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THE DUAL-SYSTEM PROBLEM IN COMPLEX CONFLICTS

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U.S. ARMY WAR COLLEGE
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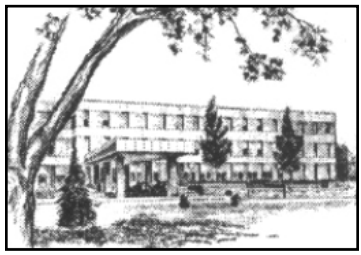

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Comments pertaining to this report are invited and should be forwarded to: Director, Strategic Studies Institute and U.S. Army War College Press, U.S. Army War College, 47 Ashburn Drive, Carlisle, PA 17013-5238.

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FOREWORD

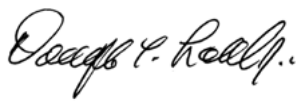
Despite decades of research and experience in foreign conflicts and fragile environments, institutions in the United States and beyond are often unable to position themselves for success when called upon to intervene. This monograph contributes to the growing recognition that today's conflicts are best understood as complex systems, characterized by greater levels of fragility, uncertainty, and intractability than conflicts of previous decades. However, it does something even more important along the way. It encourages us to acknowledge that policy processes and institutions designed to address foreign conflicts are themselves complex systems. As a consequence, it is not just volatile, uncertain, complex, and ambiguous (VUCA) environments that are unpredictable; how our own policy decisions end up being implemented are also unpredictable.

Decisions about policy and strategy are far from simple. They are inputs into a complex web of institutions, processes, incentives, and bureaucratic cultures that shape and reshape those decisions in ways that often end up quite different from their original intent. The Army is only one component of this complex system. The rest of the U.S. Government is likewise embedded in this complex system that includes other services, departments, agencies, and contractors. These, in turn, are part of a global system of alliances whose inner workings are complex as well.

The authors describe this phenomenon as the "dual-system problem." A decision about how to intervene is fed into a complex policy system that turns the decision into a set of actions on the ground, which in turn are fed into a complex conflict system that turns

those decisions into a set of outcomes. If the effects of a policy often seem disconnected from the motivations of the decision, it is because the recommended actions had to make their way through two complex systems—not exactly a recipe for success.

No wonder lessons are not always institutionalized. Research on best practices and doctrine generally focus on the actions that took place on the ground, and many of the lessons discovered and recommended to decision-makers end up getting rediscovered and recommended over and over, in some cases over decades. The authors encourage broadening the research and policy agenda to focus specifically on why our own institutions have so often failed to institutionalize lessons; in other words, to study our own systems as complex systems to find the sources of resistance. This is a bold, innovative, and important piece that needs to be taken seriously at all levels.



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SUMMARY

Conflicts are increasingly complex and unpredictable. The United States and its partners have not been unambiguously successful at the strategic level in most of the conflicts they have been engaged in since September 11, 2001. This is, in part, because conflicts are becoming more complex and, therefore, more unpredictable and volatile; the parties to conflicts are more fragmented yet more interconnected (domestically, regionally, and internationally); and alliances among combatants are increasingly formed out of expediency or necessity rather than ideological alignment, trust, or a desire for power sharing. In complex wars, it can be unclear what winning might even look like from the U.S. perspective.

The U.S. policy system is also more complex than most leaders appreciate. The difficulty of operating in fragile and conflict environments is exacerbated by the fact that the U.S. policy system is also too complex to manage predictably. However, it is still thought of as a bureaucracy rather than what it actually is: a "complex system" (as scholars define the term). Complex systems by their nature do not always turn inputs (such as policy decisions) into predictable outcomes (such as U.S. influence). Something usually gets lost in translation.

The United States will not be effective in foreign conflicts until it gets a handle on this "dual-system problem." The ability of U.S. leaders to influence outcomes in crisis situations is restricted by the fact that not one but two complex systems—the domestic policy system and the foreign conflict—stand between their decisions and the real-world outcomes they want to influence. This is not due to maliciousness

or incompetence in the federal workforce or military forces, but rather to the nature of the system that has been set up by the U.S. Congress and Presidents from both political parties over the course of many decades. The United States is better at providing humanitarian assistance to mitigate the effects of war than it is at preventing, winning, or ending wars or at helping societies recover from them sustainably.

Complexity benefits spoilers more than established powers. State and nonstate actors looking to undermine the global system and harm U.S. interests have an advantage over large, successful countries such as the United States. They are simply better positioned to respond to rapid changes in the complex conflict environments in which they operate. This is partly because it is easier for small, flat organizations to innovate than it is for large and multifaceted organizations attempting to operate as hierarchies, and partly because it takes significantly more energy, foresight, and cooperation to maintain order than it does to disrupt order.

Complexity weakens the effectiveness of international legal instruments. When decision-makers associated with supranational legal institutions fail to account for the complexity of policy and conflict systems, international criminal law becomes a weak tool for helping decision-makers achieve their objectives, whether those objectives are strategic or humanitarian. International law has real normative power, but in complex settings, that normative power is not always strong enough to deter or prosecute perpetrators of atrocities. Conflict actors generate and follow their own rogue norms of behavior, which can effectively counterbalance established legal norms. The inclusion of both sets of rules and actors—established and

rogue—can therefore exacerbate rather than reduce the complexity of conflict settings and thus the ability to influence conflict outcomes.

Experts already know what reforms are needed. A great deal of research on approaches that are and are not effective in complex environments points to the importance of, among other insights, simplifying or harmonizing the way support to in-country partners is delivered, engaging affected communities and marginalized groups in solutions, taking seriously the advice of experts and the opinions of citizens, investing in preventive work in fragile environments before they turn violent, clearly articulating the objectives of an intervention, giving field offices the authority to respond with agility in fast-changing situations, allowing staff to experiment and learn from failure without being punished for taking calculated risks, and empowering and rewarding entrepreneurial staff as they discover and implement effective innovations.

Figuring out how to implement those reforms remains the key challenge. Experts spend more time **recommending** the aforementioned practices than studying the sources of resistance to their effective implementation. There are established methods in the social sciences for studying "policy resistance" (e.g., political economy analysis and system dynamics modeling), but conflict scholars, policy advisers, research centers, and doctrine writers rarely employ them to discover the barriers to success within the U.S. policy system. While it remains critically important to produce doctrine, discover lessons, and identify best practices for effective action in complex environments, such documents far too often recommend that troops, civilians, contractors, and agencies take actions and produce results that their own policy system will never

allow them to actually deliver (e.g., "whole-of-government") in the absence of significant reforms—a topic about which the authors of such documents rarely express curiosity. The domestic barriers to becoming more entrepreneurial, more experimental, and more systemic in complex environments have yet to be studied systematically. Unless we develop a more sophisticated understanding of the complexity of our own systems—and more effective practices for operating through them—political leaders of the future, frustrated by the impotency of existing systems, might be tempted to bypass democratic processes and impose in their place more linear processes (e.g., command and control). That might help decision-makers get more immediate results, but linear processes are even worse at predicting second-order effects than current approaches, and they are more likely, therefore, to produce results that run counter to the long-term interests and values of the American people.

The military services have the motivation and resources to lead a shift in emphasis from a command-and-control mindset in policymaking to a systemic mindset. There will always be a place in military institutions for commanders to expect subordinates to obey orders, and there will always be an expectation by elected and appointed civilian leaders that their decisions will be implemented with their intent intact. However, whole-of-government implementation is a failed dream; there are too many sources of resistance to full interagency coordination within the policy system. Shifting from "whole-of-government" to "systemic governance" is therefore a necessity, and the Army has the motivation and resources to lead that shift. Officers from lieutenant colonel through brigadier general need to be trained and educated in a way

that inculcates a systemic mindset in themselves and, at the very least, encourages them to recognize and reward experimental and entrepreneurial tendencies in their subordinates. Education, training, and doctrine institutions are designed to adapt as global conditions change, and the key adaptation today is to become more systemic, more entrepreneurial, and more experimental, particularly on planning, joint concepts, doctrine, wargaming, and force development. That is as true for political leaders and civilian agencies as it is for military organizations. All will need to solve the dual-system problem before they can expect to protect U.S. interests and contribute to a stable international order in the future.

