgetown Journal of International Affairs*, May 30, 2023. <https://gjia.georgetown.edu/2023/06/02/chinas-increasing-role-in-the-middle-east-implications-for-regional-and-international-dynamics/>.
- ⁷⁰ Pokalova, "Authoritarian Regimes against Terrorism: Lessons from China," 289.
- ⁷¹ Jinghan Zeng, *The Chinese Communist Party's Capacity to Rule*, (Palgrave Macmillan UK: 2015) <https://doi.org/10.1007/978-1-137-53368-5>.
- ⁷² Anne-Marie Brady, "State Confucianism, Chineseness, and Tradition in CCP Propaganda," in *China's Thought Management* (Routledge: 2011).
- ⁷³ Martin Saxer, "The Moral Economy of Cultural Identity," *Civilisations*, no. 61–1 (December 22, 2012): 65–82, <https://doi.org/10.4000/civilisations.3143>.
- ⁷⁴ Karl E. Nell, "Hearts-and-Minds: A Strategy of Conciliation, Coercion, or Commitment?," US Army War College, September 1, 2012. <https://doi.org/10.21236/ada568622>.
- ⁷⁵ Amy H. Liu and Kevin Peters, "The Hanification of Xinjiang, China: The Economic Effects of the Great Leap West," *Studies in Ethnicity and Nationalism* 17, no. 2 (October 1, 2017): 265–80, <https://doi.org/10.1111/sena.12233>.
- ⁷⁶ Jonathan Brasnett, "Controlling Beliefs and Global Perceptions: Religion in Chinese Foreign Policy," *International Studies* 58, no. 1 (January 1, 2021): 41–58. <https://doi.org/10.1177/0020881720981513>.
- ⁷⁷ Daan F. Oostveen, "Material Politics, Violence, and Religion," in *Material Perspectives on Religion, Conflict, and Violence* (Leiden, The Netherlands: Brill, 2022) 58–72. https://doi.org/10.1163/9789004523791_004.
- ⁷⁸ Alterman, "How Terrorism Ends."; Basia Spalek and Douglas Weeks, "Community-Based counterterrorism." *Studies in Conflict & Terrorism* 40, no. 12 (January 23, 2017): 987–90. <https://doi.org/10.1080/1057610x.2016.1253984>.
- ⁷⁹ Amanda K. Johnston, "Assessing The Effectiveness Of Deradicalization Programs On Islamist Extremists," Naval Postgraduate School, 2008. <https://apps.dtic.mil/sti/tr/pdf/ADA514433.pdf>.
- ⁸⁰ Spalek and Weeks, "Community-Based counter-terrorism."
- ⁸¹ Chen Zhuo, "China-Pakistan 'Warrior-VIII' Joint Counter-terrorism Exercise Concludes," China Military, 2024, http://eng.chinamil.com.cn/CHINA_209163/Exercises/News_209184/16359463.html.
- ⁸² Thomas Lum et al., "China's Foreign Aid Activities in Africa, Latin America, and Southeast Asia," Congressional Research Service, February 25, 2009, https://digital.library.unt.edu/ark:/67531/metadc743598/m1/1/high_res_d/R40361_2009Feb25.pdf.

Applying Counterfactual Analysis to the Study of Terrorism

Chris Quillen

Counterfactual analysis explores the implications of different historical paths. This social science technique is particularly well-suited to the study of terrorist attacks but has rarely been applied to terrorism issues in a systematic way. This article demonstrates the utility of this approach by examining counterfactuals of significant al-Qa'ida attacks including the September 11 hijackings, the Bojinka plot, and the USS Cole bombing. Such analysis offers unique insights into the historical impact of terrorist attacks and the intentions of terrorist groups. Additional counterfactual analyses would benefit the field of terrorism studies and should be considered by researchers in the future.

Introduction

Counterfactual analysis explores ‘what might have been?’ by imagining a different historical path. Political scientists and historians regularly use this social science technique to reveal the impact of important events and the methods by which events could have turned out differently if not for the actions of individuals. Most often applied to the study of military conflicts, counterfactual analysis has not yet been applied to the study of terrorism in any significant way despite the field being particularly well-suited to the question of ‘what if?’. By applying this technique to both successful and thwarted terrorist plots, analysts can better understand the intentions of terrorists in conducting their attacks and the impact that terrorism has had on history. To demonstrate the utility of this approach, this article first outlines the process of conducting counterfactual analysis and then applies this technique to several terrorist attacks conducted or attempted by the Sunni Islamic extremists affiliated with al-Qa’ida. Once completed, this counterfactual analysis demonstrates the significant impact al-Qa’ida’s successful attacks have had on recent history and better reveals what al-Qa’ida and related extremists intended to achieve with the attacks that failed. A broader application of counterfactual analysis to terrorism studies will improve

understanding of the influence of terrorist attacks on history and the intentions of terrorist groups in the future.

Debating Counterfactual Analysis

Recent decades have seen a growth in interest in counterfactual analysis to help explain the impact of historical events. Although initially conceived as idle speculation, counterfactual analysis is increasingly viewed as a useful social science technique. Despite this increasing attention, counterfactual analysis has not yet been systemically applied to terrorism studies. This article seeks to address this gap in the literature by examining the utility of counterfactual analysis in examining the role that terrorism has played in recent history.

Counterfactual analysis examines the past to determine the impact of an event. It considers what would have been different if the event had or had not occurred, helping to assess the event’s full effect. The central question of counterfactual analysis is ‘What If?’ The most prominent examples generally revolve around the outcome of major wars (What if the South had won the American Civil War? What if the Nazis had won World War II?) or the lives and deaths of important leaders (What if Abraham Lincoln or John F.

Kennedy had lived? What if Adolf Hitler had been assassinated?).

Although some leading thinkers including E.H. Carr have dismissed counterfactual analysis as nothing more than a “parlour game,” an increasing number of prominent figures have pursued the technique.¹ Prominent historians including Stephen E. Ambrose, Caleb Carr, Niall Ferguson, John Keegan, David McCullough, William H. McNeill, and James M. McPherson have contributed to several best-selling anthologies covering the ‘what ifs?’ of major wars, important events and leaders, American history, European history, and the rise of the West in general.² No less a presence than Winston Churchill has written alternate history—even if he did call it an “absurd speculation” in the process.³ Efforts to put more academic rigor into counterfactual analysis have also grown, particularly in political science, psychology, and sociology.⁴ With this increased academic rigor, the time has come to apply systematic counterfactual analysis to the field of terrorism studies.

