

Undergoverned Spaces: Problems and Prospects for a Working Definition

Chapter Two

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Undergoverned Spaces: Problems and Prospects for a Working Definition

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This exploratory chapter approaches the concept of *undergoverned spaces* (UGS) with three goals: (1) clarifying why UGS will remain an important concern for U.S. national security; (2) highlighting immutable definitional challenges; and (3) providing a functional perspective on applying the UGS label to pragmatically address the strategic consequences of engaging in, or disengaging from, competition and conflict in the international system.

Serving as a point of departure for the rest of the report, this chapter provides a high-level characterization of governance and undergovernance, while admitting that a precise definition of UGS is unlikely to be forthcoming. Before discussing the three topics already mentioned, I provide a definition of governance. Afterward, I discuss different ways in which UGS might be found, considering governance between states, governance within a state, and pathways for governance to arise in the absence of states. Finally, I explore the difficulties of trying to define UGS, notably those arising from within the U.S. Department of Defense's (DoD's) culture. I also consider philosophical and operational problems emerging from the study of *unnatural kinds* in science. Despite these immutable definitional challenges, labeling spaces as *undergoverned* according to their possession and accumulation of features offers a pragmatic and functional perspective that is both possible and desirable.

Defining Governance

Before examining the difficulties associated with defining and understanding UGS, it is useful to define governance itself. Doing so is not simple. As Adam R. Grissom notes in Chapter Three and Jonathan S. Blake examines in Chapter Four,¹ an empirical study of gov-

¹ Adam R. Grissom, "Undergoverned Spaces and the Challenges of Complex Infinite Competition," in Aaron B. Frank and Elizabeth M. Bartels, eds., *Adaptive Engagement for Undergoverned Spaces: Concepts, Challenges, and Prospects for New Approaches*, Santa Monica, Calif.: RAND Corporation, RR-A1275-1, 2022; Jonathan S. Blake, "Perspectives on State Governance, Undergovernance, and Alternative Governance," in Aaron B. Frank and Elizabeth M. Bartels, eds., *Adaptive Engagement for Undergoverned Spaces: Concepts,*

ernance models around the world reveals much higher levels of diversity than students of international relations, political theorists, or military leaders generally acknowledge.²

In this chapter, *governance* is broadly defined as the rules that dictate how actors interact with one another within an interdependent system. Although this definition is simple, its emphasis on rules and interaction creates a wide scope of consideration, such as the following four definitions:

- formal rules, for example, those developed from the top down by such authorities as national governments or corporate executives
- norms of behavior adopted by actors that have arisen endogenously from the bottom up
- rules that regulate appropriate behavior, e.g., identities and the rules of culture
- interpreted rules that result from evolution and interpretation (e.g., the rules of the U.S. Constitution are not what the original signatories considered them to be, but what nine contemporary Supreme Court justices determine them to be).³

Importantly, the first two definitions of governance can be understood as techniques designed to achieve collective goals, where rules are designed or selected according to their ability to achieve political, social, economic, or military objectives. In the case of the third definition, the rules themselves are the objective, and their value is based on the performance of prescribed roles and their attendant rights, obligations, and permissions. Finally, the fourth definition indicates the existence of a higher level of analysis in which there are metarules that dictate both approaches for interpreting what the rules of governance are and the processes for changing those rules, such as who is permitted to call for changes and determine what ends new rules should seek.

As the remainder of this chapter will show, a simple examination of the presence, absence, and adherence to the rules that regulate interaction and exchange between actors provides a powerful lens through which many different domains can be examined. These can be relations between or within states and interactions between nonstate actors, which can be formal organizations; individuals; or, increasingly, nonhuman agents, such as autonomous systems that are empowered to adapt to novel conditions and opportunities. The emphasis on UGS, as opposed to well-governed spaces, focuses attention on the empirical limitations that result from a lack of rules, the shortcomings of those rules that exist, and the prospects for change; it views governance as dynamic and malleable, even though it is not outright controllable.

Challenges, and Prospects for New Approaches, Santa Monica, Calif.: RAND Corporation, RR-A1275-1, 2022.

² Notably, experts in comparative social sciences (i.e., comparative politics, comparative sociology, and comparative anthropology) would be less surprised and more sensitive to the heterogeneity displayed by governance organizations, practices, and agreements around the world.

³ John F. Padgett, "Evolvability of Organizations and Institutions," in David S. Wilson and Alan Kirman, eds., *Complexity and Evolution: Toward a New Synthesis for Economics*, Cambridge, Mass.: MIT Press, 2016.

The Many Faces of Undergoverned Spaces

A survey of the contemporary international system shows a vast array of challenges and challenges to U.S. national security and the rules-based order that has sustained relative peace and prosperity since the conclusion of World War II. Importantly, the success of the rules-based order, predicated on the tenets of international liberalism, is not absolute—the “peaceful” decades of the Cold War and after were quite violent and punctuated by crises that posed existential risks to all humanity from nuclear weapons.⁴ Following the terrorist attacks on September 11, 2001, security experts noted the emerging global war on terror that would come to define U.S. national security policy and operations for the next two decades was best framed as World War IV and the Cold War as World War III.⁵ Yet the rules-based order has succeeded in its most-crucial tasks—managing the conflict between great powers, preventing direct and overt armed conflict that could escalate to nuclear war, containing regional conflicts to prevent horizontal escalation, and sustaining peaceful relations—and it did all of this as the composition of actors within the system changed and as states rose, fell, united, and divided.

Broadly, UGS and degrees of governance can be seen at four levels of analysis. The first and primary one is the **level of relations between states and other international actors**. At this level, the primary concerns over maintaining the balance of power and defense of the rules-based international order are most visible. The second deals with the **levels of governance within states**—from state failure and divided governance to kleptocracies, in which regimes use the power of the state to pursue private interests rather than the public good. These concerns link the internal governance of states with their ability to credibly participate in the international system, fulfilling their obligations to abide by the institutions of international governance. A third level considers **broad questions of organizational, bureaucratic, and corporate governance that enable effective participation in long-term competition**. This perspective might be counterintuitive, given that many of the organizations involved are among the most complex and managed in the world (e.g., DoD), yet long-term competition challenges organizations to be both efficient and effective in their employment of resources and adaptive to changing strategic conditions. Finally, a fourth level of analysis seeks to understand **pathways by which undergoverned interactions between actors might become governed without the state or its equivalent serving as the arbiter of conflicts**. I discuss each of these levels of analysis.

⁴ Scott D. Sagan, “Nuclear Alerts and Crisis Management,” *International Security*, Vol. 9, No. 4, Spring 1985; John Lewis Gaddis, *We Now Know: Rethinking Cold War History*, reprint ed., New York: Oxford University Press, 1998; Graham Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, New York: Addison Wesley Longman, 1999; John Lewis Gaddis, *Strategies of Containment: A Critical Appraisal of American National Security Policy During the Cold War*, revised and expanded ed., New York: Oxford University Press, 2005; Eric Schlosser, *Command and Control: Nuclear Weapons, the Damascus Accident, and the Illusion of Safety*, reprint ed., New York: Penguin Books, 2014.

⁵ Eliot A. Cohen, “World War IV,” *Wall Street Journal*, November 20, 2001; R. Woolsey, “WWIV: Who We’re Fighting—And Why,” *Richmond Journal of Global Law & Business*, Vol. 4, No. 1, January 1, 2004.

Undergovernance Between States

The security threats that the United States faces are varied. The most immediate threat is the great-power competition playing out in areas all over the globe, space, and cyberspace through subversion, proxies, and measures intended to coerce, influence, or simply disrupt U.S. allies and partners.⁶ From the perspective of bolstering the international system's rules-based order by preserving and strengthening international institutions, the most direct and overt challenge is posed by open warfare and political subversion that seeks to undermine the consolidation of governance and weaken targets.⁷

In this regard, Russia and China have emerged as leading and distinctive challengers to the existing international system's rules for governance. Russia's 2008 invasion of Georgia marked the first time since World War II that military force was used to change the borders of Europe; Russia has developed and maintained a significant capacity for political subversion, threatening the internal cohesion of its neighbors, U.S. allies, and even the United States itself.⁸ Likewise, although China maintains that it abides by the United Nations Convention on the Law of the Sea, an international arbitration panel determined that its construction and subsequent militarization of artificial islands in the South China Sea violate the agreement.⁹

More-subtle challenges to the rules-based order involve efforts to create alternative governance institutions. Again, China's increasing assertiveness on the international stage is instructive. Its Belt and Road Initiative (BRI) is a multitrillion dollar infrastructure investment program that seeks to expand land and maritime trade infrastructure in as many as 138 states by 2049. The BRI serves as more than a vehicle for advancing Chinese political and economic interests through foreign investments;¹⁰ it provides an alternative to the model of investment and exchange that has been established in the international institutions and norms developed during the rebuilding of the international order following World War II.¹¹

⁶ Antullio Echevarria II, *Operating in the Gray Zone: An Alternative Paradigm for U.S. Military Strategy*, Carlisle, Pa.: U.S. Army War College Press, 2016; Melissa M. Lee, "Subversive Statecraft," *Foreign Affairs*, December 6, 2019; Herbert R. McMaster, *Battlegrounds: The Fight to Defend the Free World*, New York: Harper, 2020.