CONTENTS

CHAPTER 1. INTRODUCTION

The United States and its partners have not been unambiguously successful at the strategic level in most of the conflicts they have engaged in since September 11, 2001. In some cases, conflicts that had seemed settled erupted again under different guises. Combatants that had appeared defeated emerged under different names. Partners that had seemed reliable turned out to have different agendas, loyalties, or capabilities than expected. Successful battles and targeted strikes have rarely, if ever, been accompanied by the broader political settlements or unambiguous victories needed for strategic-level success. In short, tactics, alliances, motives, and players shift so quickly that existing analytic "conflict lenses" sometimes make today's conflicts look more kaleidoscopic than focused—shift your perspective just a little and the whole picture seems to change.[1]

In the face of the complex and uncertain challenges that arise in today's conflicts—certain only to get worse over time—how should the U.S. Government organize and position itself to protect its interests and contribute to a stable international order in the future? Some scholars and practitioners have suggested the answer lies in finding ways to be more adaptive and innovative—more like startups and venture capitalists than government bureaucracies. What does that mean in practice? What are the systemic challenges the United States would need to overcome to prepare adequately for conflicts that realistically are not likely to be susceptible to normal planning? More to the point, when U.S. troops are asked to go to war, how can they build strategies, plan operations, fight battles, and build relationships when the conflict environments are so

complex that it is not always clear what victory would look like? Moreover, the demands of interagency coordination are so unrealistic that it is also not clear what a "whole-of-government" effort would even entail.

Chapter 1 addresses these questions. Chapter 2 considers trends suggesting that conflicts are decreasing in number but increasing in complexity and intractability. Chapter 3 shares the results of three lines of research we undertook over the past year: expert interviews and workshops soliciting ideas for feasible, immediate reforms; an experimental public forum on support for various approaches to intervention; and a 3-day, 30-party simulation of a complex conflict negotiation.[2]

Given those findings, chapter 4 introduces the concept of the "dual-system problem" to demonstrate why many countries and international institutions are ill-suited to engaging successfully in complex conflicts.[3] The policy systems attempting to solve complex problems are, in fact, complex systems themselves. We illustrate the dual-system problem with two cases: institutions for learning lessons from experience (knowledge) and those for protecting against atrocities (law). When knowledge institutions and legal institutions fail to account for complexity and the dual-system problem, they do not fully achieve their intended purpose in the domain of complex conflicts, leading to unnecessary and deadly mistakes and failures to deter or punish atrocities.

The final chapter argues, pessimistically, that the United States, like the international community more broadly, is not presently organized to deal with the complex conflicts it is already engaged in beyond humanitarian assistance. The best we likely can expect is skilled improvisation, lucky breaks, and slow

progress. More hopefully, however, we discuss the opportunities and challenges involved in the necessity of making the United States, its allies, and international organizations more entrepreneurial, more experimental, and more systemic so they will be better positioned to engage more intelligently and strategically in complex situations of the future. The U.S. Army sits on the boundary between the U.S. policy system and the complex conflict systems it is asked to fight. It is therefore not only required to figure out how to overcome the dual-system problem, it is also perfectly positioned to help the U.S. Government more broadly identify the kinds of reforms that will be needed.

ENDNOTES - CHAPTER 1

1. David Crane, a lawyer and international prosecutor whose research is focusing on a potential war-crimes case against Bashar al-Assad, coined the term "kaleidoscopic conflict" to describe the complex war in Syria and the likely trajectory of warfare in the future. Personal communication, November 2015.

2. The simulation and some of the expert consultations were undertaken in collaboration with the International Peace and Security Institute (IPSI), Washington, DC; and the authors would like to thank IPSI's Cameron Chisholm, Kevin Melton, Kate Elci, and David Crane for their assistance. Many of the expert consultations were also undertaken in collaboration with the Fragility Study Group, co-chaired by Nancy E. Lindborg (United States Institute of Peace), Michèle A. Flournoy (Center for a New American Security, Washington, DC), and William J. Burns (Carnegie Endowment for International Peace, Washington, DC). The authors would like to thank the study group co-chairs along with Alexa Courtney, Linwood Ham, Noah Sheinbaum, Loren DeJonge Schulman, and Matan Chorev for their assistance.

3. The authors introduced the dual-system problem in Robert D. Lamb and Melissa R. Gregg, "Preparing for Complex Conflicts," *Fragility Study Group Policy Brief*, No. 7, Washington, DC: United States Institute of Peace, October 2016.

CHAPTER 2. COMPLEX SYSTEMS AND CONFLICT

Evidence is accumulating that conflicts are increasing in complexity. Today's wars tend to involve more uncertainty, more volatility, and more actors with domestic, regional, or international affiliations than in the past. Parties to conflict are increasingly likely to be highly fragmented, use interconnected social networks (proximate or distant), and engage in competitive alliances out of expediency or necessity rather than ideological alignment, trust, or a desire for power sharing. Even after active combat ceases, the instability of these alliances can increase the likelihood of conflict recurrence and disrupt the transition to peace. In complex wars, it can be unclear what winning might even look like.[1]

For example, the war in Syria is, by any measure, complex. Even from just the perspective of U.S. interests, it is hard to articulate what a winning strategy would be. The Syrian regime and the Islamic State are fighting each other, and throughout 2016, the United States opposed both. Therefore, it supported, for example, Kurdish fighters who also opposed both. Turkey is also a U.S. ally and a key regional power that opposed not only the Islamic State, but the Kurds as well. As such, it is therefore only a slight exaggeration to argue that almost anything the United States attempted in the region risked both supporting and opposing its adversaries while opposing and supporting its partners.

Fragility has a similar complexity. The "absence or breakdown of a social contract between people and their government," as the Fragility Study Group defined the term,[2] is generally reflected in a lack of consensus over the system of governance that different

populations within a defined territory would consider legitimate. When a governance system suffers from "deficits of institutional capacity and political legitimacy that increase the risk of instability and violent conflict and sap the state of its resilience to disruptive shocks,"[3] the result is that different political groupings find ways to fend for themselves. They ally with other groups when convenient, compete with others for resources and influence, carve out their own safe spaces where possible, partner with outside patrons when necessary, and communicate different narratives to different audiences to maximize whatever benefit can be achieved. In a sense, fragility is a complex conflict that has not yet turned violent.

Chapter 2 begins with a review of these trends and a discussion of the challenges of managing complex conflicts. Informally, we consider a conflict to be complex if it involves at least three distinct sets of direct combatants; uncertain or unstable alliances of convenience among them (if any); a degree of fragmentation within at least one major combatant group; relationships between combatants and external supporters who themselves are competitors of some sort; and uncertain, shifting or opaque motivations, rationales, and objectives for engaging in combat by at least one major combatant group.

More formally, we consider conflicts to be **systems**, and complex conflicts to be **complex** or **dynamic systems**. This chapter therefore introduces some key insights from the theoretical literature on systems, cybernetics, complexity, and conflict. Systems are always defined in terms of their **boundary**, which clearly delineates the (endogenous) factors that are components or elements of the system from (exogenous) factors or phenomena that can be treated as

separate from the system. In some traditions, systems are said to absorb **inputs** from sources outside the system and produce **outputs** or **outcomes** into the environment. In other traditions, the boundary of the system is drawn more widely so that the key variables of interest are considered not as inputs and outputs but as parts of (endogenous to) the system itself.[4] Planning frameworks and theories of change generally employ the terminology of inputs, outputs, and outcomes. We will use that terminology as well, with the caveat that experts in system dynamics—whose work is most immediately useful to those wishing to understand conflict and policy systems—tend to shy away from that language, preferring to endogenize all variables of interest—inputs are treated as decision variables, and outputs are treated as state variables or simply variables of interest.