In Defense of Counterfactual Analysis

Counterfactual analysis can be a valuable analytic tool for understanding the importance of particular events. Too often it is assumed history is predetermined. Of course, the North was going to win the Civil War. The North had an industrial and manpower advantage. Of course, the Nazis would lose World War II. Germany faced a two-front unwinnable war. Of course, the United States would win the Cold War. The Soviet economic and imperial system was simply unsustainable. In these *ex post facto* analyses, it is often overlooked that the end was very much in doubt at the time. Difficult decisions had to be made to achieve what is perceived as inevitable after the fact. Sacrifices had to be made to achieve victory,

which was always in doubt. Counterfactual analysis aids the analyst in understanding decisions as they were made at the time, not with the benefit of hindsight.⁵ Counterfactual analysis puts the analyst in the position of the decisionmaker weighing difficult choices, rather than the historian explaining established facts.⁶

Political scientist James D. Fearon is a leading proponent of the utility of counterfactual analysis.⁷ He argues that counterfactuals “play a necessary and fundamental, if often implicit and underdeveloped, role in the efforts of political scientists to assess their hypotheses about the causes of phenomena they study.”⁸ Understanding and explaining causation is always challenging but can be especially difficult in historical analysis where repeating events is not possible and only a single instance is available for study.⁹ Counterfactuals can fill this gap by hypothesizing additional scenarios for study. “Particularly in small-N research designs, scholars in comparative politics and international relations routinely evaluate causal hypotheses by discussing or simply referring to *counterfactual cases* in which a hypothesized causal factor is supposed to have been absent”¹⁰ (*italics in original*). Terrorist attacks offer one example of the need to consider counterfactual cases since comparisons between attacks is difficult given their variation. However, Fearon argues counterfactuals are not just another option for understanding causation but are required in certain circumstances.¹¹ If the number of cases is limited to one actual case (as is the case with historical events), then counterfactual analysis is required. Claiming that a terrorist attack caused a specific reaction inherently involves a counterfactual, as terrorist attacks are single case studies. As Tetlock and Parker argue, “Whenever we make the apparently factual

claim that factor x made a critical causal contribution to outcome y we *simultaneously* make the counterfactual claim that, in a logical shadow universe with factor x deleted, outcome y would not have occurred”¹² (*italics in original*). Thus, when arguing that the United States invaded Afghanistan in response to the September 11 attacks, one must inherently assert that in the absence of the 9/11 attacks the United States would not have invaded Afghanistan (at least not in October 2001).

Role of Terrorism in History

While some political scientists and historians have embraced counterfactual analysis as a useful tool, terrorism analysts have unfortunately largely ignored this technique. Terrorism has undoubtedly had a major impact on the direction of world history but has often been overshadowed by the actions of great powers and world leaders. Historians rarely consider the impact of terrorism and thus relegate its study to specific experts on the issue. One such expert, Bruce Hoffman, has explored this issue, asking “[I]n what circumstances did terrorism act as a ‘driver of history,’ exerting a major impact on international and national events, and why was it able to do so?”¹³ Hoffman cites three levels of analysis to answer this question: 1) terrorism can have “monumental power to change the course of history,” 2) terrorism can be “a tactical weapon that achieves profound changes in governmental organizations and policy to counter this menace,” and 3) terrorism can be “a strategic force, re-calibrating international politics and affairs, and catapulting to prominence (and to an extent, power) hitherto unknown or inconsequential movements.”¹⁴ Hoffman demonstrates terrorism’s impact with three compelling case studies drawn from Bosnian Serb, Irish, and Palestinian history, with the 1914 assassination of

Archduke Franz Ferdinand being the most powerful example of a single terrorist attack changing the course of history by providing the spark for the outbreak of World War I.

Specific terrorist attacks can serve as vital turning points. Such turning points are sometimes called ‘critical junctures’ or ‘focusing events,’ but the idea is essentially the same. Terrorist attacks can produce critical junctures in which “there is a *substantially* heightened probability that agents’ choices will affect the outcome of interest” (*italics in original*).¹⁵ The September 11 attacks in particular created a critical juncture in which considerable change was possible.¹⁶ As political scientists Giovanni Capoccia and R. Daniel Kelemen explain, “[D]uring critical junctures decisions are taken in a situation of high uncertainty and unpredictability, given the relaxation of the ‘normal’ structural and institutional constraints on action.”¹⁷ September 11 enabled long-considered proposals to be pursued, including taking military action against the Taliban and Saddam Hussein, as well as the creation of long-debated organizations such as the Director of National Intelligence (DNI) and the Department of Homeland Security (DHS). Gregory Koblenz describes such moments as “focusing events” which is “a rare, sudden event that inflicts harm on a large-scale, surprises the general public and the policy elite, and serves as a powerful catalyst for policy-making.”¹⁸ His research describes the confluence of terrorist attacks close together in time as creating such opportunities. Potential examples include the close association of the September 11 attacks and the anthrax mailings or Aum Shinrikyo’s Sarin gas attack on the Tokyo subway and the Oklahoma City bombing occurring only a month apart, both of which combined to create a critical juncture in which new actions could be taken against the threat of terrorism.

Focusing events thus enable changes that would not have been possible otherwise.

Existing Counterfactual Literature on Terrorism

Terrorist attacks are inherently singular events designed for maximum impact and, therefore, studying their impact through counterfactual analysis offers significant opportunities for insight. What if a particular terrorist attack did not occur? What if a particular terrorist plot had succeeded? These questions are ready-made for counterfactual analysis, but the counterfactual field has been dominated thus far by historians who seem to be much more interested in wars and politicians. The field of terrorism studies (particularly regarding the modern terrorist movements since 1968) is largely dominated by journalists and political scientists with relatively few historians taking part.¹⁹ Counterfactual analysis by contrast has largely been the work of historians rather than political scientists which helps to explain the lack of counterfactual analysis in terrorism studies.²⁰ That said, important political science works are starting to bring counterfactual analysis into that field.²¹

While historians who engage in counterfactual analysis tend to focus on major wars and important historical figures, one area of potential overlap with the counterfactual study of terrorism is the assassination of political leaders. The assassinations of Lincoln and Kennedy are particularly popular in counterfactual literature. Significant assassinations by terrorists include the murder of Archduke Franz Ferdinand by the Black Hand and the killing of Indian Prime Minister Rajiv Gandhi by the Liberation Tigers of Tamil Eelam (LTTE). Hoffman cites the assassination of Archduke Franz Ferdinand

in 1914 as his case study for his argument on “terrorism’s monumental power to change the course of history.”²² One of the earliest waves of international terrorism was dominated by the Anarchists and their series of assassinations of world leaders. This would appear to be a rich area of study potentially linking the existing counterfactual analyses of assassinations with the study of terrorism.

A few counterfactual analyses have explored terrorist assassinations of world leaders including the killing of Spanish Prime Minister Carrero Blanco by Basque Homeland and Liberty (ETA) in 1973 and the assassination of Israeli Prime Minister Yitzhak Rabin by a Jewish extremist in 1995.²³ One particular anthology edited by historian Robert Andrews includes several twists on historical facts including a successful Gunpowder Plot that killed King James I in 1605, the survival of Archduke Franz Ferdinand in 1914, the assassination of Vladimir Lenin in 1917, and the Irish Republican Army’s assassination of Prime Minister Margaret Thatcher at Brighton in 1984.²⁴ As political scientists Tetlock and Belkin hypothesize, “Perhaps one reason why assassinations attract so much counterfactual attention is that it is so easy to imagine ‘getting away with’ changing only a few causal antecedents and producing a consequential result.”²⁵ While such a possibility applies equally well to the counterfactual analysis of terrorist attacks, assassination counterfactuals tend to prejudice the importance of the political leader over the study of terrorism. Therefore, this article explicitly avoids further discussion of assassinations to keep the focus squarely on terrorism rather than politics.

The most significant terrorist attack in history—the September 11, 2001, attacks by al-Qa’ida on the United States—has sparked

surprisingly few counterfactual analyses. On the five-year anniversary of the attacks, *New York Magazine* invited speculation from several pundits. Only one from Andrew Sullivan offered any significant detail or logical analysis, including a hypothesized President Al Gore launching attacks against terrorist bases in Afghanistan in retaliation for a different terrorist attack.²⁶ By claiming Gore also would have invaded Afghanistan, he maintains a U.S. military attack against al-Qa'ida in Afghanistan was inevitable regardless of who won the 2000 presidential election or the outcome of the September 11 attacks—an argument that claims specific events are less important than the broad trends of history.