⁷ Melissa M. Lee, *Crippling Leviathan: How Foreign Subversion Weakens the State*, Ithaca, N.Y.: Cornell University Press, 2020.

⁸ Lee, 2019; Lee, 2020; McMaster, 2020; Alina Polyakova, "The Kremlin's Plot Against Democracy," *Foreign Affairs*, Vol. 99, No. 5, October 2020.

⁹ Mark J. Valencia, "Might China Withdraw from the UN Law of the Sea Treaty?" *The Diplomat*, May 3, 2019; Luis Martinez, "Why the US Navy Sails Past Disputed Artificial Islands Claimed by China," ABC News, May 6, 2019.

¹⁰ Belt and Road Initiative, homepage, undated; Andrew Chatzky and James McBride, *China's Massive Belt and Road Initiative*, Council on Foreign Relations, January 28, 2020; Christopher Mott, "Don't Fear China's Belt and Road Initiative," *Survival*, Vol. 62, No. 4, July 3, 2020.

¹¹ Guiguo Wang, "Towards a Rule-Based Belt and Road Initiative—Necessity and Directions," *Journal of International and Comparative Law*, Vol. 6, No. 1, 2019.

This alternative approach also involves a movement away from project grants toward loans that require that recipients use Chinese firms and laborers on projects.¹²

In other cases, institutions might be voluntarily abandoned by one or more parties under the belief that they no longer serve their purposes. For example, the governance institutions of the Arctic have recently been called into question given changes in climate, technology, and the possibilities posed by increased access to resources and transcontinental navigation.¹³ Importantly, however, specialists in Arctic policy and governance have observed that despite pressures to change these institutions, the institutions have remained effective.¹⁴ As one expert noted, one of the reasons for the robustness of Arctic governance is that it rests on a layered set of institutions that would have global consequences if undermined.¹⁵ Alternatively, technological developments, particularly the continued advance of anti-satellite weapons and commercial access and exploration of space, have strained the established governance regimes and norms of outer space to the point where experts have called for their significant overhaul or replacement.¹⁶

Finally, the international system contains many emerging areas of cooperation, collaboration, coordination, competition, and conflict in which governance institutions are immature or absent. These areas consist of virtual domains, such as cyberspace, and technological areas, such as biotechnology and artificial intelligence (AI). In these cases, inventions create spaces for interaction outside the bounds of governance established for other domains. For example, as AI technologies have matured, a variety of governance schemes have been advanced to define principles for application, such as military uses, privacy, consumer protections and safety, and product liability, yet none of these schemes has achieved the status of internalized norms, much less become codified in international law.¹⁷

¹² Ethan B. Kapstein and Jacob N. Shapiro, “Catching China by the Belt (and Road),” *Foreign Policy*, blog post, April 20, 2019.

¹³ Scott Borgerson, “The Coming Arctic Boom: As the Ice Melts, the Region Heats Up,” *Foreign Affairs*, Vol. 92, No. 4, 2013.

¹⁴ Elana Wilson Rowe, *Arctic Governance: Power in Cross-Border Cooperation*, Manchester, United Kingdom: Manchester University Press, 2018; Øystein Tunsjø, “The Great Hype: False Visions of Conflict and Opportunity in the Arctic,” *Survival*, Vol. 62, No. 5, September 2, 2020.

¹⁵ This comment was made in a set of interviews performed during this project under the condition of nonattribution. For more information, see Chapter Five of this report (Gabrielle Tarini and Kelly Elizabeth Eusebi, “Adaptation, Complexity, and Long-Term Competition in UGS: Perspectives from Policymakers and Technologists,” in Aaron B. Frank and Elizabeth M. Bartels, eds., *Adaptive Engagement for Undergoverned Spaces: Concepts, Challenges, and Prospects for New Approaches*, Santa Monica, Calif.: RAND Corporation, RR-A1275-1, 2022).

¹⁶ Stephen Flanagan and Bruce McClintock, “How Joe Biden Can Galvanize Space Diplomacy,” *Politico*, January 15, 2021; Bruce McClintock, Katie Feistel, Douglas C. Ligor, and Kathryn O’Connor, *Responsible Space Behavior for the New Space Era: Preserving the Province of Humanity*, Santa Monica, Calif.: RAND Corporation, PE-A887-2, 2021.

¹⁷ Allan Dafoe, *AI Governance: A Research Agenda*, Oxford, United Kingdom: Centre for the Governance of AI, Future of Humanity Institute, University of Oxford, July 2017; Dan Ward and Robert Morgus,

Undergovernance Within States

In addition to the challenges posed by international governance, UGS might also include challenges posed by the need to engage and operate in spaces within states. The most obvious need is rooting out terrorists from what have traditionally been referred to as *ungoverned spaces*—a term that referred to areas within weak, failed, or collapsed states in which terrorist groups found safe haven and the freedom to plan, train, and enjoy sanctuary from reprisals.¹⁸ These spaces might also become arenas where violent, aggrieved parties, who might be unable to challenge authorities in other domains, find a motive, an opportunity, and even an obligation to fight. In these cases, national governments are unable to maintain (1) a monopoly over the legitimate use of violence in their territories and (2) control over their borders to prevent the influx of foreign fighters and external actors.¹⁹ For example, the founding of the Islamic State mobilized more than 40,000 fighters from around the world to join the effort to construct a new caliphate in the Levant and simultaneously battle the governments and allies of Turkey, Syria, and Iraq.²⁰

Professor Cy Burr's Graphic Guide to: International Cyber Norms, Washington, D.C.: New America, November 2016; Allan Dafoe and *Journal of International Affairs*, "Global Politics and the Governance of Artificial Intelligence: An Interview with Allan Dafoe," *Journal of International Affairs*, Vol. 72, No. 1, 2018; Matthijs M. Maas, "How Viable Is International Arms Control for Military Artificial Intelligence? Three Lessons from Nuclear Weapons," *Contemporary Security Policy*, Vol. 40, No. 3, July 3, 2019; Peter Cihon, Matthijs M. Maas, and Luke Kemp, "Fragmentation and the Future: Investigating Architectures for International AI Governance," *Global Policy*, Vol. 11, No. 5, 2020; Michael J. Mazarr, "Virtual Territorial Integrity: The Next International Norm," *Survival*, Vol. 62, No. 4, July 3, 2020; Bernd W. Wirtz, Jan C. Weyerer, and Benjamin J. Sturm, "The Dark Sides of Artificial Intelligence: An Integrated AI Governance Framework for Public Administration," *International Journal of Public Administration*, Vol. 43, No. 9, July 3, 2020.

¹⁸ Robert D. Lamb, *Ungoverned Areas and Threats from Safe Havens*, Washington, D.C.: Ungoverned Areas Project, 2008.

¹⁹ Alastair Reed, Johanna Pohl, and Marjolein Jegerings, "The Four Dimensions of the Foreign Fighter Threat: Making Sense of an Evolving Phenomenon," The Hague, Netherlands: International Centre for Counter-Terrorism, ICCT Policy Brief, June 2017; Judith Tinnes, "Bibliography: Foreign Terrorist Fighters," *Perspectives on Terrorism*, Vol. 12, No. 5, 2018; Michael P. Noonan, Colin P. Clarke, Barak Mendelsohn, R. Kim Cragin, and David Malet, "The Future of the Foreign Fighters Problem," Foreign Policy Research Institute, November 2019; Tyler Evans, Daniel J. Milton, and Joseph K. Young, "Choosing to Fight, Choosing to Die: Examining How ISIS Foreign Fighters Select Their Operational Roles," *International Studies Review*, Vol. 23, No. 3, September 2021; Andrew Hanna and Garrett Nada, "Jihadism: A Generation After 9/11," Wilson Center, September 10, 2020.

²⁰ Nawaf Obaid and Anthony Cordesman, *Saudi Militants in Iraq: Assessment and Kingdom's Response*, Washington, D.C.: Center for Strategic and International Studies, September 19, 2005; Thomas E. Ricks, *Fiasco: The American Military Adventure in Iraq, 2003 to 2005*, New York: Penguin Books, 2006; Task Force on Combatting Terrorist and Foreign Fighter Travel, *Final Report of the Task Force on Combatting Terrorist and Foreign Fighter Travel*, Washington, D.C., October 2015; Efraim Benmelech and Esteban F. Klor, *What Explains the Flow of Foreign Fighters to ISIS?* Kellogg School of Management, Northwestern University, April 2016; Evans, Milton, and Young, 2021.

Divided and complex governance within states where competing parties have achieved a stalemate might also pose a challenge to U.S. national security and the international order. Examples are Lebanon, whose governance is divided between the national government and Hezbollah;²¹ Pakistan and the Federally Administered Tribal Areas;²² and narco-states that have emerged within larger federal governance structures where criminal cartels compete with the government for control of political and economic institutions.²³ In these cases, governments have failed to consolidate power and maintain control over the state's sovereign territory, yet society continues to function in an orderly fashion.