In conflicts, inputs can include weapons, money, recruits, knowledge, diplomatic cover, and so on; and outputs can include level of violence, form of violence, control of territory, power, legitimacy, and many other indicators of interest. Inputs from all sources—not just American weapons but Russian weapons, Saudi money, and European recruits, for example—flow through and between the various components inside the system and are transformed along the way, producing outputs that often are hard to predict or are counterintuitive (e.g., arming the enemies of your enemy ends up strengthening your enemy). Large inputs sometimes have no discernable effect on outputs, while small inputs can sometimes have very large effects. The components of complex systems are interrelated in such a way that two or more variables can end up forming circular causation or feedback loops. Positive or reinforcing feedback loops amplify the effects its

component variables have on each other. Negative or balancing feedback loops counteract each other. Causal relationships can be hard to detect because "in complex dynamic systems, causes are often far removed in both time and space from the symptoms."[5]

Based on these insights, the final section of this chapter offers a simple conceptual framework through which options for how to engage in complex conflicts might be considered. Conceptually, strategic options can be found in factors related to inputs, system components, outputs, and feedback or iteration. This discussion will be useful background for subsequent chapters that lay out the strategic and policy challenges and the reforms needed to overcome them.[6]

ARE CONFLICTS BECOMING MORE COMPLEX?

It has been observed that the number of conflicts that begin every year has been generally declining for at least 2 decades, and the number of people killed in wars every year has been declining for many more decades than that. Those downward trends were due mainly to the absence of conventional global-scale wars since the end of World War II and to the development of more precise weapons and tactics. There is no guarantee that a global-scale conventional or hybrid war will not emerge in the coming years or decades, of course. However, the general trend has been promising. Less promising are much more recent observations (in the past 3 or 4 years) that the annual number of conflicts might have increased again, that conflicts now seem increasingly likely to recur once combat ceases, that the number of battle deaths per war might be increasing as well, and that some conflicts seem simply immune to exhaustion. Syria, for example, represents

both the deadliest war since the end of the Cold War (e.g., half of the world's casualties in 2012 occurred within its borders) and one of the most complex, given the number and interrelationships of domestic and foreign parties involved.[7]

Conflicts today, therefore, seem increasingly characterized by more uncertainty, intractability, and volatility than they were in the Cold War era.[8] *The World Development Report* from 2011 noted "few countries are truly post-conflict" because so many had become trapped in repeated cycles of violence, exclusion, and fragility.[9] Though there has been a relative dearth of research on conflict persistence compared to that on triggers of "new" conflicts, factors associated with intractability generally include state capacity, economic strength, weak institutions, and poor governance.[10] Paul Collier, Anke Hoeffler, and Måns Söderbom in 2004 estimated the risk of conflict relapse to be approximately 40 percent during the first post-conflict decade, meaning that almost half of all conflicts were destined to resume.[11] It is unclear whether the number of parties to a conflict drives conflict duration, intensity, or recurrence (or vice versa), but it is clear that economic fragility and protracted social tensions are mutually reinforcing, a phenomenon the Center for Systemic Peace describes as "systemic deterioration and societal atrophy through the diffusion of insecurity."[12]

Given that fragile environments are essentially conflict zones that have not yet turned violent, trends in fragility can stand as leading indicators for the ways groups might form during conflict and the degree to which group membership might endure throughout a conflict. The 2016 *Fragile States Index* (FSI) found a global increase in fragility overall, demonstrating "justified pessimism for the outlook for much of the world

as continuing crises show little indication of resolution, and new threats begin to arise."[13] Patterns of fragility can explain some of the ways conflict cycles are evolving, lending nuance to our understanding of not just conflict but also the likelihood of foreign interventions into organized violence and the viability of a transition to peace. In one study, fragility was found to be the single most important determinant for U.S. interventions into a transitioning state.[14] Another found that U.S. interventions into foreign crises were more likely where there was more violence, greater strategic interests, or fewer regional constraints.[15] Yet, it has been acknowledged by senior officials that the ability of foreign powers to manage or prevent fragility successfully is highly limited.[16]

In the absence of consensus on basic questions of governance and legitimacy, when different social and political groups start to feel insecure, they look for new ways to fend for themselves. This may involve setting aside some differences and allying with other groups or patrons (domestically or internationally) when convenient, competing with other groups for resources and influence, carving out their own safe spaces where possible, and communicating different narratives to different audiences to maximize whatever benefit can be achieved. Fragile environments are often characterized by multiple, and sometime opaque, intersections between and among military organizations, violent organized criminals, and ethnic or political leaders.[17] Fragility, complexity, and violence, therefore, are all mutually reinforcing—one reason policy entry into such environments is so notoriously difficult.

The complexity of fragile and conflict environments does not always stay contained within the few geographical regions where they tend to originate, most

notably the Middle East and North Africa (MENA). While some scholars note that conflict **risk factors** may be geographically clustered, there is also a substantial likelihood of conflict "spillover," either from the "contagion" effect conflict can have on neighboring countries or because of refugee flows from the conflict zone.[18] As refugee movements become increasingly divorced from conflict sites, humanitarian crises affect more and more states and the chance of international involvement in armed conflict increases—which only further increases the conflict's complexity.[19] It does not stop there. A rapid increase (or perceived increase) of refugees into an otherwise politically and economically stable country can also complicate local politics. For example, hardline, nationalistic, and anti-immigrant political parties are coming into direct conflict with European governments and refugee groups, hardening ideological divisions and capitalizing on the uneasiness of Western governments in managing refugee flows.[20] Interconnectedness and porous borders are no longer concerns merely of neighboring nations; crisis spillover now has a global impact that can be felt socially, economically, and politically across the world.

All of this suggests that contemporary conflicts are undoubtedly becoming more complex. They involve greater numbers of actors, with a variety of intentions and aims that have the possibility of shifting over time. They are significantly more difficult to bring to a close, are spread across large distances, and the chance of a recurrence of violence is far greater. Despite widespread acknowledgment that the nature of conflict has shifted to something altogether more difficult to manage, researchers and practitioners persist in recommending many of the same solutions that either

have failed outright in previous conflicts or have only worked in environments that involved fewer elements of complexity.

ARE CONFLICTS BECOMING HARDER TO MANAGE?

Just as conflict occurrence appears to be rising once again, so too are rates of peacekeeping and mediation. International mediation has risen by approximately 35 percent since the 1980s, although both the rates of mediation and its success have remained low in instances of civil war.[21] While it remains difficult to find consistent trends in international commitment to crisis outcomes, more countries seem to be getting involved in armed conflicts when they do occur.[22] But there is by far no consensus on whether, how, and to what extent foreign bodies should step in and mediate during a conflict, intervene diplomatically or militarily (on the basis of humanitarian interests), or even force a political transition.

It is clear, however, that once external actors do intervene in a complex conflict, they become endogenous to the conflict itself.[23] It is unrealistic to assume that international actors can maintain a distant role in a complex conflict, as external actors are often funding, providing training, or otherwise serving as a resource base for actors on the ground, and as such, they can be seen as integral to the conflict outcome as any local actor. Thus, peacebuilding and conflict mediation are notoriously difficult in complex conflicts, as all of the aforementioned group dynamics mitigate the likelihood of achieving a "mutually hurting stalemate"—the point at which all parties to conflict recognize that continuing to fight will only yield losses of lives and

territory and instead begin to implement nonviolent peace processes.[24] With more external actors involved in a conflict, combatants have more options for external alliances and therefore more options for alliance shifting, which in turn gives them the perception of having more options for avoiding "mutual hurt." If increasing the options for alliances enhances the opacity of groups' intentions, all parties stand to gain more from perpetuating conflict than from ending it. Thus, alliances risk becoming inherently tenuous and prone to failure; during mass violence, they may either exacerbate existing tensions or generate new ones, complicating reconciliation efforts and damaging the possibility of enduring peace.[25] In post-conflict settings, these shifts in alliances serve an equally dangerous role by increasing the chances of conflict recurrence or, at a minimum, posing a disruption to the transition to peace.[26]

If an increase in the number of actors intervening in a conflict makes that conflict more complex and therefore more difficult to manage, then there are several ways to reduce that complexity. One is to refrain altogether from taking part in the conflict; the other is to coordinate action in an alliance so some of the outside actors behave as if they are a single unit.