Additional terrorist counterfactuals have been rare and sometimes lacking in academic rigor. Aki J. Peritz explored the implications of the success of the 2006 liquid bomb plot. His analysis focused on the plot's impact on the airline industry and the global economy in general—and only as a means of demonstrating the threat rather than as a serious counterfactual analysis that employed social science techniques.²⁷ The Front de Libération du Québec (FLQ) nationalist/terrorist campaign has also sparked a couple of counterfactual analyses. One raises the question of additional aid from France straining the bonds of NATO while the other imagines Canadian Prime Minister Pierre Trudeau taking a harder line against the rebels.²⁸

A few analysts have explored counterfactuals relating to broader terrorism campaigns, but primarily as a tangential issue rather than the primary focus. Daniel Byman recently applied counterfactual analysis to the efforts at Reconstruction following the U.S. Civil War.²⁹ By extension, Byman examined the terrorist campaign of the Ku Klux Klan (vice individual attacks) and how it could have

been defeated. In his analysis, Josef Joffe also posited a world without Israel and considered its possible effects on terrorism in the Middle East (among other issues).³⁰ In both cases, terrorism was one of many issues to be considered, but not the predominant one.

Such previous efforts provide a useful starting point but have not yet applied analytic rigor to the question of terrorism's impact on history. By employing the leading political science methodologies on counterfactual analysis specifically to terrorist attacks, this article endeavors to correct this oversight and demonstrate the broader utility of such an approach.

Rules for Counterfactuals

Before starting down this path, it is worthwhile to discuss the proper way to perform effective counterfactual analysis. First, any such analysis must follow what is known as the “Minimum Rewrite Rule.”³¹ A foundational principle of all serious counterfactuals, this rule dictates that the analyst should change as little as possible to get the desired effect of revealing the event's importance. Generally, this involves one change at a specific point in time and should avoid multiple changes at multiple points. As Fearon explains “In the counterfactual approach one tries to imagine another (not actual) case in which the presumed causal agent is absent but everything else that is relevant is identical.”³² The purpose is to explore the implications of that change—thus demonstrating its hypothesized importance—rather than fundamentally rewriting history. Once that change has occurred, additional factors will intervene to compound its impact. As Fearon argues, “The fewer the changes from the actual world required by a counterfactual supposition, the easier it will be to draw and support causal

inferences, and the more defensible they will be.”³³ Such an approach rejects a deterministic view of history where global forces caused events. Instead, this approach restores the role of free will and human action in determining the future. However, counterfactuals should be limited to near-term impacts and not overstate a single event’s ability to alter human history and the broader trends at play.³⁴ The further the analysis gets from the initial change, the more likely other decisions will intervene that will dilute the change’s impact.

Applied to terrorism studies, the Minimum Rewrite Rule requires a focus on specific terrorist attacks as events that can change the course of history rather than overarching terrorist campaigns which would require more dramatic changes. Arguing that a particular terrorist attack caused a specific political response automatically involves the counterfactual: if the terrorist attack had not occurred then that political response would not have happened. As dramatic, violent events intended to spark a significant social and political response, terrorist attacks provide a particularly effective “either/or” proposition on which to pivot counterfactual analysis. The only change is whether or not a given attack occurred. Everything else stays the same. The analysis flows from the single change. For example, changing one small event to prevent the 1995 Oklahoma City bombing is relatively easy to conceive of and acceptable for this approach, but attempting to prevent the “Troubles” in Northern Ireland would require massive changes to Irish and British history on multiple occasions and violates this principle because of the numerous follow-on effects that would result.³⁵ To use a military analogy common in counterfactual analysis, changing the outcome of one battle is considerably more plausible than changing the outcome of an entire war.

Second, any such change must be plausible.³⁶ Plausible counterfactuals “cannot violate [the reader’s] understanding of what was technologically, culturally, temporally, or otherwise possible.”³⁷ By only changing terrorist attacks and by sticking to the “Minimum Rewrite Rule,” plausibility at first appears relatively easy to achieve. Terrorist attacks are never an easy task with multiple pathways to failure and numerous security services actively attempting to prevent their occurrence. Thus, conceiving of a particular terrorist attack failing is not challenging. The reasons why may or may not be relevant. Law enforcement authorities could have disrupted the plot, or the responsible terrorists could have called it off for their own reasons. The key is to understand the impact that the terrorist attack had in real life and consider what changes would have occurred without the attack. By exploring this new reality, the true impact that terrorism—or rather a specific terrorist attack—had can be better understood and revealed. Understanding what terrorism has achieved from the terrorist’s perspective whether it is changes in government policies or revenge against one’s enemies is key to understanding its importance and the continued attraction of this violent tool.

However, this is not the only scenario for terrorist counterfactuals. Such efforts should also include terrorist attacks that did not occur but plausibly could have.³⁸ In exploring such possibilities, plausibility is harder to achieve but not impossible. To maintain plausibility in terrorist attacks that did not occur, the researcher must demonstrate that the terrorist plot was relatively advanced with a reasonable chance of success. Historian Niall Ferguson argues “We should consider as plausible or probable *only those alternatives which we can show on the basis of contemporary evidence that contemporaries actually considered*” (italics

in original).³⁹ While many counterfactual analysts have rejected this standard as too strict given the gaps in the historical record, such an approach is advisable when studying terrorist attacks. Exploring terrorist plots that were planned, but ultimately disrupted or otherwise interrupted, demonstrates that these actions were 'actually considered.' To be clear, it is not sufficient for a terrorist attack to be imagined. Instead, the focus should be on attacks that went beyond the idea stage and to the planning stage with operatives assigned, weapons acquired, and targets selected. Using purely aspirational terrorist plots—even those that resulted in criminal convictions—would not meet this plausibility criteria. Similarly, analysts should be skeptical of the plausibility of planned terrorist plots disrupted by government authorities. Those authorities have a vested interest in overstating how advanced a given terrorist plot was or how devastating it would have been had it succeeded.

Another valuable counterfactual scenario is exploring what might have occurred if a partially successful terrorist attack had fully achieved its intended outcome. Using this approach removes the need to invent terrorist plots (in fact, creating entire scenarios like that is a violation of the principle of only changing one small aspect) and instead allows the attack to proceed as intended by the perpetrators. Looking into the possible impacts of such plots had they been fully successful can help to reveal terrorist intentions. By exploring terrorist attacks that were only partially successful, a greater understanding of terrorist motivations, intentions, and goals is gained. The value of such insight should not be dismissed because the method to achieve it is somewhat unconventional. Such attempts, however, must still follow the other rules. For example, the terrorists who struck the World

Trade Center in February 1993 intended to topple both buildings killing as many as 250,000 people.⁴⁰ This scenario, however, is implausible given the amount of explosives that would have been necessary and would have required significantly greater capabilities from the group (which would have increased the chances of getting caught beforehand).⁴¹ The bombing of the *USS Cole* in October 2000 was intended to sink the ship and kill all 350 sailors onboard. Such an outcome is entirely plausible and very nearly came to fruition.⁴² What if the *Cole* had been sunk? How would the U.S. reaction have changed if the intended result had been achieved? The answers to such questions have the potential to reveal what al-Qa'ida intended to achieve with the bombing and what kind of reaction they intended to provoke. Such insights provide a fuller understanding of the threat and offer an opportunity to improve the counter-terrorist response. Such insights provide a fuller understanding of the threat and offer an opportunity to improve the counter-terrorist response.