Challenges might also be posed by malgovernance, or kleptocracies, where national governments might have consolidated authority and control over the state, yet government officials might be unconstrained in their use of the power and privileges of their offices. In these spaces, a unified national government might have the trappings of a functional state yet govern with the goal of self-enrichment rather than public interest. In recent years, corruption scandals have forced the resignation or removal of heads of state in South Korea, Brazil, and more, and efforts to purge corrupt officials have resulted in the removal of entire staffs of governmental branches or ministries; this is what occurred when Mikheil Saakashvili came to power in Georgia in 2004 and removed all members of the ministry of education, along with 15,000 police officers, and when President Paul Kagame of Rwanda fired all 503 members of the Rwandan Judiciary.²⁴

Recent events have highlighted how national governance and corrupt regimes affect the international system. The 2016 Panama Papers, a leak of more than 11 million documents, revealed a vast network of companies, foundations, trusts, banks, and governments that were involved in tax avoidance and fraud.²⁵ As the International Consortium of Investigative Journalists noted, the results of the leaked papers were significant:

Pakistan's prime minister was sent to prison for corruption, New Zealand changed its laws, the United Kingdom recovered hundreds of millions of dollars in taxes and fines,

²¹ Augustus Richard Norton, *Hezbollah*, Princeton, N.J.: Princeton University Press, 2007.

²² Anatol Lieven, *Pakistan: A Hard Country*, New York: Public Affairs, 2012.

²³ John P. Sullivan, *From Drug Wars to Criminal Insurgency: Mexican Cartels, Criminal Enclaves and Criminal Insurgency in Mexico and Central America: Implications for Global Security*, Paris, France: Fondation Maison des sciences de l'homme, April 2012; John P. Sullivan, "Criminal Insurgency: Narcocultura, Social Banditry, and Information Operations," *Small Wars Journal*, December 3, 2012; John P. Sullivan and Robert J. Bunker, eds., *The Rise of the Narcostate*, Xlibris US, 2018.

²⁴ Sarah Chayes, "Kleptocracy in America," *Foreign Affairs*, Vol. 96, No. 5, October 2017, p. 146.

²⁵ Andy Greenberg, "How Reporters Pulled Off the Panama Papers, the Biggest Leak in Whistleblower History," *Wired*, April 4, 2016; Will Fitzgibbon, "The Panama Papers: Exposing the Rogue Offshore Finance Industry," International Consortium of Investigative Journalists, April 3, 2021; Frederik Obermaier, Bastian Obermayer, Vanessa Wormer, and Wolfgang Jaschensky, "All You Need to Know About the Panama Papers," *Süddeutsche Zeitung*, undated.

Algeria opened a money-laundering probe into a corporate titan, and Colombia doubled its tax revenue collection.²⁶

Likewise, the government of North Korea has been linked to several high-profile hacks that have caused widespread financial harm to businesses—most prominently the 2014 hack of Sony Pictures Entertainment—and to the operations of government services, such as the National Health Service in the United Kingdom and the central bank of Bangladesh.²⁷ U.S. Assistant Attorney General John C. Demers characterized the North Korean regime, perhaps the world’s most centralized political state, as “a criminal syndicate with a flag, which harnesses its state resources to steal hundreds of millions of dollars.”²⁸

A final area of undergovernance within the state is counterintuitive because it deals with organizational design, management, performance, and competitiveness. Governance is a matter of social organization and coordination.²⁹ When governance is organized well, productive interactions are increased, while undesirable interactions are inhibited. But when governance is organized poorly, interactions are throttled, and the needs of employees, stakeholders, constituents, or citizens go unmet because services cannot be provided. Markets fail because producers and consumers cannot coordinate and exchange goods and services, and so on. Thus, deep connections exist among governance, interaction, exchange, innovation, adaptation, and competitiveness.³⁰

The rationale for creating governance institutions is that they increase opportunities for exchange between actors who would otherwise forgo trading with one another; the institutions accomplish this by providing constraints on behavior.³¹ From the organizational perspective, governance establishes the boundary between permitted and prohibited behaviors to enable transactions to occur among its varied and differentiated components. Government bureaucracies and commercial firms are complex organizations whose decisions are based on the exchange of inputs and outputs between units; because of this, their bureau-

²⁶ Will Fitzgibbon, “Panama Papers FAQ: All You Need to Know About the 2016 Investigation,” International Consortium of Investigative Journalists, August 21, 2019.

²⁷ Katie Benner, “U.S. Charges 3 North Koreans with Hacking and Stealing Millions of Dollars,” *New York Times*, February 17, 2021.

²⁸ U.S. Department of Justice, “Assistant Attorney General John C. Demers Delivers Remarks on the National Security Cyber Investigation into North Korean Operatives,” Press Release 21-155, February 17, 2021.

²⁹ Mark Bevir, *Governance: A Very Short Introduction*, illustrated ed., New York: Oxford University Press, 2012, p. 3.

³⁰ Edward Glaeser, *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier*, New York: Penguin Press, 2011; John F. Padgett and Walter W. Powell, *The Emergence of Organizations and Markets*, Princeton, N.J.: Princeton University Press, 2012; W. Brian Arthur, *Complexity and the Economy*, New York: Oxford University Press, 2015; Geoffrey West, *Scale: The Universal Laws of Growth, Innovation, Sustainability, and the Pace of Life, in Organisms, Cities, Economies, and Companies*, New York: Penguin Press, 2017.

³¹ Douglass C. North, “Institutions,” *Journal of Economic Perspectives*, Vol. 5, No. 1, March 1991.

cratic and management processes—such as the distribution of authorities and the design of workflows and governance of enterprise infrastructure (e.g., data and information technology systems)—contribute to the efficient and effective use of time, money, information, and personnel.³² Effective organizational governance lowers the costs of decisionmaking in terms of time, money, and labor.

From the perspective of organizational governance, long-term competition presents a special challenge. Bureaucracies are designed to provide stable, predictable, and reliable organizational performance in stationary environments.³³ The need to be flexible, adaptive, and innovative enough to capitalize on opportunities and mitigate risks requires organizations to possess the ability to identify the need to change and alter their own decisionmaking and processes as situations require. The result is that organizations need to monitor and manage the continuous demand for exploration and exploitation—where exploration searches for new ways to frame problems and solve problems, and exploitation improves previously established processes and designs.³⁴

Perspectives on organizational governance and national competitiveness are at the heart of questions about how states marshal resources and efficiently convert them into power. During the Cold War, U.S. strategists, led by the Pentagon's Office of Net Assessment, came to view the intimate relationship between bureaucratic organization and national competitiveness as the key to winning a long-term competition with the Soviet Union.³⁵

The United States and the Soviet Union are engaged in a long-term competition, a competition with a fairly fixed stream of resources supporting their military establishments. If one looks at the rivalry in this way, it is clear that the efficiency with which each side converts its resources into useful military strength is of great importance. Whether it is

³² John von Neumann, *Lectures on Probabilistic Logics and the Synthesis of Reliable Organisms from Unreliable Components*, Pasadena, Calif.: California Institute of Technology, January 1952; John von Neumann, "Probabilistic Logics and the Synthesis of Reliable Organisms from Unreliable Components," in C. E. Shannon and J. McCarthy, eds., *Automata Studies (AM-34)*, Princeton, N.J.: Princeton University Press, 1956; James G. March and Herbert A. Simon, *Organizations*, 2nd ed., Cambridge, Mass.: Blackwell, 1993.

³³ Charles Perrow, *Complex Organizations: A Critical Essay*, Brattleboro, Vt.: Echo Point Books & Media, 2014.

³⁴ James G. March, "Exploration and Exploitation in Organizational Learning," *Organization Science*, Vol. 2, No. 1, 1991; James G. March, *The Pursuit of Organizational Intelligence*, Malden, Mass.: Blackwell, 1999; Seigyoung Auh and Bulent Menguc, "Balancing Exploration and Exploitation: The Moderating Role of Competitive Intensity," *Journal of Business Research*, Vol. 58, No. 12, December 1, 2005; Anil K. Gupta, Ken G. Smith, and Christina E. Shalley, "The Interplay Between Exploration and Exploitation," *Academy of Management Journal*, Vol. 49, No. 4, August 1, 2006.

³⁵ See Thomas G. Mahnken, ed., *Competitive Strategies for the 21st Century: Theory, History, and Practice*, Palo Alto, Calif.: Stanford University Press, 2012; Andrew F. Krepinevich and Barry D. Watts, *The Last Warrior: Andrew Marshall and the Shaping of Modern American Defense Strategy*, New York: Basic Books, 2015; Christopher Ashley Ford, "Net Assessment and the Development of Competitive Strategies," remarks at the American Academy for Strategic Education, Washington, D.C., U.S. Department of State transcript, May 15, 2018.

the United States or the Soviet Union that makes best use of the technologies that develop in the next several decades will, in a major war, determine which is militarily ahead at the end of this century.³⁶

The surprising result of this line of reasoning is that within the state, questions about undergovernedness might extend beyond the consolidation of power and shared governance and involve more-mundane matters of organizational behavior and the need for high-performance governance.³⁷

Undergovernance Without States

The preceding discussions of undergovernance focused on relations between actors that directly involve the state and its instruments of decisionmaking and action. Yet there are many domains where cooperative and competitive interaction occur in which the state is either absent or remains sidelined because of limited capacity or will to govern. In these cases, it is best to consider how governance might arise in the absence of the state.