Regarding inaction, research on U.S. interventions has found that most foreign internal crises, especially those with low levels of violence, are already ignored unless they touch on serious strategic interests.[27] Other research has considered whether "strategic inaction" allows global powers to avoid intensifying problems under the guise of solving them, which would have the effect of reducing the number of actors involved in the conflict, therefore reducing its complexity and, in theory, its intractability.[28] There is also potentially

more to be gained at the domestic level from refraining from intervening in foreign conflicts, because public opinion tends to be against foreign interventions except in cases of self-defense or severe humanitarian harm.[29] There was a particularly strong public sentiment against interventions into the Syrian crisis; in 2012, nearly two-thirds of Americans surveyed believed the United States should take less responsibility for the conflict and reduce its involvement.[30]

As for alliances, those that succeed in coordinating their policies and roles in an intervention can mitigate some of the complications of having multiple actors operating independently. Alliances can serve key political purposes, both at home and abroad, because they remove several downsides of unilateral action: they spread the burden and costs of intervening across multiple parties, represent more of an international consensus than unilateral action, and ensure military capacity and capital investment remain available to respond to other crises domestically or elsewhere.[31]

The idea of managing complex conflicts by reducing complexity via alliance coordination is appealing in principle, but it is significantly harder to incentivize multilateral interventions where the outcome does not pose an existential threat to the homeland. The International Security Assistance Force (ISAF) was intended to be a venue through which the "coalition of the willing" could unify its strategy in Afghanistan. In practice, different countries took responsibility for different regions, and the different capabilities and domestic political pressures of participants ended up producing something rather short of unified action. It

turns out complex conflicts are hard to manage in part because of the "managers" themselves.

They are also hard to manage simply because, within the conflict, there are so many different actors operating at so many different levels. Western diplomacy is designed to take place state-to-state, which means the default interlocutors tend to be at the national level, not at subnational levels. In today's context, however, much of global mobilization is focused on getting the parties to stop fighting or to mitigate humanitarian harms, rather than on simply trying to win the war. Conflict management cannot simply be a matter of taking the government's side or the insurgent's side.[32] There is substantial evidence that subnational and regional dynamics are at least as central to the outcomes of today's conflicts as national dynamics.[33] For example, Stathis Kalyvas has argued that it is impossible to fully understand the nuances of violence at the macro (i.e., state) level without close consideration of micro (i.e., local) dynamics.[34] Government-level motivations for conflict may differ wildly from those locally, but the tendency of researchers and policymakers to "project backwards" the drivers of conflict from a state level to an individual level means that local cleavages are not fully considered and, therefore, cannot be adequately repaired. The interactions between supra-local and local actors and the transfer of power from the former to the latter informs the ways in which conflicts endure or collapse, the character of violence, and the likelihood of peace sustainability in the long term.[35] However, little is known about the nature of the interactions between those groups, as research concentrates so heavily at the central governmental level. Subnational conflict remains undertheorized

and underappreciated, and it is at that level where a conflict's complexity is most opaque.[36]

SYSTEMS, COMPLEXITY, AND CONFLICT IN THEORY

Having concluded that conflicts are indeed increasing in complexity and getting harder to manage, the question of what to do about it remains. Most scholarly approaches to conflicts over the last several decades have framed them as linear processes tracing causal factors (often singularly) such as geography, environmental factors, the presence or absence of natural resources, ideological or social cleavages, power differentials in government, state fragility, aid flows, and myriad other possibilities.[37] Earlier studies also tended to involve large-n, cross-country comparisons (which average out intrastate violence) and suffered from definitional inconsistencies that hampered their application to different conflict types.[38]

In reality, conflicts are the product of interconnecting factors both endogenous and exogenous to the actors and countries involved. Theories examining only a few facets therefore miss the feedback processes occurring **between** different elements of a crisis, are unable to capture shifts in motivations and ideologies over time, and do not adequately differentiate between those factors motivating an initial descent into conflict and those influencing the perpetuation of violence. In myriad ways, today's conflicts exemplify "wicked problems": they are difficult to define; their root causes are often interlinked and difficult to separate; and it is not certain at any time where the appropriate level may be for intervention purposes.[39]

For the purposes of this chapter, therefore, we frame problems in terms of system dynamics and complexity. These are highly interdisciplinary fields, having evolved to incorporate elements of mathematics, physics, environmental sciences, psychology, sociology, and more recently, political science.[40] As with any interdisciplinary practice, different authors define their terms and frame the domain of their research in different and at times contradictory ways. Because the purpose of our research is expository rather than explanatory, we have the luxury of being able to simplify, for the sake of the reader, an otherwise complicated subject.

Systems theory and complexity theory are closely related. Both see certain problems as inherently dynamic and nonlinear; that is, an increase or decrease in one factor cannot reliably predict an increase or decrease in another factor without additional information, such as initial or earlier values of the factors involved or the level to which some resources have been accumulated. Both also place scale, boundaries, and hierarchy at the center of analysis: systems can contain subsystems, but they can also themselves be a subsystem within a higher-order system as well (see, for example, the discussion of international law as a subsystem in chapter 4). The observer or analyst tries to select the level and boundaries of the unit of analysis in such a way that all significant causal mechanisms are accounted for, although in practice, boundaries are at times selected for convenience or to focus on particular sets of issues.[41] A conflict whose major players lie within a country's borders will be studied at the national level, so subnational dynamics would be included in the analysis, while regional and international actors might be excluded from the analysis,

and treated as inputs rather than components of the system.

Both complexity and systems theories recognize that, when humans and other organisms are involved in a complex system, they adapt over time, which further complicates analysis and prediction. By analogy, weather is a complex system, but its components cannot adapt; imagine how difficult weather prediction would be if raindrops could refuse to leave their clouds or if some air molecules moved faster or slower in response to guidance from a prophet. Adaptation is therefore key to understanding complex social systems.[42]

While complexity and systems theories are often conflated, there are some differences in emphasis. Systems analysts tend to focus on identifying relationships between different elements within a system, recognizing that they cannot be considered in isolation from one other. Systems scholars generate a deeper understanding of complex settings and circumstances by "identifying the causal relations between both physical and behavioral components that together provide an explanation for the behaviors of the system as a whole."[43] System dynamics researchers are thus able to analyze (on an ongoing basis) system components and processes and, at the macro level, dynamics and trajectories. In some theoretical frameworks, inputs describe the resources required to carry out a service or process or to generate a product. These may include people, goods, capital, information, or even time. In turn, outputs describe the by-products and outcomes that the system produces. These are the results of a system's work, and may be either tangible or intangible. In addition to these critical functions, systems are also defined by the presence of procedures, institutions,

components, boundaries, and networks. These elements may be tightly coupled (that is, small changes have big effects) or loosely coupled (small changes have small effects). Crucial features of dynamic systems include the accumulation and depletion of resources over time, the presence of feedback mechanisms, and delays between causes and effects, which together make prediction difficult without the quantification and simulation of dynamic models.[44]