Political scientist Ned Lebow argues plausible counterfactuals “must have a real probability of leading to the outcome the research intends to bring about.”⁴³ Thus, “the researcher must construct a logical path between the counterfactual change and the hypothesized outcome.”⁴⁴ The burden falls on the researcher to demonstrate that a particular outcome—an actual terrorist attack gets disrupted, or a failed plot succeeds—is plausible. To achieve this outcome, simplicity is essential. Minimal changes to the historical record are made with the implications examined only in the near term. As Lebow explains, “As a general rule, the fewer and more trivial the changes we introduce in history, the fewer the steps linking them to the hypothesized consequent, the more plausible the counterfactual

becomes.”⁴⁵ Dragging out the implications of a counterfactual too far into the future inherently limits its plausibility as additional factors are bound to intervene. As in weather forecasting, tomorrow is rather easy to predict with a high level of accuracy, but predicting the weather twenty years from now borders on idle speculation and guesswork. Lebow proposes “the most credible vehicles of plausible-world counterfactuals” include “random events” such as “[a]ssassinations, ill-health, last-minute changes in travel plans, undelivered messages, misunderstandings, accidents, and coincidences.”⁴⁶ This analysis proposes to add terrorist attacks to that list of “random events.”

Finally, counterfactual analyses tend to take one of two forms: ‘the world would be better’ or ‘the world would be worse.’ There is little value in or market for ‘the world would be the same’ analysis. Such an outcome would be an admission that the historical event changed was not that important to begin with and therefore not a good starting point for analysis. Thus, the selected change must be important enough to facilitate significant change—for better or worse. Not all terrorist attacks rise to this standard, but unfortunately many do. Counterfactual analysis is thus well-suited to the study of terrorism, specifically terrorist attacks. Such a tool should be utilized cautiously and within well-defined parameters. Nevertheless, it offers the potential for significant insights. The next section will apply this technique to specific terrorist attacks to demonstrate its utility.

Applying Counterfactual Analysis to Terrorist Attacks

In selecting terrorist attacks for counterfactual analysis, it is important to choose one event that had—or could have

had—a significant impact in the real world. Individual terrorist attacks such as the 1995 Oklahoma City bombing or the 2004 Madrid train bombings stand out due to their singular effect. That said, such impactful attacks could also be part of a broader terrorism campaign. Some attacks can stand out from the “background noise” of broader violence and make a larger impact due to their brutality and their political impact. The 1946 bombing of the King David Hotel in Jerusalem, the 1983 bombing of the U.S. Marine Corps barracks in Lebanon, and the 1998 Omagh bombing all fall into this category. This final section, one terrorist attack that could have failed (the September 11 attacks), one that could have succeeded (the Bojinka plot), and one that could have been even more successful (the *USS Cole* bombing).

What If the September 11 Attacks Had Failed?

As arguably the most significant terrorist attack in history, the September 11 attacks are an obvious candidate for counterfactual analysis.⁴⁷ Given its success, examining the implications of its failure offers the greatest opportunity for insights.⁴⁸ Imagining such failure is not difficult. the September 11 Commission report listed ten “Operational Opportunities” that individually or in concert could have possibly disrupted the attacks.⁴⁹ The operational complexity of the attacks and the number of individuals involved offered numerous opportunities for the plot to be disrupted by security services or simply called off by al-Qa’ida leadership. According to the September 11 Commission Report, al-Qa’ida leader Usama bin Laden balked at the complexity of the original 9/11 plot⁵⁰ and later canceled the proposed Asian part of the plot in the spring of 2000 for fear it was growing out of hand.⁵¹

If the 9/11 attacks did not occur, the immediate impacts are clear. Thousands of people would not have died, the World Trade Center buildings would still be standing, four aircraft would not have crashed, and the United States—the world—would not have stood still and watched it all happen. Without the attacks, al-Qa'ida would not have become the preeminent terrorist threat to the United States and its leadership would not have become high-value targets.

The absence of the 9/11 attacks may have impacted additional terrorist attacks that occurred later that year. First, the attempted shoe bomber Richard Reid may have succeeded in his December 2001 attack against American Airlines Flight 63 from Paris to Miami. He was thwarted in part by wary passengers and crew who noticed his odd fumbling with his shoe. If not for the increased vigilance wrought by 9/11 those onboard may not have acted quickly enough to stop his efforts.⁵² Second, and perhaps more speculatively, the failure of the 9/11 attacks may have resulted in the delay or even the absence of the 2001 anthrax mailings. The 9/11 attacks had a significant psychological impact on Dr. Bruce Ivins, the alleged perpetrator, and may have offered inspiration to conduct the attacks. First, the anthrax letters specifically referenced “al-Qaeda” and “9-11-01” indicating his attempt to place the blame squarely on the terrorist group. According to the investigative summary produced by the Federal Bureau of Investigation (FBI), Dr. Ivins started his unexplained after-hours work on preparing the anthrax spores almost immediately after the 9/11 attacks by spending more than two hours in the lab late on Friday, September 14 followed by two more evening visits on Saturday, September 15 and Sunday, September 16.⁵³ The first letters were mailed on Monday, September 17 or Tuesday, September 18—less than a week after the

9/11 attacks. Moreover, the 9/11 attacks seemed to have raised Dr. Ivins's concerns about a second wave biological attack.⁵⁴ While certainly not definitive, without the 9/11 attacks it seems unlikely the anthrax mailings would have occurred in September 2001. The anthrax attacks may not have occurred at all.

If the 9/11 attacks had not occurred, it would have been highly unlikely the United States would have invaded Afghanistan—certainly not in October 2001 and potentially not ever. As U.S. President Joe Biden argued while announcing the U.S. withdrawal from Afghanistan, “I respectfully suggest you ask yourself this question: If we had been attacked on September 11, 2001, from Yemen instead of Afghanistan, would we have ever gone to war in Afghanistan — even though the Taliban controlled Afghanistan in 2001? I believe the honest answer is ‘no.’ That’s because we had no vital national interest in Afghanistan other than to prevent an attack on America’s homeland.”⁵⁵ Without the U.S. invasion, it seems likely the Taliban would have remained in power in Kabul. If the Taliban had remained, al-Qa'ida would have stayed in their safe haven with potentially significant implications for their training camps, additional plots against the U.S. homeland, and even their efforts to develop an anthrax program—all of which were disrupted by the U.S. invasion.

If the 9/11 attacks did not occur and the United States did not invade Afghanistan, it raises serious questions about whether the United States would have also invaded Iraq.⁵⁶ While many in the Bush Administration seem to have come into office planning a war against Saddam Hussein (even before 9/11), the political likely would not have existed for such a war of choice among the American people and within Congress without the impetus of the September 11 (and possibly

the anthrax) attacks. While the invasion of Iraq is admittedly more speculative than the invasion of Afghanistan in this scenario, the discussion is nevertheless worthwhile.