First, it is important to consider the extent to which undergovernedness results from a lack of state capacity or will. For example, in the later years of the Cold War, international terrorism was largely viewed as violence that resulted from active state support or implicit state permission.³⁸ Contemporary conflict in cyberspace is viewed through a similar lens, in which many of the most damaging and worrisome acts—cybercrime and cyberespionage—are viewed as committed by state actors or agents operating at state actors' explicit or implicit behest. This is shown most acutely by the activities performed by Russian criminal organizations that have ties to the regime of Russian President Vladimir Putin; one such notable activity was the recent Solar Winds penetration of U.S. government and commercial networks.³⁹ In addition, high-profile ransomware attacks have targeted such critical infrastructure as energy and food distribution networks.⁴⁰

³⁶ Peter deLeon and James Digby, *Workshop on Asymmetries in Exploiting Technology as Related to the U.S.-Soviet Competition: Unclassified Supporting Papers*, Santa Monica, Calif.: RAND Corporation, R-2061/1-NA, January 1, 1976.

³⁷ Robert Klitgaard and Paul C. Light, eds., *High-Performance Government: Structure, Leadership, Incentives*, Santa Monica, Calif.: RAND Corporation, MG-265-PRGS, 2005.

³⁸ Uri Ra'anan, Robert L. Pfaltzgraff, Jr., Richard H. Shultz, Ernst Halprin, and Igor Lukes, eds., *Hydra of Carnage: The International Linkages of Terrorism and Other Low-Intensity Operations—The Witnesses Speak*, Lexington, Mass.: Lexington Books, 1985.

³⁹ Isabella Jibilian and Katie Canales, "What Is the SolarWinds Hack and Why Is It a Big Deal?" *Business Insider*, April 15, 2021; Dan Goodin, "SolarWinds Hackers Continue Assault with a New Microsoft Breach," *Wired*, June 28, 2021.

⁴⁰ Renee Dudley and Daniel Golden, "The Colonial Pipeline Ransomware Hackers Had a Secret Weapon: Self-Promoting Cybersecurity Firms," *MIT Technology Review*, May 24, 2021; Sara Morrison, "The FBI Recovered Most of Colonial Pipeline's Ransom, but the Ransomware Threat Remains," *Vox*, May 10, 2021; Jacob Bunge, "JBS Paid \$11 Million to Resolve Ransomware Attack," *Wall Street Journal*, June 10, 2021; Tom

The belief that undergovernedness in cyberspace and other contested domains results from a lack of will on behalf of states admits an easy solution—the belief that state governments could create and enforce strong governance to manage conflict if only they had the will to do so.⁴¹ A recent statement on the governance of cyberspace by the New Zealand Ministry of Foreign Affairs and Trade advocated the application of the UN Charter to cyberspace and the creation of a framework for extending existing institutions on the responsibilities and obligations of states under international law to cyberspace.⁴²

However, the statement acknowledges several important shortcomings in applying the models of governance derived from models of international relations. First, the state-centric view does not provide explicit guidance about the treatment of private-sector entities, such as commercial firms, criminal organizations, and private individuals. Second, the treatment of cyberspace as a domain akin to the physical domain for the purposes of applying international law advances a framing that remains contested because of differing beliefs about interdependence—and its implications—between the digital and physical worlds.⁴³ Finally, a key feature of the governance model put forward in the New Zealand Ministry of Foreign Affairs and Trade’s statement rests on being able to effectively attribute cyberattacks and causally trace cyber-actions to outcomes in the physical world—abilities that remain elusive.⁴⁴

More-pessimistic assessments on the governance of cyberspace have been advanced by other experts. These assessments have tended to focus on the role of nonstate actors, such as the manufacturers of internet hardware and providers of software and information services, including AI systems and data brokers: Connections between these organizations and governments that do not abide by existing governance regimes outside cyberspace and the placement of cyberspace within the broader concept of geopolitics as a whole have produced competing visions of governance principles and frameworks.⁴⁵ Thus, although the policy

Polansek and Jeff Mason, “U.S. Says Ransomware Attack on Meatpacker JBS Likely from Russia,” Reuters, June 1, 2021.

⁴¹ David E. Sanger and Nicole Perlroth, “Biden Warns Putin to Act Against Ransomware Groups, or U.S. Will Strike Back,” *New York Times*, July 10, 2021.

⁴² New Zealand Ministry of Foreign Affairs and Trade, “The Application of International Law to State Activity in Cyberspace,” December 1, 2020.

⁴³ Peter Dombrowski and Chris C. Demchak, “Cyber War, Cybered Conflict, and the Maritime Domain,” *Naval War College Review*, Vol. 67, No. 2, Spring 2014, p. 75.

⁴⁴ John S. Davis II, Benjamin Boudreaux, Jonathan William Welburn, Jair Aguirre, Cordaye Ogletree, Geoffrey McGovern, and Michael S. Chase, *Stateless Attribution: Toward International Accountability in Cyberspace*, Santa Monica, Calif.: RAND Corporation, RR-2081-MS, June 2, 2017; Jonathan William Welburn, Justin Grana, and Karen Schwindt, “Cyber Deterrence or How We Learned to Stop Worrying and Love the Signal,” Santa Monica, Calif.: RAND Corporation, WR-1294-OSD, 2019; Sasha Romanosky and Benjamin Boudreaux, “Private-Sector Attribution of Cyber Incidents: Benefits and Risks to the U.S. Government,” *International Journal of Intelligence and Counterintelligence*, Vol. 34, No. 3, 2021.

⁴⁵ Sash Jayawardane, Joris Larik, and Erin Jackson, “Cyber Governance: Challenges, Solutions, and Lessons for Effective Global Governance,” Netherlands: Hague Institute for Global Justice, 2015; Paul Bracken,

community sees the stakes of cyber-governance as among the highest, it is unclear whether the mechanisms by which both the ends and means of institutionalizing cyberspace will be determined by states.⁴⁶

When thinking about governance in the absence of the state, it is helpful to return to questions about the purpose of governance and why it arises. Such questions can help illuminate pathways from undergoverned to governed that do not involve coercive power and hierarchical control. Broadly, three major challenges exist that actors in UGS experience, each of which affects the ability of secure, mutually beneficial exchange to occur. These challenges can be characterized in three ways: (1) the inability to enforce agreements between actors, (2) the inability to attribute actions to actors, and (3) unregulated actions by actors. In all cases, mutual suspicion limits the ability to engage in mutually beneficial exchange. Such conditions meet the criteria specified by Douglass C. North on the logic of why institutions arise and the successes or failures of economic performance that result from their presence, absence, and scale.⁴⁷ In simplistic terms, the void resulting from the lack of state regulation replicates the core challenge of interstate relations—specifically, how do actors cooperate in the absence of any agreed-on authority to enforce agreements and adjudicate conflict? The argument goes that without an authority to appeal to, actors—whether states or not—find themselves in a Hobbesian state of nature or anarchy.⁴⁸ Thus, the state is often seen as the logical arbiter of agreements between actors because it, at least theoretically, is solely capable of legitimately using force to resolve disputes.

Alternatives nevertheless exist. As previously noted, actors other than states might arise in the absence of the state and take on state-like functions, such as contract enforcement and the protection of property rights, by arrogating the power to coerce others. Such an occurrence is common around the world and naturally fits within the models of alternative governance discussed by Jonathan S. Blake in Chapter Four of this report.⁴⁹ The fact that nonstate

“Cyberwar and Its Strategic Context,” *Georgetown Journal of International Affairs*, Vol. 18, No. 3, 2017; Nazli Choucri and David D. Clark, *International Relations in the Cyber Age: The Co-Evolution Dilemma*, Cambridge, Mass.: MIT Press, 2018; Nicole Lindsey, “Cyber Governance Issues Take On High-Profile Status at the UN,” *CPO Magazine*, October 14, 2019; Kyle L. Evanoff, “Cyber Governance: More Spam Than Substance?” Council on Foreign Relations, blog post, June 14, 2019; Laura Rosenberger, “Making Cyberspace Safe for Democracy: The New Landscape of Information Competition Essays,” *Foreign Affairs*, Vol. 99, No. 3, 2020; Marietje Schaake, “The Lawless Realm: Countering the Real Cyberthreat: What Are We Missing?” *Foreign Affairs*, Vol. 99, No. 6, 2020; Sam Sacks, “China’s Emerging Cyber Governance System,” Center for Strategic and International Studies, undated.

⁴⁶ Rosenberger, 2020.

⁴⁷ North, 1991.

⁴⁸ Thomas Hobbes, *Leviathan*, eds. Richard Flathman and David Johnston, New York: W. W. Norton & Company, 1997; Kenneth N. Waltz, *Theory of International Politics*, Long Grove, Ill.: Waveland Press, [1979] 2010; Barry Buzan, Charles Jones, and Richard Little, *The Logic of Anarchy: Neorealism to Structural Realism*, New York: Columbia University Press, 1993.