Within the realm of systems thinking, there are sub-theories and modes of analysis. System dynamics focuses specifically on problems characterized by ambiguity and unpredictable patterns, multi-scaled analysis, and ignorance as to the correct policy choices for resolution. With a dynamic approach, researchers take more of a long-term, evolutionary, and historical view of issues. As a result, dynamic complexity takes cause-and-effect, feedback, and stability and fluctuations in a system over time as a core feature of analysis.[45] In control theory, attention is paid to one or more measures of the state of the system (state variables) so that information can be used to adjust iteratively inputs in response, the way a thermostat continuously measures a room's temperature (the state variable), then turns the heating or cooling element (the input) on or off, depending on whether the room is within a desired temperature range. Adaptive systems theory expands on the idea that systems may "learn" from their environment, shifting in response to information gathered. Such evolution may be positive, in the sense that the system self-corrects, but also negative in the sense that individual components within the system have the power to drive macro-level changes and system-level learning may not take place at the same speed as the stimuli causing the need for a shift.[46] Such

gaps in timing form a core challenge to those involved in complex conflicts. Complexity theorists tend to focus on the unpredictability of the system under analysis—for example, on positive feedback loops that can push a system beyond equilibrium—rather than on stability and equilibrium, as more linear approaches take.[47] Some systems (for example, an electronic circuit or a business strategy) have a relatively high degree of certainty and predictability in its outcomes and outputs, but in complex or chaotic settings (for example, weather and war), there is perpetual uncertainty as to the outcome.[48] Complexity thinkers recognize change as a continuous process, which requires those both within and outside the system to **adapt** on an ongoing basis. Being adaptive thus requires incorporating multiple perspectives, working dynamically, and favoring flexibility over predictability.[49]

Conflict mapping is already a standard practice for military and civilian planners, but complex conflicts require attention to additional dynamics and adaptations that often generate unexpected consequences. The usual approach to participating in conflicts is linear: directly target system components considered undesirable (e.g., combatants) and the obvious links (e.g., finance and weapons flows) that support them, or directly support certain actors (e.g., with training and weapons) believed to oppose those adversaries. Strategists can be highly sophisticated at identifying potential second-order effects and complicated tradeoffs, but not all are as systematic at identifying them as the complexity of the situation demands, and even the best strategies can be implemented in nonstrategic ways. Training and equipping surrogate combatants, for example, is a strategy sometimes referred to as an "indirect approach" to warfare, implying a systemic

mindset, but given how often train-and-equip programs are implemented with false assumptions and little to no attention to second-order (and higher) effects, it is hardly an example of sophisticated systems thinking or, often, successful strategy.[50]

Engaging in complex conflicts should, therefore, be a matter of minimizing complexity where possible (by disengaging or by harmonizing actions with other actors), paying close attention to higher-order changes in system components and the system as a whole, and adapting as needed. Control theory is more useful in systems theory than in complexity theory for a reason, since it presumes there is an equilibrium state that the system can achieve. With the addition of knowledge about how system components interrelate inspired by complexity theory, it can also provide a very rough framework to identify strategic opportunities. They can identify the inputs you can control (money, weapons, and information), as many interrelated system components as is feasible, and the outcomes of greatest interest (i.e., state variables such as violence levels, who controls what territory, etc.), then iteratively activate the inputs, measure how the other variables respond, and use that information to adjust the next round of inputs.

A growing chorus of authors and analysts calls for work in complex environments to be carried out along these lines, through decentralized organizational structures ("team of teams") and people with local knowledge, an entrepreneurial mindset, and incentives to experiment and innovate. They argue that logical frameworks, linear theories of change, inflexible funding mechanisms, and other bad habits of large bureaucracies inhibit the agility and experimentation required to learn to operate in environments that

Thomas Jacobs called "VUCA": volatile, uncertain, complex, and ambiguous.[51] In the next chapter, we present the results of our own research that strongly supports these claims and lays the foundation for the subsequent diagnosis that these shortcomings are rooted in our own complex systems.

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CHAPTER 3. RESEARCH AND FINDINGS

Given that many of today's conflicts are already confounding, the trends toward complexity and intractability discussed in chapter 2 do not bode well for U.S. involvement in conflicts as time moves forward. To identify steps the United States can take to start building a more capable system, we pursued three lines of research in addition to a review of literature on various approaches to dealing with complex conflicts. These included expert interviews and workshops soliciting ideas for feasible reforms; an experimental public forum on support for various approaches to intervention; and a 3-day, 30-party simulation of a complex conflict negotiation to identify roadblocks to settlement.

EXPERT ENGAGEMENT ON DEALING WITH COMPLEXITY

The authors collaborated with a number of organizations and initiatives in Washington, DC, and interviewed experts at meetings and workshops in Washington, Chicago, New York, and San Francisco to explore the state of knowledge and ideas regarding effective engagement in complex fragile and conflict environments.

We collaborated with the Fragility Study Group, a high-level senior working group launched in January 2016 by Nancy E. Lindborg of the United States Institute of Peace, Michèle A. Flournoy of the Center for a New American Security, and William J. Burns of the Carnegie Endowment for International Peace, all in Washington, DC. The group held three high-level, half-day workshops involving a bipartisan group of senior experts, and one of the authors of this monograph, Dr.

Robert Lamb, worked informally with the group's staff on some of the conceptual framing of its work. Its final report was published in September 2016 and its principals asked us to publish a policy brief based on an early draft of this monograph, the research for which was happening in parallel.[1]

We also collaborated with the International Peace and Security Institute (IPSI), Washington, DC, on its Kaleidoscopic Conflict Project. This project, directed by IPSI's Kevin Melton, was an effort to generate hypotheses about: first, what private-sector practices might be useful for governments to employ when engaging in complex conflict environments; and second, what direct role the private sector might play in mitigating the causes and damages of complex conflicts. This collaboration enabled us to travel to Chicago, San Francisco, and New York (as well as The Hague, the Netherlands, for the simulation discussed later) to interview both private-sector experts on innovation and effectiveness in complex environments and conflict experts whose views are not normally heard in the Washington policy establishment.[2]

Including these collaborations, plus workshops and interviews we conducted independently—but excluding the public forum and simulation described in the next two sections—the research presented in this monograph has been informed by insights from more than 200 experts, ranging from familiar ideas well represented in the literature to interesting thoughts worth exploring.

The most useful set of insights that emerged derives from an analogy with how entrepreneurs encourage investors to help them start up new businesses, or rather how that startup process has evolved over time. Economic competition has always involved

a mix of conflict and cooperation, with a wide variety of actors constantly shifting partners and buying patterns, building and losing trust in each other and the system as a whole, innovating and failing to innovate, adapting to the micro- and macro-level changes they see and failing to adapt to those they miss, and being destroyed or created in a constant churn. Succeeding in such systems has always required a solid understanding of trends in customer demand and competition and a mindset capable of innovating, learning, and adapting. Different ideas about success go in and out of fashion over time, and how startups ask investors for money has changed dramatically in the past 2 or 3 decades. In the simplest terms, startups once began with a business model based on market research, pitched it to investors as a set of arguments for why they believe they will make money, then built the company and launched the product once full financing was secured—and only then learned the hard way whether the business model had correctly predicted customer demand. Today, many investors expect something different: the startup begins with a provisional business model, shares initial designs with potential customers to gauge interest, iteratively revises the business model and product prototype based on their feedback, then tries to sell a working prototype to real customers to discover the specifications of a "minimally viable product" (MVP) that will generate real revenue. At each step of this "agile" or "lean" process, investors offer just enough financing to get the startup to the next stage, with the largest infusions coming only after the business model is experimentally discovered and validated with paying customers and the MVP is getting market traction.[3]

Military organizations have long been aware that war plans do not usually survive first contact with the enemy. Organizations, agencies, and military departments whose work requires them to help or influence people in fragile and complex environments are also increasingly aware that, much like the older startup processes, their standard approach too often leads them to implement rigid plans. Frequently, this work contractually requires them to implement rigid plans—even when new knowledge about the local context emerges or when the local context changes. The jargon of lean startups and agile processes has increasingly been adopted in these contexts, but practice has a very long way to go. What needs to follow the shift in vocabulary is a shift in the mindsets of those engaged in this work at all levels; even necessary changes in processes will not make it possible to be more adaptive in these environments unless accompanied by a cultural shift.

In particular, there are three mindsets that need to be cultivated throughout military and civilian organizations involved in all stages of complex conflicts: a systemic mindset, an entrepreneurial mindset, and an experimental mindset.