Regarding Congress, numerous pieces of important legislation likely would not have passed without the 9/11 attacks. First and foremost, the Authorization to Use Military Force (AUMF) which has effectively served as a declaration of war against al-Qa'ida (and later the Islamic State) would not exist if the September 11 attacks had not happened. The Department of Homeland Security likely would not have been created in 2002 (and numerous homeland security academic programs and journals would not have been founded). Additional reforms such as the PATRIOT Act and the Intelligence Reform and Terrorism Prevention Act (IRTPA) would very likely not have passed without the political pressure to respond to the 9/11 attacks. Without the PATRIOT Act, allegations of "warrantless wiretapping" and even the revelations of Edward Snowden come into question. Without the IRTPA, the Director of National Intelligence and the National Counter-Terrorism Center (NCTC) would not exist. Without the Global War on Terrorism, the extraordinary rendition program would not have been formed, and Guantanamo Bay would not have become a prison. Thus, it is easy to see major changes in world history if just one terrorist attack had been disrupted. Admittedly, the September 11 attacks are something of an outlier and most terrorist attacks are not this significant, but this example demonstrates the power of counterfactual analysis to reveal the importance of a particular event in history.

What If the Bojinka Plot Had Succeeded?

The Bojinka Plot was a major terrorist attack planned by Ramzi Yousef and his uncle Khalid Sheikh Mohammed (KSM)

throughout 1994. In January 1995, Yousef and KSM intended to assassinate Pope John Paul II in Manila, bomb 12 airliners flying from Asia to the United States—killing approximately 4,000 people—and crash a plane into the headquarters of the Central Intelligence Agency.⁵⁷ By the time it was disrupted, the plotters had already tested explosive devices in attacks on a shopping mall, a theater, and a commercial jet.⁵⁸ The plot was only disrupted two weeks before the first planned aircraft bombing after the plotters accidentally started a fire in their bomb-making facility drawing the attention of Philippine authorities. Given these facts and the terrorist pedigrees of the plotters, the plausibility of the Bojinka plot succeeding is not hard to imagine. Moreover, the complete success of every aspect of the complex plot is not necessarily required to have a major impact. By itself, an attempted assassination of the Pope killing several people in the crowd would have constituted a major international terrorist attack. Successful attacks on multiple airliners could have been the deadliest terrorist attack in history.

If the attack had succeeded (at least at some level) it is worthwhile to explore the international implications to understand fully what the plotters were trying to achieve. First, the planned assassination of the Pope seems designed to put a specifically religious spin on the attacks potentially even a desire to spark a religious war between Muslims and Christians. Second, the airliner attacks were intended to achieve an unprecedented body count among civilian targets and devastate the international airline industry and thus the global economy. In short, this was one of the most ambitious terrorist plots in history. Finally, the attack on the CIA headquarters was the sole explicitly anti-American angle to the attack (although many Americans undoubtedly would have been on the planes bound for the United States). This attack was

likely a combination of goals including targeting a symbol of American power and complicating the international investigation. By imagining these effects, we can better understand what the plotters themselves hoped to achieve with their actions.

Envisioning the success of Bojinka highlights terrorist intentions. Too often, terrorism analysts focus exclusively on successful terrorist attacks which only tell part of the story. While such attacks demonstrate both capabilities and intentions, a fuller understanding of intentions requires an examination of plots that did not—but almost did—happen. In this example, the Bojinka plot demonstrates that terrorist willingness to kill in large numbers was increasing (and the capability to do so was getting closer to reality). Especially if combined with Yousef's previous effort to destroy the World Trade Center buildings, this disturbing trend demonstrated that murder by the tens of thousands was no longer out of bounds for terrorist groups even if their capabilities were still falling short.⁵⁹ By exploring the growing threat of terrorist intentions to kill in large numbers such counterfactual analysis had the potential to reveal this disturbing trend and potentially adjust counterterrorist actions. For example, significant hardening of air travel and additional awareness of the threat of terrorist plane crashes into important buildings could have prevented the September 11 attacks.

A final consideration of the success of Bojinka is the international reaction. While the United States likely would have led the response, Bojinka was not an exclusively anti-American operation like 9/11. Numerous other countries would have been victims and demanded a role in retaliation—potentially leading to an uncoordinated response against numerous groups with only tangential connections to the plot in an effort

to prevent the next attack. The targets of such retaliation probably would have been more challenging than after 9/11. Yousef was best described as a terrorist-for-hire, but he did have connections to several groups that could have faced retaliation. First, retaliation against Philippines-based Abu Sayyaf seems likely. Yousef originally befriended Abu Sayyaf founder Abdurajak Abubakar Janjalani in Peshawar in 1991.⁶⁰ He was in the Philippines specifically to train members of Abu Sayyaf in making explosives and had even claimed the bombing of Philippine Airlines flight 434 (a test run for Bojinka) in the name of Abu Sayyaf.⁶¹ If Abu Sayyaf had been blamed for bombing multiple aircraft, the Philippine and other governments may have been pushed to draconian measures, increasing instability in that country and affecting air travel across the region. If Abu Sayyaf had been blamed for the assassination of the pope, religious tensions between Muslims and Christians likely would have spiked around the world with deadly consequences for both sides.

Second, and perhaps more consequentially, attention could have turned to Usama bin Laden's organization given his previous connections to both Yousef and KSM.⁶² Although the official announcement of al-Qa'ida was still years away, the U.S. government was already tracking the growing threat presented by bin Laden. The connections between Abu Sayyaf and bin Laden were well-known, therefore tying Yousef to either group could have led to targeting both groups.⁶³ While the ties between Yousef and bin Laden appear stronger in retrospect, the connections in 1995 may have been sufficient to spark retaliation for a major terrorist attack like Bojinka. After the 1993 WTC bombing the investigation revealed phone and possibly family connections between Yousef and bin Laden's organization.⁶⁴ Yousef had been

both a student and later an instructor at terrorist training camps sponsored by bin Laden.⁶⁵ After the 1993 WTC bombing, bin Laden directed considerable funding toward Yousef. Representatives of bin Laden paid Yousef to travel to the Philippines to train Abu Sayyaf and attempted to hire Yousef to assassinate then-U.S. President Bill Clinton.⁶⁶ Bin Laden also had previous connections to KSM. The two men met during the anti-Soviet jihad in the 1980s when KSM served as a secretary to both the head of Hizbul-Ittihad El-Islami (the Islamic Union Party), Abdul Rasul Sayyaf, and later to bin Laden's mentor Abdullah Azzam.⁶⁷ Admittedly, the U.S. government saw bin Laden as more of an extremist financier rather than a terrorist leader in the early 1990s, but this assessment could have nevertheless led the world to look at the growing terrorist threat in Sudan after a disaster like a successful Bojinka attack.⁶⁸

If these connections led to a focus on bin Laden in 1995, the international community would have found him in Khartoum, Sudan.⁶⁹ Sudan had been sliding into Islamic extremism for years following a 1989 military coup backed by the National Islamic Front (NIF).⁷⁰ The new government, inspired by NIF leader Hassan al-Turabi, invited a wide range of Islamic extremists to move their operations to Khartoum. As a result, the U.S. State Department added Sudan to its list of State Sponsors of Terrorism in August 1993 for harboring members of the Abu Nidal Organization, Egypt's al Gama'at al-Islamiyya, and Lebanese Hizballah.⁷¹ Bin Laden moved to Sudan in 1991 and established an extensive international organization.⁷² Bin Laden's presence was well-known to Arab governments at the time and even sparked an assassination attempt against him in February 1994, allegedly backed by Arab governments.⁷³ By 1995 the U.S. State Department's "Patterns of Global

Terrorism" report devoted an entire paragraph to Sudan's support for Usama bin Laden and their willingness to let him use his base in Khartoum to finance and train terrorists.⁷⁴ Although international sanctions against Khartoum did not kick in until April 1996, the pressure was growing for years before that.⁷⁵ Thus, a successful attack like Bojinka could have had numerous connections back to Sudan, not just through bin Laden.