⁴⁹ Blake, 2022.

actors can develop state-like governance functions should not be surprising. Although this fact is significant, it does not fully capture conceptual approaches to governance without the state or alternative actors serving the same role in its place. More specifically, the central question is whether the benefits of governance might arise in the absence of some actor possessing coercive power over others.

The challenge of governance is ultimately one of regularizing exchange. Outside systems of hierarchical command and authoritarian control, markets have been seen as the primary means by which voluntaristic exchange occurs; this has led social scientists from all disciplinary backgrounds to search for mechanisms by which participants might be assured that deals reached with other parties will be honored and enforced. Thus, the coercive powers of the state or its alternatives have served as the backdrop against which mutual exchange could be reliably conducted, making the state, war, and markets inextricably linked.⁵⁰ Yet new mechanisms have arisen that might eliminate the need for the state or an alternative authority and for the implicit scaffolding of coercion altogether.

Game theorists have noted that the equilibrium solutions in several games characterizing social interactions prescribe rational choices that leave actors worse off than they would be if they could credibly communicate and coordinate their actions. This difference, often referred to as the “price of anarchy,” denotes the losses to the players and society at large from the inability to arrive at outcomes that would be preferable if trust were present.⁵¹ One way to minimize the price of anarchy is for actors to engage in repeated interactions. As most famously examined in Robert Axelrod’s study of the iterated prisoner’s dilemma game, situations in which it is rational not to cooperate with other parties might become cooperative if the game were to be repeated indefinitely.⁵² In these infinitely repeated games, if the losses of future cooperative interactions exceed the short-term gains of defecting from an agreement, rational players might cooperate without the temptation to defect.⁵³ In these cases, a set of social interactions might exist such that cooperation might be self-reinforcing, making a pathway to self-governance possible.

An alternative to this problem of mechanism design—i.e., the structuring of payoffs in ways that reinforce desired behaviors—is emerging through technical approaches to transparency and automation. For example, despite limited adoption, blockchain and the notion of a public ledger against which transactions can be audited have significant implications

⁵⁰ William H. McNeill, *The Pursuit of Power: Technology, Armed Force, and Society Since A.D. 1000*, Chicago, Ill.: University of Chicago Press, 1982; Peter B. Evans, Dietrich Rueschemeyer, and Theda Skocpol, eds., *Bringing the State Back In*, Cambridge, United Kingdom: Cambridge University Press, 1985; Charles Tilly, *Coercion, Capital and European States, A.D. 990–1992*, revised ed., Cambridge, Mass.: Wiley-Blackwell, 1992.

⁵¹ Joseph Malkevitch, “The Price of Anarchy,” American Mathematical Society, January 2011.

⁵² Robert Axelrod, *The Evolution of Cooperation*, New York: Basic Books, 2006.

⁵³ Martin J. Osborne, *An Introduction to Game Theory*, 1st ed., New York: Oxford University Press, 2003, pp. 451–459.

for governance without the presence of a central authority.⁵⁴ Blockchain technology is most commonly associated with cryptocurrencies, such as Bitcoin and Ethereum;⁵⁵ however, it has broader implications for supply chains, industrial processes, service delivery, etc. Anonymized public ledgers could displace more-traditional forms of regulation most commonly associated with governmental institutions.⁵⁶ The emergence of such concepts as *smart contracts* that automatically execute when specified conditions are met presents a new mechanism by which actors might replace coercive and costly forms of enforcement with transparency and automation, creating a path toward governance without dependence on the state or even on parties knowing one another's identities. Software executes transactions only if predetermined conditions are met, guaranteeing that each party's obligations will be met—provided conditions allow.⁵⁷

The prospects for such technologies to shift how governance occurs are profound. Entire regulatory structures designed to oversee supply chain sourcing, product safety, labor conditions, etc., might become unnecessary, calling into question whether the costly regulations and oversight provided by governmental authorities remain necessary. The rise of cryptocurrencies shows how alternatives to traditional state-centric monetary systems are possible, although the extent to which these currencies might eventually fall under government regulatory control remains unknown.

Less speculative, the prevalence of markets on the dark web that facilitate the sale of illicit goods shows the ability of exchange to flourish outside the guarantees of the state enforcing agreements between parties. The combination of anonymity and reputation-based mecha-

⁵⁴ Don Tapscott, "Blockchain: The Ledger That Will Record Everything of Value to Humankind," World Economic Forum, July 5, 2017; Sloane Brakeville and Bhargav Perepa, "IBM Blockchain Basics: Introduction to Distributed Ledgers," IBM, March 18, 2018.

⁵⁵ Bitcoin.org, homepage, undated; Ethereum.org, homepage, undated.

⁵⁶ Brakeville and Perepa, 2018; Mario Dobrovnik, David M. Herold, Elmar Fürst, and Sebastian Kummer, "Blockchain for and in Logistics: What to Adopt and Where to Start," *Logistics*, Vol. 2, No. 3, September 2018; Chris Speed, Deborah Maxwell, and Larissa Pschetz, "Blockchain City: Economic, Social and Cognitive Ledgers," in Rob Kitchin, Tracey P. Lauriault, and Gavin McArdle, eds., *Data and the City*, New York: Routledge, 2018; Sangeet Paul Choudary, Marshall W. Van Alstyne, and Geoffrey G. Parker, "Platforms and Blockchain Will Transform Logistics," *Harvard Business Review*, June 19, 2019; Edvard Tijan, Saša Aksentijević, Katarina Ivanić, and Mladen Jarda, "Blockchain Technology Implementation in Logistics," *Sustainability*, Vol. 11, No. 4, January 2019.

⁵⁷ "What Are Smart Contracts on Blockchain?" IBM, July 15, 2021; Jake Frankenfield, "Smart Contracts: What You Need to Know," *Investopedia*, May 26, 2021.

nisms has enabled the exchange of firearms,⁵⁸ chemicals,⁵⁹ drugs,⁶⁰ stolen data,⁶¹ and more to occur despite efforts by national governments to prevent such transactions. Theory suggests that without formal mechanisms for enforcing contracts, mutual suspicion should limit the exchange between buyers and sellers, resulting in only the lowest-quality, least-desirable goods being offered (i.e., the so-called market for lemons).⁶² Instead, the robustness of these illicit markets, despite international efforts to police them, shows the ability of institutions to arise and persist not only in the absence of governmental authorities but often in resistance to them. Mechanisms for executing contracts, establishing a reputation while preserving anonymity, and more indicate that internet technologies provide pathways out of UGS that rely on self-governance rather than the establishment of central authorities requiring coercive power.

Finally, the boundary between the state and nonstate governance might shift because of technology's ability to transform public goods, or commons, into private goods. According to the standard definition, *public goods* refers to items that are both non-rivalrous and non-excludable (i.e., one person's consumption of a good does not prevent others from consuming it) and to items that people cannot prevent others from consuming, such as the light from a lighthouse.⁶³ Likewise, *commons* are resources for which consumption is rivalrous and exclusion is difficult; they are, therefore, prone to depletion. Examples of commons are water reservoirs or pastures for cattle.⁶⁴

⁵⁸ Giacomo Persi Paoli, Judith Aldridge, Nathan Ryan, and Richard Warnes, *Behind the Curtain: The Illicit Trade of Firearms, Explosives and Ammunition on the Dark Web*, Santa Monica, Calif.: RAND Corporation, RR-2091-PACCS, July 19, 2017; Giacomo Persi Paoli, *The Trade in Small Arms and Light Weapons on the Dark Web: A Study*, New York: United Nations, UNODA Occasional Papers, October 2018.

⁵⁹ Timothy Lloyd, "Leaked Police Docs Reveal Crypto's Role in Dark Web Bioweapons Trade," *Decrypt*, July 16, 2020.

⁶⁰ James Martin, "Lost on the Silk Road: Online Drug Distribution and the 'Cryptomarket,'" *Criminology & Criminal Justice*, Vol. 14, No. 3, July 1, 2014; European Monitoring Centre for Drugs and Drug Addiction, *Drugs and the Darknet: Perspectives for Enforcement, Research and Policy*, Luxembourg: EMCDDA–Europol Joint Publications, Publications Office of the European Union, 2017; James Martin and Monica Barratt, "Dark Web, Not Dark Alley: Why Drug Sellers See the Internet as a Lucrative Safe Haven," *The Conversation*, March 4, 2020.

⁶¹ Brian Stack, "Here's How Much Your Personal Information Is Selling for on the Dark Web," *Experian*, December 6, 2017; Chad M. S. Steel, "Stolen Identity Valuation and Market Evolution on the Dark Web," *International Journal of Cyber Criminology*, Vol. 13, No. 1, November 12, 2019; Davey Winder, "New Dark Web Audit Reveals 15 Billion Stolen Logins from 100,000 Breaches," *Forbes*, July 8, 2020; *The Conversation*, "Here's How Much Your Stolen Personal Data Is Worth on the Dark Web," *TNW News*, May 19, 2021.

⁶² George A. Akerlof, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *Quarterly Journal of Economics*, Vol. 84, No. 3, 1970.

⁶³ Harvey S. Rosen, *Public Finance*, 5th ed., Boston, Mass.: McGraw Hill, 1999, pp. 61–63.