- **Systemic mindset**. As suggested in chapter 2, systems thinking represents a deep curiosity about what the components of a system are, how those components interact, what those interactions mean for the system as a whole, and what unexpected consequences are possible. Such a mindset, therefore: insists on identifying subsystems, feedback loops, and delayed reactions, because they are sources of surprise; requires the inclusion of marginalized groups in plans and analyses, because they are part of the system; and insists on using data and tools

that make it possible to monitor changes in the system as a whole and its key components, and adjust and adapt quickly. Such a mindset may have utility even in circumstances when a system is founded on principles of consistency, predictability, and order.

- **Entrepreneurial mindset**. A number of experts interviewed for this research argued for the need for more agile, innovative, adaptable, and systematic approaches to foreign conflicts. Many civilian and military personnel already have an entrepreneurial mindset, and the best become "intrapreneurs" within their institutions. Encouraging that mindset in others and taking full benefit from it requires changes in the incentives their institutions give them, particularly in the criteria used for career advancement. Entrepreneurs take risks, accept failure, adapt, and try again, but in institutions where failure is punished, most people become highly risk-averse. An entrepreneurial mindset is needed not just in personnel who plan and implement projects, but also in back-office personnel (e.g., contracting, budgeting, personnel security, and human resources). All should be trained to know about how complex conflicts work and should be given incentives that reward accountable innovations without punishing responsible failures. An entrepreneurial approach would provide budgets with flexible spending rules so that resources can be shifted quickly from losing projects to more promising alternatives when needed. Military leaders sometimes get flexible funding that enables them to be more agile in the field, as with the Commanders

Emergency Response Program that made such funds available at the brigade level, but civilian leaders usually face much stronger restrictions.

- **Experimental mindset**. Randomized controlled trials are not possible (or likely ethical) in complex conflict environments, but natural experiments and opportunities to explore dynamics are abundant if the right data can be collected and enough decisionmakers would value evidence and learning. As one expert interviewed for this project put it, "Everything we do should be evidence-based or evidence-producing."[4] An experimental mindset is one that treats all ideas and plans as testable hypotheses and opportunities to learn, using and generating the best information possible, questioning assumptions, identifying hidden assumptions, and being willing to learn from failures. In fact, an experimental mindset is central to the newer "lean" startup processes, in which provisional business plans are subjected to real-world experiments with actual customers, and is therefore central to any new approach to dealing with complex conflicts.

PUBLIC ENGAGEMENT ON U.S. CONFLICT POLICY

The American public tends to tolerate long wars of low intensity and short wars of high intensity (i.e., large numbers of U.S. troops engaged in combat), unless the U.S. military is perceived to be winning. Complex wars pose a special challenge in that it can be unclear what winning might look like as noted earlier, and they tend

to last longer than is generally tolerated by the public. Public support is important to any war effort because in a democratic system, elected officials are expected to (and often do) respond to the opinions of their constituents. Interventions can happen for many different reasons and in many different ways, but very few public opinion surveys about U.S. involvement in foreign wars ask enough details (and those that do have sometimes been criticized for framing questions in ways that bias the results toward more intervention).[5]

Given that public support is a resource for any response to a complex conflict, Dr. Lamb recruited an informal focus group to participate in an experimental forum through which participants' opinions were sought about support for U.S. involvement in foreign wars.[6] Participants were asked to go to a website to register and login. Once online, they were given the following instructions:

> On the next three pages, we'll ask you a few questions and suggest some options for how those questions could be answered. 1. **Vote**. What do you think of each option? Select an oval to score it (from "totally disagree" to "totally agree"). 2. **Discuss**. Use the text box to share your thoughts or respond to others' comments—be civil! 3. **Suggest**. Think an answer is missing? Offer a new one in the suggestion box at the bottom of the page [emphasis in original].[7]

Participants were able to return to the forum as often as they wanted, either to continue participating in the discussion by adding or responding to comments or to change their scoring if the discussion changed their mind about their answers to any of the questions. The three questions were:

1. Some people in other countries appreciate the way the United States deals with foreign conflicts. **How right or wrong do you think they are to say these [following] things** [emphasis in original]?

2. Sometimes people in other countries complain about how the United States deals with foreign conflicts. **How right or wrong do you think they are to have these [following] complaints** [emphasis in original]?

3. Sometimes the United States intervenes in foreign conflicts using military force. Sometimes we intervene using mainly diplomacy or economic power, and sometimes we do not intervene at all. **What are some good reasons that the United States should intervene in a foreign conflict using military force** [emphasis in original]?[8]

The underlying technology was not a standard survey instrument but an algorithm designed to find areas of agreement among heterogeneous users.[9] In this consultation, there turned out to be more agreement on valid reasons to intervene than there was on what the United States does right and wrong when it does intervene. An analysis of the results suggests several key themes—prevention, self-defense, and protection—that should be pursued in greater depth in future research.

- **Prevent**. A concern that the United States does not "clearly communicate our reasons for getting involved" had the strongest and broadest agreement in the questions about right and wrong. But there was clear support for conflict prevention (rather than conflict escalation): the next three most agreed-upon answers were

that the United States does not "excel at conflict prevention," does "give weapons to too many people," and does "spend too much on military response and not enough on conflict prevention."

- **Defend**. As reasons to intervene, there was strong and broad **opposition** to going to war "to remove or replace a political leader we strongly disagree with" or "to transform a political system we strongly disagree with." There was strong and broad **support** for intervening "to defend against a direct threat to American territory"; "to defend vulnerable people (of any nationality) from mass violence"; "to defend our allies against direct threats"; and "to protect Americans living or working abroad from mass violence."
- **Protect**. The discussions showed a clear desire in general to protect civilians in combat zones, but the results of the scoring were more ambiguous. Participants generally agreed that the United States does "a lot to protect vulnerable people in dangerous situations" and "protects civilians in war zones more than other powers do"—but it "doesn't protect civilians and refugees enough" and "we kill too many innocents when targeting enemies." These responses bear further study to determine whether they are contradictory or reflect a sense that protecting civilians is such an important part of the American identity that the United States could always do better.

The key lesson to take from this forum is that there are doubts across the political spectrum about the value

of military interventions that do not involve protecting Americans, allies, or vulnerable populations—and there is clear support for preventing conflict escalation. That suggests support for more involvement in preventive work in fragile states, which are essentially complex conflicts that have not yet turned violent and are therefore excellent laboratories for learning to engage constructively and systemically in complex environments.

SIMULATION OF COMPLEX INTERNATIONAL CONFLICT NEGOTIATION

Since 2013, IPSI has been running a series of interactive simulations for use in its 3-week experiential-training programs, for early to mid-career professionals in peacebuilding, political transitions, and international justice.[10] The exercise simulates an international negotiation to end a conflict in a fictional country called Beladusham—similar in complexity to the war in Syria, with elements of other multiparty conflicts in the region—and involves 30-50 distinct roles played out over 2 or 3 days.

At IPSI's Hague Symposium in July 2016, Ms. Melissa Gregg worked with IPSI to facilitate the simulation with 30 participants, who were instructed and given incentives to experiment with innovative ways to overcome both the simulation's complexity and the complications (called "injects") that the facilitators introduced throughout the activity. After the debrief on the final day, participants completed a survey asking how the complexity of the situation affected their ability to achieve their goals, the steps participants took to overcome that complexity, and what

they learned about operating in complex situations. Five key themes emerged.

- **Complexity suppressed innovation**. Despite 2 weeks of training on innovative approaches to peacebuilding, many participants found that, as pressure and stress mounted, they fell back into more familiar and simplistic ways to try to achieve their goals. For example, when it became clear there were too many different actors with too many different mandates to make progress through collective decisionmaking, many turned to coup attempts and coercive diplomacy to get their way.
- **Power suppressed participation**. Participants in weak roles (such as low-level opposition figures) found they had little to no influence in negotiations, whereas those with veto power in the United Nations Security Council (UNSC) had significant influence over outcomes (and tended to frame the outcome as a zero-sum game). As the participant playing the UN Special Envoy observed, "We can't even put issues on the table unless the superpowers OK it." Poor access to constructive influence gave relatively weak actors reasons to consider achieving their own goals by acting as spoilers to peace.
- **Complexity suppressed the law**. Despite the presence of multiple characters representing the international legal community, those actors were unable to use either the threat of prosecutions or the normative power of international criminal law as effective deterrents to violence. Criminal activity by the primary antagonists was blatant, yet the legal group struggled to counteract this behavior in a timely or proportionate manner.