If the response to Bojinka had stretched to Khartoum, it raises serious questions about whether the regime of Omar al-Bashir and Hassan al-Turabi would have turned over bin Laden as demanded by the international community or fought to protect their guest like the Taliban did following the September 11 attacks.⁷⁶ The Sudanese government does not appear to have been as willing to stand up to the international community as the Taliban given the fact that Khartoum succumbed to pressure and invited bin Laden to leave in 1996.⁷⁷ Regardless, U.S. cruise missile strikes against terrorist targets in Sudan in the aftermath of Bojinka are not difficult to imagine. The regime was already on the U.S. State Department's list of state sponsors of terrorism and numerous designated terrorist groups were present in the country, making for a target-rich environment. Only three years later (after the simultaneous truck bombings of the U.S. embassies in Kenya and Tanzania in August 1998), the Clinton administration quickly opted for cruise missile strikes in Sudan. If Bojinka had succeeded, even in part, such military strikes may have occurred years earlier given many of the same decisionmakers were present in the U.S. government in 1995 and 1998.⁷⁸ The impact of such strikes is unpredictable, but consequential, potentially affecting the Sudanese government's support for extremist groups, changing the trajectory of bin

Laden's organization, and complicating U.S. relations with the Arab world.

Counterfactual analysis of the Bojinka plot reveals terrorist intentions years before the willingness to engage in such extreme acts of violence became clear and offers the potential for preemptive actions to be taken that could potentially have prevented future terrorist attacks including September 11. Such analysis also explores the possibility of unintended consequences for the terrorist plotters including reprisal attacks against both bin Laden's organization and the government of Sudan.

What If the USS Cole Had Sunk?

While the bombing of the *USS Cole* is widely considered a terrorist success for severely damaging a U.S. Navy ship and killing 17 U.S. sailors, the attack was only a partial success when looking at al-Qa'ida's intentions.⁷⁹ The attack was designed to sink the *Cole* in Aden harbor, potentially killing the approximately 350 sailors onboard. Given how close al-Qa'ida came to such an outcome, plausibility is not difficult to demonstrate.

By examining the full success of such a terrorist attack, intentions again become clearer—even as capabilities to carry out such intentions are only partially demonstrated. Given the transition in U.S. administrations at the time, the focus on the Israeli-Palestinian peace negotiations, and the pace of the investigation into the perpetrators of the attack, the U.S. government did not respond militarily to the *Cole* bombing.⁸⁰ Reportedly, Usama bin Laden was upset by the lack of a U.S. government response as he was hoping to draw the United States into invading Afghanistan and starting a war with the United States.⁸¹ Bin Laden was expecting at

a minimum the missile strikes the U.S. military launched after the 1998 East Africa embassy bombings and moved his senior leaders to separate locations to avoid a decapitating strike, but no such attack was forthcoming.⁸²

If the *Cole* had sunk with a dramatically larger loss of life, the U.S. reaction likely would have been different. Military strikes against targets in Afghanistan, Sudan, and potentially Yemen appear likely at a minimum. Actual ground invasions of any of those countries, however, appear less likely. Such limited military strikes would have been unlikely to disrupt al-Qa'ida operations—including the impending 9/11 attacks—in any significant way. More likely, the greater success of al-Qa'ida and the retaliation by the United States would have increased bin Laden's prestige, garnering more recruits and more funds from around the world.

Counterfactual analysis of this case offers the opportunity to expose bin Laden's intentions earlier. He intended to take the fight directly to the United States and hoped to draw U.S. forces into Afghanistan for a final battle. Such a conclusion indicates half-measures were not sufficient to deter further attacks and a more aggressive response to al-Qa'ida's attacks was likely necessary.

Conclusions

As this article demonstrates, counterfactual analysis is a powerful social science technique able to offer useful insights when properly conducted. The study of terrorist attacks is particularly well-suited to such analysis given the singular, dramatic nature of such acts of violence. One need not agree with every conclusion offered above to recognize the overall value of the technique to provide new insights. Exploring

counterfactuals of terrorist attacks offers two primary benefits. First, such analysis demonstrates the significant impact terrorism has had on world history and reveals in fuller detail the impacts that terrorists have had—intentionally or not. Second, counterfactual analysis better reveals terrorist intentions and expands our analysis beyond their demonstrated capabilities to reveal what terrorists sought to achieve.

Further application of counterfactual analysis to terrorist attacks and attempts is clearly warranted. For such analysis to be successful, a rigorous adherence to the rules of counterfactuals must be followed including minimal changes to the actual historical record and a clear demonstration of plausibility to achieve the desired results. When selecting terrorist attacks and plots for such analysis, the significance of such events must be taken into account. Major singular events such as the Oklahoma City bombing, the sarin gas attack on the Tokyo subway, or the Madrid train attacks may be suitable for such exploration. Similarly, particularly important attacks within broader campaigns such as the Omagh bombings should be examined. Particularly advanced terrorist plots possibly including the 2004 plot in Amman allegedly with chemical weapons or the 2006 liquid bomb plot against airliners could also prove intriguing.

Counterfactual analysis has the potential to highlight growing threats based on terrorist plots before those threats fully manifest themselves in successful terrorist attacks. By examining near-misses and plausible alternative outcomes, policymakers can gain

early awareness of trends, strategies, and vulnerabilities that might otherwise only become evident after successful attacks. Such insights can help policymakers better prepare for—and hopefully prevent—future attacks. Similarly, analysis that highlights the impacts of terrorist attacks can help policymakers better understand the impact of terrorism and more appropriately calibrate their responses, hopefully avoiding overreactions in the future.

About the Author: *Chris Quillen is a Senior Instructor supporting the Office of the Director of National Intelligence and a PhD candidate in Biodefense at George Mason University. The views expressed in this article are the author's own and do not imply endorsement by the Office of the Director of National Intelligence or any other U.S. Government department or agency.*

¹ E.H. Carr, *What is History?* (Harmondsworth, UK: Penguin Books, 1964), 97. Given Carr's considerable influence, Tetlock and Parker address Carr's objection in detail. Philip E. Tetlock and Geoffrey Parker, "Counterfactual Thought Experiments: Why We Can't Live Without Them and How We Must Learn To Live With Them," 28-33 in Philip E. Tetlock, Richard Ned Lebow, and Geoffrey Parker, eds., *Unmaking the West: "What If?" Scenarios That Rewrite World History* (Ann Arbor, MI: University of Michigan Press, 2006).

² Tetlock, Lebow, and Parker, eds., *Unmaking the West*.

³ Robert Cowley, ed., *What If?: The World's Foremost Military Historians Imagine What Might Have Been* (New York: Putnam, 1999). ; Niall Ferguson, ed., *Virtual History* (New York: Basic Books, 1999). ; Tetlock, Lebow, and Parker, eds., *Unmaking the West*. ; Winston S. Churchill, "If Lee Had Not Won the Battle of Gettysburg," *If, Or History Rewritten* (Port Washington, NY: Kennikat Press, 1964), 259-84.