⁶⁴ Elinor Ostrom, Roy Gardner, and James Walker, *Rules, Games, and Common Pool Resources*, Ann Arbor, Mich.: University of Michigan Press, 1994, p. 4. Also see Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, New York: Cambridge University Press, 1990.

Technologies could affect what is considered a public good, or the commons, and what is a private good. In doing so, they could recast what should be governed and by whom. It has been noted that digital products generally have a marginal cost of production of zero—i.e., once the first digital item has been developed, the cost of providing more is simply the cost of making a copy—thus redefining what is considered rivalrous consumption. A more intriguing change might arise from predictive and prescriptive models that can accurately model and forecast phenomena at micro scales.⁶⁵ The prospect that outcomes of policy actions can be estimated for specific individuals suggests that previously non-excludable goods might be rendered excludable. For example, highly accurate models of contagious disease, fire, or damage from foreign cyber or physical attacks might enable governing decisionmakers to provide or withhold protective services with the understanding that not defending specific individuals does not imperil the larger community. Such a development would radically transform governance and further accelerate trends of the privatization and localization of public services to exclusive communities.⁶⁶

In summary, UGS span a variety of domains and situations, many of which appear to have little in common. Yet the preceding discussion demonstrates that there are many pathways by which governance and its limitations affect the international system and U.S. national security. This is not to argue that all governance challenges pose a threat to national security or risk the unraveling of the international system. Rather, it shows that questions of governance retain relevance across a broad swath of international relations and strategic priorities. The text box summarizes these alternative types of UGS.

Types of Undergovernedness

Undergovernedness Between States

- Disregard for international law, institutions, or norms
- Development of competing governance institutions and norms
- Obsolescence of international institutions and norms
- Emergence of new domains of competitive interaction and conflict

Undergovernedness Within States

- Openly contested governance within a state
- Divided governance within a state
- Malgovernance or kleptocracies that are unconstrained in the pursuit of private interests
- Underperformance of governance

Undergovernedness Outside States

- Inability to enforce agreements
- Inability to attribute actions
- Inability to regulate actions

⁶⁵ See Chapter Sixteen of this report (Robert L. Axtell, “Short-Term Opportunities, Medium-Run Bottlenecks, and Long-Time Barriers to Progress in the Evolution of an Agent-Based Social Science,” in Aaron B. Frank and Elizabeth M. Bartels, eds., *Adaptive Engagement for Undergoverned Spaces: Concepts, Challenges, and Prospects for New Approaches*, Santa Monica, Calif.: RAND Corporation, RR-A1275-1, 2022).

⁶⁶ See Chapter Four of this report (Blake, 2022).

The Difficulty of Defining Undergoverned Spaces

Having now discussed the many ways that DoD and the National Security Enterprise (NSE) might encounter UGS, this section explores the prospects of developing a precise definition of UGS and tests for determining whether policymakers, military operators, international aid organizations, and other actors are engaged in them. Defining UGS is conceptually difficult for several reasons. First, for those involved in national security, the term *undergoverned spaces* might be viewed as just one more entry in a long list of terms designed to draw attention between conventional and unconventional conflict. Second, because the state itself is not easily defined (i.e., it is an *unnatural kind*), the logical point of departure for considerations of governance in its many alternative forms and capacities, including the conditions and consequences of its weakness and absence, rests on an unstable and ambiguous foundation. Considering these challenges, a viable approach to defining UGS might rely on a functional approach that considers the consequences of governance and its shortcomings on a case-by-case basis to determine whether the approaches to strategy and operations discussed in later chapters merit consideration.

Continuity and Discontinuity in Unconventional Warfare

UGS have always played a role in U.S. defense strategy, with the military actively engaged in them.⁶⁷ Without belaboring the history of U.S. military operations and foreign policy, the U.S. military has engaged in far more interventions and conflicts since the Cold War's end in conditions that do not resemble conventional battle between peer or near-peer competitors—this despite the fact that planning to deter and perform large conventional military operations provides dominant narratives and mental models of how wars should be fought.⁶⁸

The variety of terms that have emerged over the past three decades highlights the gap between the conduct of war in its imagined, ideal form and the realities of circumstances in which the U.S. military has been called on to act on behalf of the nation's interests. Thus, the emergence of such terms as *military operations other than war*, *humanitarian and disaster assistance*, *stability operations*, and *peace operations*—alongside *counterinsurgency*, *counterterrorism*, and *asymmetric warfare*—has served to simultaneously highlight the gap between warfare as it is imagined and the broad variety of military engagements experienced in the real world. The terms also signal demand for specialized capabilities and resources outside the portfolio prescribed by the dominant model of warfare.⁶⁹ From this perspective, the con-

⁶⁷ See Chapter Three (Grissom, 2022).

⁶⁸ John A. Lynn, *Battle: A History of Combat and Culture*, Boulder, Colo.: Basic Books, 2003.

⁶⁹ John Lynn argues that military organizations adapt to strategic and operational circumstances based on a combination of their idealized “discourse on war,” in which the normative aspects of war are internalized within military organizations and society more broadly (importantly, because the burden of war is unequal, many idealizations of war may exist simultaneously), and the “reality of war,” in which the experiences of violent conflict challenge or affirm entrenched idealizations. Gaps between theory and reality are then

cept of UGS might be less likely to be viewed as a break from convention than as a renewed call for attention and resources for missions and needs that remain on the fringes of DoD's cultural and organizational preferences.

Since 2001, such concepts as those mentioned in the previous paragraph have evoked concerns about terrorism, insurgency, and the prospects of "safe havens," from which violent groups can plan, train, and operate. To address these threats, the term *ungoverned areas* entered the DoD lexicon more than a decade ago, because policymakers were concerned about how the failure and absence of local governance created places in which adversaries could act freely and threaten the security of the United States and its allies. *Ungoverned areas* were defined in the 2008 report *Ungoverned Areas and Threats from Safe Havens* as

[a] place where the state or the central government is unable or unwilling to extend control, effectively govern, or influence the local population, and where a provincial, local, tribal, or autonomous government does not fully or effectively govern, due to inadequate governance capacity, insufficient political will, gaps in legitimacy, the presence of conflict, or restrictive norms of behavior. For the purposes of this report, the term "ungoverned areas" encompasses under-governed, misgoverned, contested, and exploitable areas as well as ungoverned areas. In this sense, ungoverned areas are considered potential safe havens.⁷⁰

This definition is notable for two reasons. First, as the report states, few areas in the world are truly ungoverned—completely devoid of both national and local governance structures.⁷¹ One of the report's conclusions specifically notes that "[t]he concept of ungoverned areas is of limited utility unless it includes undergoverned, misgoverned, contested, and exploitable areas—the full range of situations that have the potential to be exploited for safe haven."⁷² Policymakers and scholars have both noted that where state governance breaks down, alternatives arise, often from the formal organizations and informal networks that have existed in the shadows of the state, such as religious organizations, tribal networks, and other collectives that might provide both a shared identity and legitimacy over the distribution of social, economic, and political powers and resources.⁷³

Second, the emphasis on safe havens provides an incomplete perspective on the ways in which governance—whether strong, weak, or absent—affects international relations. Ungoverned areas not only threaten U.S. security by serving as safe havens for violent extremists but

handled by updating the idealized model; preserving the idealized model by dismissing empirical experiences as one-off, special cases of conflict that do not constitute real war; or resorting to extreme revisions of the model that view war as unbounded and unconstrained. See Lynn, 2003, pp. 359–369.

⁷⁰ Lamb, 2008, p. 6.

⁷¹ Lamb, 2008, p. 4.

⁷² Lamb, 2008, p. 36.

⁷³ Joseph A. Tainter, *The Collapse of Complex Societies*, New York: Cambridge University Press, 1990; Oliver Roy, *The New Central Asia: The Creation of Nations*, New York: New York University Press, 2000.

also serve as arenas in which actors can contest, erode, and rewrite the rules of governance that support stable, prosperous, and ultimately peaceful international relations.⁷⁴ Given these issues—empirical accuracy and limited scope—UGS is a more appropriate term for conceptualizing the relationship between governance and security.

Contemporary concerns over UGS modernize prior eras of geopolitics, such as the great game, where states competed for geographic buffers, trade routes, control over markets and resources, political and ideological influence, and more.⁷⁵ UGS have become arenas for conflict—new fronts where great-power competition emerges and upstarts can challenge established powers. Too little engagement in UGS risks allowing threats to fester and grow, ceding access, influence, and the ability to shape the future direction of the international system to rivals. Too much engagement and the United States risks becoming immersed in costly conflicts for which victory cannot be achieved.⁷⁶

The State Is Not a Natural Kind of Object of Study

Philosophers of science note that objects of study might be *natural kinds* or *unnatural kinds*.⁷⁷ *Natural kinds* refer to those things that exist independently of human minds and are discovered in nature, such as electrons, planets, and trees. These objects are generally insensitive to whatever labels humans choose to apply to them. By contrast, *unnatural kinds* are those things that are invented by humans, whether they are technological artifacts, such as the axle of a car, or concepts, such as the nation state and system of interdependent interactions that bind states into the international system. The status of UGS as unnatural kinds poses challenges to three basic yet critical aspects of science: definitions, measurement, and inference.