- **Power counteracted innovation**. The more power participants had in the simulation, the less likely they were to attempt innovative approaches to achieving their goals. Those representing great-power states threatened to block aid, trade, or use their veto power in the UNSC. Some nonstate actors, by contrast, were much more creative in their attempts to form alliances, and weaker actors managed to force negotiations to continue, beyond a point when they appeared intractable (by staging a sit-in, for example).
- **Complexity aided spoilers**. Participants whose mandates were to steer the peace talks toward a successful conclusion found that complexity was the enemy of stability and peace, while those who were mandated to be spoilers found complexity easier to harness to their advantage. There are more ways for a situation to be disorderly or to be stable in a morally unacceptable way than there is for it to be acceptably stable. As the participant playing the main antagonist put it, "The complexity actually gave me more self-confidence and strength."

The simulation raised two predominant conclusions. First, despite the fact that the simulation was framed in a complex fashion and adaptability was directly emphasized, participants nevertheless struggled to act outside of traditional realpolitik agendas. Those whose goals were more flexible (both in terms of alliances with other players and in terms of simulation mandates) adapted more quickly and were better able to achieve their goals than those who had significant power but less flexibility. Second, legal approaches

seemed entirely inadequate to resolving the conflict or deterring spoilers, suggesting that significantly more research is needed on the extent to which international criminal law is suited to preventing or managing complex conflicts, a topic taken up in part of chapter 4.

ENDNOTES - CHAPTER 3

1. William J. Burns, Michèle A. Flournoy, and Nancy E. Lindborg, *Fragility Study Group: U.S. Leadership and the Challenge of State Fragility*, Washington, DC: United States Institute of Peace, Center for a New American Security, and Carnegie Endowment for International Peace, September 2016; Robert D. Lamb and Melissa R. Gregg, "Preparing for Complex Conflicts," *Fragility Study Group Policy Brief*, No. 7, Washington, DC: United States Institute of Peace, October 2016.

2. Many of the interviews were conducted under a not-for-attribution agreement to enable them to speak freely without explicit permission of their employers.

3. For a good summary of these trends and approaches, see James P. Womack, Daniel T. Jones, and Daniel Roos, *The Machine That Changed the World: The Story of Lean Production*, Boston, MA: Free Press, 2007; Steve Blank, "No Business Plan Survives First Contact with a Customer—The 5.2 Billion Dollar Mistake," blog post, November 1, 2010, available from *https://steveblank.com/2010/11/01/no-business-plan-survives-first-contact-with-a-customer-%E2%80%93-the-5-2-billion-dollar-mistake/*; Eric Ries, *The Lean Startup*, New York: Crown Business, 2011; Steve Blank, *The Four Steps to the Epiphany*, New York: K&S Ranch, 2013; Jeff Scheinrock and Matt Richter-Sand, *The Agile Startup: Quick and Dirty Lessons Every Entrepreneur Should Know*, New York: Wiley, 2013; Martin Fowler, "Is Design Dead?" paper orig. presented to the XP 2000 conference, Sardinia, Italy, 2000, revised May 2004, available from *https://www.martinfowler.com/articles/designDead.html*; and Jim Highsmith, "History: The Agile Manifesto," Manifesto for Agile Software Development, 2001, available from *http://www.agilemanifesto.org/history.html*.

4. Interview with technology company executive, anonymous by request, San Francisco, CA, June 2016.

5. For two of the more detailed efforts, see "The New American Isolationism," Washington, DC: Pew Research Center, September 2014; and "Foreign Policy in the Age of Retrenchment," Chicago, IL: Chicago Council on Global Affairs, September 2014. For a criticism of the latter effort, see Stephen M. Walt, "Survey Says," *Foreign Policy*, September 26, 2014, available from *http://www.foreignpolicy.com/2014/09/26/survey-says*.

6. Participants were not selected to be a representative sample of the population; highly educated whites were overrepresented and noninterventionist conservatives were underrepresented, but women and men were evenly split, and three age groups (below 35, above 45, and in between) were about equally represented.

7. American Town Hall, *usatownhall.org*, redirected to *usatownhall.ethelodecisions.com*, May 2016.

8. Ibid.

9. The platform was hosted by Ethelo Inc., whose algorithm analyzes both the strength of support that users indicate for each potential answer and the fairness of the distribution of that support, then identifies a permutation of answers that maximizes satisfaction with the result. It was described to participants as follows:

> The American Town Hall is not a place for talking points and partisan fights. It's a place where Americans across the political spectrum can engage in a civil conversation about important policy issues. It looks a little like a cross between Facebook and an opinion poll. But underneath, it's got a sophisticated algorithm designed by Ethelo Decisions to find a way of thinking about hard problems that cuts across the things that usually divide us.

Dr. Lamb owns a small private consultancy that had a business relationship with Ethelo in 2016. That relationship made it possible to use the platform for this project at no cost and in return for no favors.

10. These are simulation exercises involving role-playing human participants, not mathematical simulations by computers. See "Summer Symposiums," International Peace and Security Institute, n.d., available from *http://www.ipsinstitute.org/Symposiums*.

CHAPTER 4. COMPLEXITY, POLICYMAKING, AND THE DUAL-SYSTEM PROBLEM

Chapter 2 argued that conflicts are getting increasingly complex and therefore more unpredictable and volatile; that parties to conflicts are increasingly fragmented yet more interconnected (domestically, regionally, and internationally); and that alliances are increasingly formed and broken out of expediency or necessity. Chapter 3 presented the results of research suggesting that spoilers to peace have fundamental advantages in complex environments; that large organizations originally designed as hierarchies have a more difficult time adapting quickly than smaller, flatter organizations; and that public support for conflict interventions tends to be higher for defense against direct threats (such as attacks against the territorial homeland) and lower for involvement in faraway places and long periods of time—which describes most complex conflicts.

Given those findings, chapter 4 argues that the United States and other large, wealthy, democratic countries are almost hopelessly ill-suited to engaging successfully in complex conflicts at almost any phase, from prevention through recovery, and that some international institutions (and international criminal law in particular) lack the efficiency and flexibility to manage or prevent complex conflicts as they occur. The U.S. policy system is simply too complex to manage predictably, yet it is still thought of as a bureaucracy rather than what it actually is: a complex system. That means the ability of U.S. leaders to influence outcomes in crisis situations is restricted by the fact that not one but **two** complex systems stand between their decisions and the real-world outcomes they want to influence. The

domestic policy system is a complex system, and the foreign conflict they want to influence is also a complex system. The United States will not be effective in foreign conflicts until it gets a handle on this challenge, which we call the "dual-system problem."[1]

After introducing the concept of the dual-system problem, we argue that the challenge complexity poses to policymaking is not simply a matter of poor practice. The challenge is more fundamental. Our institutions are built on mental models of the world that simply no longer match reality in important domains.

We illustrate this observation by discussing two institutions that are little appreciated but invariably involved at almost every stage of engagement with complex conflicts: knowledge and law.[2] Specifically, we argue that, because institutions for learning lessons from experience (knowledge) and protecting against atrocities (law) have failed to account for complexity and the dual-system problem, neither is fully achieving its intended purpose in the domain of complex conflicts and both have therefore become inadequate tools for helping decisionmakers achieve their objectives, whether strategic or humanitarian. In practice, that means mistakes (sometimes deadly) are made repeatedly, and violence against innocent people continues to go unpunished and undeterred. Again, these problems are not merely failures of practice; they are failures of imagination.