⁴ See, for example, Philip E. Tetlock and Aaron Belkin, eds., *Counterfactual Thought Experiments in World Politics: Logical, Methodological, and Psychological Perspectives* (Princeton, NJ: Princeton University Press, 1996); Richard Ned Lebow, *Forbidden Fruit: Counterfactuals and International Relations* (Princeton, NJ: Princeton University Press, 2010); James D. Fearon, "Counterfactuals and Hypothesis Testing in Political Science," *World Politics*, Volume 43, Number 2, January 1991, 169-195; Jack S. Levy, "Counterfactuals, Causal Inference, and Historical Analysis," *Security Studies*, Volume 24, Issue 3, 2015, 378-402; and Stephen L. Morgan and Christopher Winship, *Counterfactuals and Causal Inference: Methods and Principles for Social Research* (Cambridge, UK: Cambridge University Press, 2014). Perhaps the most rigorous application of counterfactual analysis to a specific event is Frank P. Harvey, *Explaining the Iraq War: Counterfactual Theory, Logic, and Evidence* (New York: Cambridge University Press, 2012). Harvey focuses on the question of whether U.S. President Al Gore would have invaded Iraq if he had won the presidency in 2000. Of note, he does not change the 9/11 attacks but instead focuses his "what if?" question exclusively on the 2000 U.S. presidential election.

⁵ Byman and Pollack refer to such hindsight bias as "one of the most pernicious and dangerous myths in the study of international relations: the cult of inevitability. Just because a particular event occurred does not mean it was fated to do so." Daniel L. Byman and Kenneth M. Pollack, "Let Us Now Praise Great Men: Bringing the Statesman Back In," *International Security*, Spring 2001, Vol. 25, No. 4 (Spring, 2001), 145.

⁶ For a discussion of this "certainty of hindsight bias" see Tetlock and Belkin, *Counterfactual Thought Experiments*, 15-16 and Richard Ned Lebow, "What's So Different About a Counterfactual?," *World Politics*, Volume 52, Number 4, July 2000, 559-60.

⁷ Fearon, "Counterfactuals and Hypothesis Testing in Political Science," 169-195. Levy has further built upon Fearon's work. Levy, "Counterfactuals, Causal Inference, and Historical Analysis," 378-402.

⁸ Fearon, "Counterfactuals and Hypothesis Testing," 169.

⁹ For more on the utility of counterfactuals in explaining causation, see Cass R. Sunstein, "Historical Explanations Always Involve Counterfactual History," *Journal of the Philosophy of History*, Volume 10, Number 3, 2016, 433-440 and Alexander Maar, "Possible Uses of Counterfactual Thought Experiments in History," *Principia*, Volume 18, Number 1, 2014, 87-113.

¹⁰ Fearon, "Counterfactuals and Hypothesis Testing," 169.

¹¹ Fearon, "Counterfactuals and Hypothesis Testing," 180.

¹² Tetlock and Parker, "Counterfactual Thought Experiments," 18.

¹³ Bruce Hoffman, "Terrorism in History," *The Journal of Conflict Studies*, Volume 27, Number 2, Winter 2007, 8-28.

¹⁴ Hoffman, "Terrorism in History," 10.

¹⁵ Giovanni Capoccia and R. Daniel Kelemen, "The Study of Critical Junctures: Theory, Narrative, and Counterfactuals in Historical Institutionalism," *World Politics*, Volume 59, Number 3, April 2007, 348.

¹⁶ In fact, Capoccia and Kelemen argue that "causal accounts that involve a short-term cause are far stronger candidates for the application of the critical juncture framework." Capoccia and Kelemen, 351. Thus, a "short-term cause" like the deadliest terrorist attack in history is a strong candidate for a critical juncture.

¹⁷ Capoccia and Kelemen, "The Study of Critical Junctures: Theory, Narrative, and Counterfactuals in Historical Institutionalism," 355.

¹⁸ Gregory D. Koblentz, "Predicting Peril or the Peril of Prediction?: Assessing the Risk of CBRN Terrorism," *Terrorism and Political Violence*, Volume 23, Issue 4, 2011, 502.

¹⁹ Hoffman, "Terrorism in History," 8-10.

²⁰ Gaddis, however, has argued that the two fields have numerous similarities including the use of counterfactual reasoning so perhaps the gap is not as great as it seems. John Lewis Gaddis, "History, Theory, and Common Ground," *International Security*, Volume 22, Number 1, Summer 1997, 84.

²¹ The best examples are Fearon, "Counterfactuals and Hypothesis Testing in Political Science" and Tetlock and Belkin, eds., *Counterfactual Thought Experiments*. See also the special issue on counterfactual analysis in *Security Studies*, Volume 24, Number 3, 2015.

²² Hoffman, "Terrorism in History," 10-12.

²³ Nigel Towson, "What Would Have Happened If Carrero Blanco Had Not Died at the Hands of the ETA in 1973?" in Nigel Towson, *Virtual History of Spain (1870-2004): What Would Have Happened If...?* (Penguin Random House, 2011). Original in Spanish.; Eidan Rabi, "Lost Peace" and Oren Ziblin, "Hello, Friend," both in *Maariv LaNoar*, November 2, 2000. Originals in Hebrew.

²⁴ Andrew Roberts, ed., *What Might Have Been: Leading Historians on Twelve "What Ifs" of History* (London: Weidenfeld & Nicolson, 2010).

²⁵ Tetlock and Belkin, *Counterfactual Thought Experiments*, 20.

²⁶ Andrew Sullivan, "The Good News Is 9/11 Never Happened," *New York Magazine*, August 21, 2006. See also, John Heilemann, "What If 9/11 Never Happened? A Counterhistory" in the same issue. Rather than no 9/11 attacks, Jonathan Alter posited a different reaction to the attacks from the Bush Administration in "Between the Lines: An Alternate 9/11 History" in *Newsweek*, September 18, 2006. Several authors have also speculated on the impact of an Al Gore victory in the 2000 U.S. presidential election that has a subsequent impact on the 9/11 attacks, but these counterfactuals focus more on electoral politics than terrorist attacks.

²⁷ Aki J. Peritz, *Disruption: Inside the Largest Counterterrorism Investigation in History* (Lincoln, NE: Potomac Books, 2021), 1-12.

²⁸ Sean Maloney, "Another Savage War of Peace: Quebec, 1968," in Peter G. Tsouras, ed., *Cold War Hot: Alternate Decisions of the Cold War* (New York: Skyhorse, 2016) and Edo Van Belkom, "The October Crisis" in Mike Resnick, ed., *Alternate Tyrants* (New York: Tor, 1997).

²⁹ Daniel Byman, "White Supremacy, Terrorism, and the Failure of Reconstruction in the United States," *International Security*, Volume 46, Number 1, Summer 2021, 53-103.

³⁰ Josef Joffe, "A World Without Israel," *Foreign Policy*, October 22, 2009, <https://foreignpolicy.com/2009/10/22/a-world-without-israel/>.

³¹ Tetlock and Belkin list six criteria for judging counterfactual arguments, the most important of which is the Minimum Rewrite Rule, Tetlock and Belkin, *Counterfactual Thought Experiments*, 16-31.

³² Fearon, "Counterfactuals and Hypothesis Testing," 173.

³³ Fearon, 193-94.

³⁴ Maar discusses the debate between historical inevitability and the importance of historical accidents, Maar, "Possible Uses," 93-99.

³⁵ Tetlock and Parker briefly discuss four key turning points from 1969-1972 at the start of the "Troubles," but do not delve deeply into the issue. Tetlock and Parker, "Counterfactual Thought Experiments," 26 in Tetlock, Lebow, and Parker, eds., *Unmaking the West*.

³⁶ Lebow discusses both plausible and so-called "miracle" counterfactuals that strain credulity, but only plausible counterfactuals will be discussed here. Lebow, "What's So Different About a Counterfactual?," 565-67.