The Definitional Challenge

States—whether absolute, consolidated, weak, fragmented, failed, or otherwise described—are unnatural units. Definitions vary, and determination of when a polity is a state or something else depends on context and the features one chooses to emphasize.⁷⁸ For some, state-

⁷⁴ G. John Ikenberry, *A World Safe for Democracy: Liberal Internationalism and the Crises of Global Order*, New Haven, Conn.: Yale University Press, 2020; McMaster, 2020.

⁷⁵ Peter Hopkirk, *The Great Game: The Struggle for Empire in Central Asia*, New York: Kodansha USA, 1992.

⁷⁶ Political scientists refer to this as “bait-and-bleed” to describe conflicts in which great powers lose their strength and wealth fighting unproductive conflicts of little value to their national security. See John J. Mearsheimer, *The Tragedy of Great Power Politics*, updated ed., New York: W. W. Norton & Company, 2014.

⁷⁷ Joseph Keim Campbell, Michael O’Rourke, and Matthew H. Slater, eds., *Carving Nature at Its Joints: Natural Kinds in Metaphysics and Science*, Cambridge, Mass: MIT Press, 2011.

⁷⁸ Kent V. Flannery, “The Cultural Evolution of Civilizations,” *Annual Review of Ecology and Systematics*, Vol. 3, 1972; Max Weber, *Economy and Society*, Vol. 1, eds. Gunther Roth and Claus Wittich, Berkeley, Calif.: University of California Press, 1978a; Max Weber, *Economy and Society*, Vol. 2, eds. Gunther Roth and Claus Wittich, Berkeley, Calif.: University of California Press, 1978b; Hendrick Spruyt, *The Sovereign State and Its Competitors*, Princeton, N.J.: Princeton University Press, 1994; Joel S. Migdal, *State in Society*:

hood depends on the ability to maintain independence and differentiation from external political actors. For others, statehood rests on the presence of a professionalized, depersonalized bureaucratic form of rule. For most, statehood requires monopolizing the legitimate use of force with defined territorial boundaries. The extensive debate over the proper and useful definitions of the state should inform how definitions of derivative phenomena, such as *undergoverned* and *spaces*, are also defined, because uncertainties and contestation at one level should necessarily affect others.

The challenges and implications of definitional choices on the state and its failure as a political unit were examined by Nancy Cartwright and Rosa Runhardt, who considered whether the violence that erupted in Syria during the 2010 Arab Spring uprisings qualified as a civil war.⁷⁹ They noted that how one chooses to define statehood, conflict, and casualties from acts of violence produced different conclusions and implied different judgments about the severity of conflict, the legitimacy of its participants, and the suitability of prospective responses based on the employment of such labels as *civil conflict*, *civil war*, *terrorism*, and *insurgency*.⁸⁰ They concluded their examination of definitional implications by noting the following:

Asking whether Syria is at civil war is not sensible unless we say to what end we would like to classify Syria as at civil war or not. If we want to know whether the conflict will have certain effects, so that we can act to prevent these, then we will most likely give a different answer than if we wanted to explain the development of the conflict since 2010. Neither of these two answers will be simply right or wrong; they will only be right for a certain purpose.⁸¹

Cartwright's and Runhardt's examination of the Syrian civil war suggests that a broadly accepted definition of UGS, an intimately related phenomenon, will not be forthcoming, yet exploring the concept and creating purpose-built definitions might nevertheless be worthwhile.

The Measurement Challenge

Cartwright and Runhardt noted that unnatural kinds might be best measured as a categorical variable. The pathway toward effectively analyzing UGS, then, rests on determining the most-salient features across a broad variety of circumstances, thus admitting that not all features will be present in all cases. Determining whether an undergoverned space is present rests on the belief that a sufficient set of features is present, placing a given space within the

Studying How States and Societies Transform and Constitute One Another, New York: Cambridge University Press, 2001; Philip Bobbitt, *The Shield of Achilles: War, Peace, and the Course of History*, New York: Anchor Books, 2011; Christopher Pierson, *The Modern State*, 3rd ed., New York: Routledge, 2012.

⁷⁹ Nancy Cartwright and Rosa Runhardt, "Measurement," in Nancy Cartwright and Eleonora Montuschi, eds., *Philosophy of Social Science: A New Introduction*, New York: Oxford University Press, 2014.

⁸⁰ Cartwright and Runhardt, 2014.

⁸¹ Cartwright and Runhardt, 2014, p. 286.

proximity of other UGS by relying on *Ballung* concepts, or “concepts that are characterized by family resemblance between individuals rather than by a definite property.”⁸²

Such a measurement challenge presents itself as a problem of classification and the making of qualitative determinations of similarity and difference while accepting the presence of fuzzy and porous boundaries.⁸³ In this regard, the act of classification allows for context to play an important role in deciding whether a space might be regarded as undergoverned, and the caveat of “it depends” is an acceptable element of the application or absence of the UGS label. As Thomas Raydon noted about the classification of unnatural kinds, “classification is conceived of as a matter of kinds being codetermined by aspects of the state of affairs in nature as well as by background assumptions and decisions by investigators within particular contexts of investigation.”⁸⁴ Thus, context, both the observer’s and the observed, has been and will remain an immutable component of any definition of UGS, limiting the prospect of defining UGS as a universal class or category.

In practical terms, determining whether the United States is engaging in an undergoverned space might rest on making careful comparisons with other cases; this involves examining similarities and differences in the composition and dynamics of UGS and their connections to broader elements of the international system rather than tallies of whether specific features are present or not.

The Inference Challenge

Finally, matters of inference about UGS, which project from what is known onto cases and into times that are unknown, are further complicated by the status of UGS as unnatural kinds. Peter Godfrey-Smith has noted that depending on the status of the objects in question—whether they are natural or unnatural kinds (i.e., stable and immutable or mutable and dynamic in nature)—the characteristics of reliable inference might change:

[W]e can recognize two kinds of inference. The first is generalization from random samples. This form of inference has the following features: sample size matters, randomness matters, and “law-likeness” or “naturalness” does not matter. The second kind of inference is generalization based on causal structure and kinds. In these cases, sample size per se does not matter, randomness does not matter, but the status of the kinds matters enormously. These two strategies of inference involve distinct “bridges” between observed

⁸² Cartwright and Runhardt, 2014, p. 268.

⁸³ In Chapter Four of this report, Jonathan S. Blake takes a different perspective by separating UGS into two conceptual components: a qualitative dimension referred to as “alternative governance,” which then allows for undergovernedness to be rendered quantitatively within the context set by the qualitative properties and configuration of governance structures and patterns (Blake, 2022).

⁸⁴ Thomas A. C. Raydon, “From a Zooming-In Model to a Co-Creation Model: Towards a More Dynamic Account of Classification and Kinds,” in Catherine Kendig, ed., *Natural Kinds and Classification in Scientific Practice*, New York: Routledge, 2015, p. 59.

and unobserved cases: one goes via the power of random sampling, the other via reliable operation of causes and mechanisms.⁸⁵

The implications of this are profound when building knowledge about UGS and designing interventions within them. If UGS were natural kinds, or at least could be defined consistently, then tried-and-true methods of statistical inference and research design could offer significant power. Under these conditions, knowledge could be aggregated, with each study building on others, provided that each study could be bounded in such a way as to maintain common levels and units of analysis to allow for comparability. However, research into UGS is unlikely to be so fortunate. Instead, the composition of UGS is likely to vary from case to case, with no guarantee that lessons learned from one study will be applicable to the next. Accumulated knowledge might ultimately look like a growing list of features and patterns that represent theoretical causes to be mindful of. Yet those features and patterns are not guaranteed to be operative in a specific case and therefore will be characterized by equations or lawlike relationships.⁸⁶ As Elisa Jayne Bienenstock argues in Chapter Nine of this report, integrating social science and social scientists into the design and conduct of engagements in UGS will require fluidly moving between the many modes of social inquiry and methodology to patiently build reliable knowledge that can be applied to strategy and policy.⁸⁷

Policymakers and the analysts who support their decisionmaking will require both deeper theories on UGS and high-quality data, notably information about what data are or are not available and why, to make determinations about characteristics of governedness and undergovernedness in specific cases. Prematurely forcing a definition of UGS that is not sensitive to the complexities of the real world and the needs of decisionmaking risks (1) wasting effort on testing hypotheses and advancing arguments that are misleading and imagining causal properties that might not be present and (2) missing opportunities to learn from unexpected sources.⁸⁸ Likewise, the failure to collect and examine high-quality, relevant data might leave decisionmakers with a false sense of how to engage in UGS, effectively imagining relations between (1) cause and effect or (2) action and consequence without the means for matching the state of the empirical world with assumptions about its operations.⁸⁹

⁸⁵ Peter Godfrey-Smith, "Induction, Samples, and Kinds," in Joseph Keim Campbell, Michael O'Rourke, and Matthew H. Slater, eds., *Carving Nature at Its Joints: Natural Kinds in Metaphysics and Science*, Cambridge, Mass.: MIT Press, 2011, p. 41.

⁸⁶ On the differences between theories and laws, see Waltz, [1979] 2010, pp. 1–17.

⁸⁷ Elisa Jayne Bienenstock, "Operationalizing Social Science for National Security," in Aaron B. Frank and Elizabeth M. Bartels, eds., *Adaptive Engagement for Undergoverned Spaces: Concepts, Challenges, and Prospects for New Approaches*, Santa Monica, Calif.: RAND Corporation, RR-A1275-1, 2022.

⁸⁸ John J. Mearsheimer and Stephen M. Walt, "Leaving Theory Behind: Why Simplistic Hypothesis Testing Is Bad for International Relations," *European Journal of International Relations*, Vol. 19, No. 3, September 1, 2013.

⁸⁹ See Chapters Eight and Nine of this report (Andrew M. Parker, "The Need to Invest in Social Science Infrastructure to Address Emerging Crises," in Aaron B. Frank and Elizabeth M. Bartels, eds., *Adaptive*

Features of Undergoverned Spaces

Although a precise definition of UGS might not be forthcoming, the placement of governance practices, capacities, and purposes offers hints about when and why engagement might be beneficial for the United States. As previously discussed, undergovernedness might occur in several ways, each presenting different challenges and motivations for engagement and intervention. Broadly, however, four considerations might be active, each of which contributes to the demand for action and the tailoring of engagements to conditions that differ from traditional state-to-state interactions.

Accessibility

The first consideration is **the extent to which the space is accessible to competitors—both states and nonstate actors**. Accessible spaces are where open conflict—covert and subversive influence or the threat of either—could provide for the escalation and expansion of conflict. In cases where escalation between a fixed number of competitors might occur, yet no additional actors can enter the conflict, it might be unwarranted to categorize the contested space as an undergoverned one. Alternatively, even with low stakes, the prospects of many new actors entering an arena to compete—e.g., the arrival of foreign fighters, private military organizations, criminal networks, regional peacekeeping forces, nongovernmental organizations, and more—might add increasing levels of complexity, all of which contribute to, and change, the complexity of a civil war. With each actor, complexity is added as new grievances and opportunities to pursue their redress indicate the possibilities that a vacuum or conflict might spread. In such cases, the source of the conflict itself might not directly involve U.S. national interests, yet its potential expansion might nevertheless threaten them. Consider challenges posed by great-power competition and the variation in form and place in which it occurs. In some cases, rivalries might appear as direct confrontations between competitors in competitive spaces that have high barriers of entry, require exquisite scientific and engineering expertise, and address specific strategic needs that most actors do not face (e.g., global military power projection via long-range precision-strike systems and the logistics systems that can support sustained combat operations across long distances). Alternatively, competition might exist within spaces that have a low barrier of entry that enables the full complement of actors—agents of the world’s most-sophisticated states, criminal organizations, terrorist networks, political activists, and citizens, each acting with different motivations—to compete (e.g., in cyberspace).

The Presence of Institutions

The second consideration is **the extent to which the domain is governed by institutions, whether formal or informal, that moderate conflict**. In some cases, governance institutions might exist and remain effective in shaping the behavior of competitors. In other cases, however, institutions might exist yet be ignored and might be challenged by alternative institu-

Engagement for Undergoverned Spaces: Concepts, Challenges, and Prospects for New Approaches, Santa Monica, Calif.: RAND Corporation, RR-A1275-1, 2022; and Bienenstock, 2022).

tions or might simply be nonexistent. In each case, whether institutions effectively serve their purpose of proscribing and prohibiting certain behaviors to facilitate interactions should be examined. Important considerations might be whether institutions offer only partial coverage of the space or the actors within it, such as proposed applications of international law that might restrict the legal actions of state actors yet might not apply the same rules to commercial and other nonstate actors.⁹⁰ Likewise, compliance with international institutions can be difficult to discern. For example, recent scholarship on subversion and covert action has noted that such efforts are made because states are both unable to make a legal case for violating the sovereignty of their targets and unwilling to openly defy international law and overtly violate the sovereignty of their targets.⁹¹

Institutional Interdependence

A third and related consideration is **the extent to which changes in governance practices in one space might affect governance in others**. Governance institutions are often layered; organizations, practices, and behaviors established to govern one application transfer to others when opportunities and demand align. Institutions might be regarded as “solutions looking for problems.”⁹² These would form the building blocks or design patterns used to establish and extend governance.⁹³ In cases of thinking about diffusion and governance, two questions might be considered. First, if competition in a given space is ineffectively governed, does an opportunity exist to import institutions from other spaces to manage it? Alternatively, a second question reverses this logic by asking whether the occurrence of competition in one space might weaken or undermine governance institutions in that space and also jeopardize related institutions in other spaces.

Open-Endedness and Adaptation

Finally, a fourth set of considerations concerns **the temporal nature of the competition and the extent to which it has a logical termination point or represents a condition that must be endured**. In most cases of long-term competition in UGS, coping with aggression resembles a brawl in which each participant seeks to survive and develop their own often unique goals and interpretations of success and failure.⁹⁴ Long-term competition in UGS creates new chal-

⁹⁰ New Zealand Ministry of Foreign Affairs and Trade, 2020.

⁹¹ Austin Carson, Stephanie Carvin, Jon R. Lindsay, and Ryan Scoville, *In the Shadow of International Law: Secrecy and Regime Change in the Postwar World*, International Security Studies Forum, December 8, 2020; Michael Poznansky, *In the Shadow of International Law: Secrecy and Regime Change in the Postwar World*, 1st ed., New York: Oxford University Press, 2020.

⁹² Michael D. Cohen, James G. March, and Johan P. Olsen, “A Garbage Can Model of Organizational Choice,” *Administrative Science Quarterly*, Vol. 17, No. 1, 1972.

⁹³ Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides, and Grady Booch, *Design Patterns: Elements of Reusable Object-Oriented Software*, Reading, Mass.: Addison-Wesley Professional, 1994.

⁹⁴ George Skaff Elias, Richard Garfield, and K. Robert Gutschera, *Characteristics of Games*, Cambridge, Mass.: MIT Press, 2012.

allenges for competitors because it requires them to consider the implications of, and ability to adapt to, perpetual novelty in *open-ended* systems.⁹⁵ Specific challenges are developing abilities to sense and interpret changes in the environment (such as the composition of actors—some who might exit the competition, others who might enter, and still others who might merge, divide, or otherwise transform) and minimizing internal decisionmaking barriers that limit the adaptive capacity of organizations that must compete. However, emphasizing adaptiveness is not one-sided; a balance must be reached to ensure that (1) organizational factors do not unnecessarily inhibit innovation and (2) organizations retain predictable and reliable processes that can ensure effective command, control, and coordination of their efforts.

Together, these four considerations, shown in the text box, might not precisely define UGS. But they might indicate when such a label is warranted by considering the implications of competition. More specifically, the extent to which competition might expand to involve increasingly numerous and diverse actors, address threats to established governance institutions, create risks to—and opportunities for—governance institutions elsewhere, and require continuous attention to novelty, innovation, and adaptation would indicate a demand for the approaches offered and examined in this report.

Concluding Thoughts

Regardless of how UGS are defined, they will remain an important strategic challenge that DoD and the broader NSE will be called upon to engage in. The motives for doing so might

Considerations for Competing in Undergoverned Spaces

Consideration	Consequence
Increasing numbers of actors capable of entering and competing in a given space	Increased complexity resulting from heterogeneous goals and capabilities of competitors
Limited presence or weakness of existing governance institutions within a space	Risks of undermining established governance institutions, whether formal rules, such as internal law, or informal norms of behavior that make actors less predictable
Dependencies on governance institutions in other spaces	Risks posed to undermining governance institutions on which stable and managed behaviors in other spaces rely
The need to cope with novelty and uncertainty in an open-ended system	A continuous demand for shifting organizational designs and decisionmaking processes to adapt to changes in the composition of the space and the behaviors and capabilities of the actors within it

⁹⁵ Kenneth O. Stanley, Joel Lehman, and Lisa Soros, “Open-Endedness: The Last Grand Challenge You’ve Never Heard Of,” O’Reilly Media, December 19, 2017; Arend Hintze, “Open-Endedness for the Sake of Open-Endedness,” *Artificial Life*, Vol. 25, No. 2, May 2019; Kenneth O. Stanley, “Why Open-Endedness Matters,” *Artificial Life*, Vol. 25, No. 3, August 2019.

be as diverse as the types of spaces that might exist. Although definitional clarity should be pursued, the scientific and pragmatic challenges posed by the status of UGS as *unnatural kinds* should be taken seriously. Accumulating knowledge on a concept that rests on contested foundations, i.e., the state, will limit the extent to which reliable generalizations can be made. However, this does not mean that useful knowledge cannot be accumulated and that analysis, informed by scientific research and expertise, cannot aid those who will need it the most. In the meantime, it might be best to define UGS pragmatically and focus on the consequences of competition and conflict should it occur, with an eye toward how best to enhance, protect, or bolster effective governance wherever it is beneficial to do so.

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Abbreviations

AI	artificial intelligence
BRI	Belt and Road Initiative
DoD	U.S. Department of Defense
NSE	National Security Enterprise
UGS	undergoverned spaces

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