³⁷ Lebow, 565.

³⁸ Terrorism analysis in general focuses too much on the attacks that have occurred and not enough on those that did not, but almost did. This is a major shortcoming and limits our insights unnecessarily. By only examining successful terrorist attacks we are literally looking at the tip of the iceberg and failing to see all of the plotting, disrupted plans, changed plans, and dreams of

terrorists and potential terrorists below the water's surface. A notable exception is Erik Dahl, Margaret Wilson, and Martha Crenshaw, "Comparing Failed, Foiled, Completed and Successful Terrorist Attacks," National Consortium for the Study of Terrorism and Responses to Terrorism, <https://www.start.umd.edu/research-projects/comparing-failed-foiled-completed-and-successful-terrorist-attacks>.

³⁹ Niall Ferguson, "Virtual History: Towards a "Chaotic" Theory of the Past," in Ferguson, ed., *Virtual History*, 86.

⁴⁰ National Commission on Terrorist Attacks Upon the United States, *The 9/11 Commission Report* (New York: W.W. Norton, 2004), 72.

⁴¹ The bombmaker Ramzi Yousef wanted both a bigger bomb and a bigger truck, but lacked sufficient funds to carry out his ambitious goal. When informed the Twin Towers were still standing, Yousef replied "They wouldn't be, if I had had enough money and explosives." Simon Reeve, *The New Jackals: Ramzi Yousef, Osama bin Laden, and the Future of Terrorism* (Boston: Northeast University Press, 1999), 25 and 109.

⁴² The Central Intelligence Agency reportedly assessed such an outcome would have resulted from slightly more skilled execution of the attack. Steve Coll, *Ghost Wars: The Secret History of the CIA, Afghanistan, and Bin Laden, From the Soviet Invasion to September 10, 2001* (New York: Penguin Press, 2004), 532.

⁴³ Lebow, "What's So Different About a Counterfactual?," 565.

⁴⁴ Lebow, 565.

⁴⁵ Lebow, 568.

⁴⁶ Lebow, 580.

⁴⁷ Some might argue that the assassination of Archduke Franz Ferdinand was more significant because it was the proximate cause of the outbreak of World War I. However, if the assassination is removed WWI likely still would have occurred just slightly later. Thus, the overall impact of the assassination was relatively minor.

⁴⁸ Examining how the 9/11 attacks could have been more successful (e.g., if the fourth plane had reached Washington, DC) does not appear to offer much insight as the overall impact would not have been significantly increased even if the body count was.

⁴⁹ *The 9/11 Commission Report*, 355–356.

⁵⁰ *The 9/11 Commission Report*, 154.

⁵¹ *The 9/11 Commission Report*, 159.

⁵² The impact of the absence of the 9/11 attacks on Reid's co-conspirator Saajid Badat's decision to not participate in the shoe bomb plot is simply too speculative to be useful for our analysis.

⁵³ "Amerithrax Investigative Summary," US Department of Justice, February 19, 2010, 30-31.; Jeanne Guillemin, *American Anthrax* (New York: Times Books, 2011), 218-219.

⁵⁴ Guillemin, *American Anthrax*, 220-221.

⁵⁵ The White House, "Remarks by President Biden on the End of the War in Afghanistan," August 31, 2021, available at <https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/08/31/remarks-by-president-biden-on-the-end-of-the-war-in-afghanistan/>.

⁵⁶ The *New York Magazine* essays on the September 11th attacks referenced above offer directly contrary opinions. Al Sharpton claims the invasion of Iraq would not have happened without the 9/11 attacks (Al Sharpton, "Freddie Ferrer Would Be Mayor"), but Ron Suskind claims the invasion would have occurred regardless of the success or failure of 9/11 (Ron Suskind, "The London Airplane Plot Would Have Worked"). Neither author, however, conducts any serious counterfactual analysis and instead assert their positions without evidence.

⁵⁷ Lawrence Wright, *The Looming Tower: Al-Qaeda and the Road to 9/11* (New York: Alfred A. Knopf, 2006), 235-236.

⁵⁸ Reeve, *The New Jackals*, 71-91.

⁵⁹ That said, the 1993 WTC bombings are probably not suitable for counterfactual analysis. While the terrorist intention to topple both buildings and kill thousands was clearly evident, the terrorist capability to do so was sorely lacking making such a counterfactual improbable.

⁶⁰ Reeve, *The New Jackals*, 136, 156.

⁶¹ Ibid., 72, 80.

⁶² *The 9/11 Commission Report*, 59 including details in endnote 43.

⁶³ Ibid., 156-158.

⁶⁴ Ibid., 47-48, 183.

⁶⁵ Wright, *The Looming Tower*, 246.

⁶⁶ Reeve, *The New Jackals*, 72, 76-77.; Wright, *The Looming Tower*, 236.

⁶⁷ *The 9/11 Commission Report*, 146.; Wright, *The Looming Tower*, 235.

⁶⁸ *The 9/11 Commission Report*, 108-109.

⁶⁹ Bin Laden maintained a training facility and compound at Soba Farm about 10 kilometers south of Khartoum. Wright, *The Looming Tower*, 187.

⁷⁰ Ibid., 163-165.

⁷¹ "Patterns of Global Terrorism 1993," US State Department, April 1994, 25. The following year the State Department would add the Palestine Islamic Jihad and HAMAS to this list. U.S. State Department, "Patterns of Global Terrorism 1994," April 1995, 23.

⁷² *The 9/11 Commission Report*, 57-59.

⁷³ The governments in Egypt, Syria, Jordan, and Libya were all concerned about the threat to their rule from bin Laden's growing organization. *The 9/11 Commission Report*, 62. The governments in Algeria, Egypt, and Yemen all blamed bin Laden for the extremists in their countries eventually forcing the Saudi government to disavow him in March 1994. Wright, *The Looming Tower*, 194-195.

The 9/11 Commission argues the attempt was made by the Egyptian and/or Saudi governments in *The 9/11 Commission Report*, 63. Wright alleges the attempt was made by Libyan or Egyptian intelligence in Wright, *The Looming Tower*, 191-193.

⁷⁴ "Patterns of Global Terrorism 1995," USS State Department, April 1996, 27.

⁷⁵ The UN Security Council sanctioned Sudan for refusing to turn over those responsible for the attempted assassination of Egyptian President Hosni Mubarak in June 1995. *The 9/11 Commission Report*, 62.

⁷⁶ Reeve, *The New Jackals*, 172-175.

⁷⁷ *The 9/11 Commission Report*, 62-63.

⁷⁸ *The 9/11 Commission Report*, 116.

⁷⁹ Al-Qa'ida reportedly viewed the attack as a success given the resulting increase in recruits for their training camps and financial contributions from around the world. Wright, *The Looming Tower*, 331.

⁸⁰ The 9/11 Commission makes clear the lack of coordination between different parts of the U.S. government regarding any response. The Clinton administration seems to lay blame on the investigators claiming the FBI and CIA did not definitively conclude al-Qa'ida was responsible for the *USS Cole* bombing until after the administration was out of office. The FBI and CIA, however, claim they made preliminary assessments as early as November and deferred to the administration to act on their findings. *The 9/11 Commission Report*, 193-197.

⁸¹ *The 9/11 Commission Report*, 191.

⁸² *The 9/11 Commission Report*, 191.

An official publication of the Center for
Security Studies at Georgetown University's
Edmund A. Walsh School of Foreign Service