THE DUAL-SYSTEM PROBLEM

It is already widely acknowledged that conflicts can be understood as complex systems. They have too many interdependencies, feedback loops, and causal delays for anyone to be able to reliably predict what

immediate, second-order, and higher-order effects any particular conflict inputs (such as weapons, money, troops, diplomatic pressure, etc.) will have on conflict outcomes (such as casualties, control of territory, legitimacy, etc.). The complexity, and therefore unpredictability, of conflicts has been growing for years.

It is less widely understood that policy processes—for expert recommendations, policy decisions, operational plans, regulations, budgets, laws, evaluations, lessons, doctrine, etc.—also add up to a complex system. Decisions about foreign conflicts and fragile countries generally are made by high-level political appointees acting on information from high-level intelligence officials and on advice from military officers, political appointees, civil servants, and outside experts. They are implemented through offices led by mid-level political appointees or military officers constrained by budgets and rules enacted by elected legislators, and they are also constrained by the established processes, knowledge, incentives, and mindsets of all the offices responsible for approving, enabling, and carrying out the decisions. They are constrained as well by politics, competing geostrategic priorities, and public opinion informed by real-time sources of horror stories and propaganda. The recommendations and decisions that go into a policy can be thought of as the inputs into that system, and because the policy system is complex, there is no guarantee that the system's outputs—the actions taken by implementing agencies and partners—will resemble what had actually been recommended or decided in the first place.

In other words, policy inputs (decisions about what to do) are separated from conflict outcomes (success in battle, protection of innocents, defeat of enemies, etc.) by not one, but **two** unpredictable complex systems:

the policy system and the conflict system. This is what we mean by the "dual-system problem"—between policy decisions and conflict outcomes, there are two intervening complex systems.[3] In systemic terms, policy-system inputs (recommendations and decisions) are turned into policy-system outputs (goods and actions) in unpredictable ways. Policy-system outputs are intended to be conflict-system inputs. However, conflict-system inputs are turned into conflict-system outputs in unpredictable ways as well.

It gets even more complicated at the international level. The U.S. policy system is embedded in a global policy system in which every other participant has their own complex policy system generating inputs into any given conflict system. In systems and complexity theory, the U.S. policy system could be considered a subsystem of the international policy system, or they could be considered two separate systems, and both could technically be considered subsystems of an international conflict system.

For the sake of technical analysis, one would need to be very clear of what the boundaries of the various interacting systems are. For the sake of simplicity in this monograph, we use the "dual-system" framing because we want to leave the reader with a mental image of a mirror—the system for solving problems is as complex as the problems being solved. In some instances, the "complex policy system" used by U.S. decisionmakers will include parts of the international system, and in others it will not. The "complex conflict system" will include some international actors but not others. A system modeler would insist on clarity of the model's boundaries. Here, we simply invite readers to envision how a conflict system might interact with a policy system, and what elements are relevant

to each of those systems on a case-by-case basis. In the next two sections, we illustrate how failing to do so makes it exceedingly difficult to succeed in complex environments.

KNOWLEDGE, LESSONS, AND COMPLEX CONFLICTS

When challenges related to decisionmaking and effectiveness in complex conflicts are framed as being a "dual-system problem," it becomes possible to explain not only unintended conflict outcomes but also unintended policy outcomes—such as why recommendations based on "lessons learned" keep being made but not institutionalized.[4] It is often the case that, when experts carry out studies that make policy recommendations (or the experts make direct recommendations as advisers), their recommendations and "lessons" end up seeming to disappear into a black box—they are either ignored entirely or the actions that result from them end up not matching what was actually suggested. Frequently, a later study then discovers that what had been recommended was not actually carried out—but instead of figuring out why, that later study simply reiterates how important the original recommendation was and makes the same recommendation again. Nobody to our knowledge has ever studied the policy system as a complex system to find the sources of this resistance to institutionalizing "lessons learned."[5] That resistance is not due to maliciousness or incompetence in the federal workforce (civilian or military) but rather to the nature of the system that has been set up and revised by the U.S. Congress and Presidents from both political parties over the course of many decades.

Experts have been carrying out "lessons" research for decades. In early 2003, for instance, the Association of the U.S. Army in Arlington, VA, and the Center for Strategic and International Studies (CSIS) in Washington, DC, released the final report from their joint, blue-ribbon Commission on Post-Conflict Reconstruction (PCR).[6] The PCR Commission had spent most of 2002 extracting lessons from U.S. and international stabilization, reconstruction, and transition efforts over the previous decade and distilling them into a framework intended to inform such efforts in the future. Its report was released just 2 months before the United States entered Iraq in March 2003.

Ten years later, the Special Inspector General for Iraq Reconstruction (SIGIR) released his final "lessons" report to the public.[7] Lessons are intended to be learned. When they are identified, published in a "lessons learned" report, or distilled into a "best practices" guide, that report is supposed to be another way of saying: "We did these things wrong last time. Let's not repeat those mistakes next time." SIGIR's report on lessons learned in Iraq from 2003 to 2013 contained seven top-level lessons intended to communicate exactly that: "We did these things wrong in Iraq. Let's not repeat them next time." Yet six of SIGIR's seven lessons (learned from a decade in Iraq) had also appeared in the PCR Commission report a decade earlier—just before the United States went into Iraq in the first place.

In 2015, the Strategic Studies Institute (SSI), U.S. Army War College (USAWC), published Chris Mason's monograph, *Strategic Lessons Unlearned from Vietnam, Iraq, and Afghanistan*, identifying reasons for the failures in those and other conflicts—namely, that political leaders who want to go to war will find a way even over the objections and evidence of experts regarding the

strategic impossibility of their leaders' objectives.[8] That same year, the National Defense University published Richard Hooker and Joseph Collins' edited volume, *Lessons Encountered: Learning from the Long War*, which can be read as a plea for military leaders to learn that same lesson and press harder against civilian leaders who insist on starting or fighting unwinnable wars.[9] The title of that volume was intended as a criticism: lessons from wars are not often enough "learned" but rather simply "encountered," then ignored in practice. So, mistakes keep getting repeated.

An unpublished review of lessons-learned studies, carried out in 2013 and 2014, identified 15 general mistakes that have been repeated for decades.[10] The review covered lessons-learned studies across stages, types, and locations of conflict as well as a wide range of stabilization, reconstruction, political transition, and peacekeeping efforts led by the United States and multilateral institutions, plus international development efforts in a number of conflict and post-conflict environments. It included content from private research centers such as CSIS and the Stimson Center, Washington, DC, U.S. Government entities such as the SIGIR and SSI, presidential directives and national security strategies, military doctrine updates, high-level forums on development, and multilateral institutions such as the United Nations (UN), the World Bank, and the Organization for Economic Cooperation and Development (OECD). The top-level lessons identified as common themes in that review were as follows (related keywords are in parentheses):

1. Adapt as conditions change (improvise, experiment, entrepreneurial).
2. Coordinate planning (comprehensive, integrated, contingency).

3. Coordinate policy domestically (whole-of-government, civil–military, interagency).
4. Coordinate with other donors (harmonization of planning or implementation).
5. Decentralize implementation (on the ground, exit strategy, long-term).
6. Demand results (oversight, accountability, inspector general).
7. Develop the local private sector (jobs, trade, investment).
8. Follow the host country's lead (ownership, partnership, political will).
9. Foster self-sufficiency (sustainable, break dependency).
10. Learn from experience (institutionalize success, reward failure).
11. Make realistic promises (manage expectations).
12. Measure progress (data, evidence, theory of change, monitoring and evaluation).
13. Protect communities (security first).
14. Respect local systems (alignment, inclusion).
15. Set feasible goals (absorptive capacity, start small).

No doubt other researchers reviewing the same studies would have categorized and characterized the lessons differently. The general point of that informal study was to illustrate a disturbing consistency in the production of high-level mistakes over many decades. Many of the observations made in the international donor community's *Paris Declaration of 2005* would have sounded entirely familiar to readers of the OECD's development cooperation report in 1996. The observations made in the *Accra Agenda for Action* in 2007 would have been familiar to readers of the World

Bank's *Pearson Commission Report* in 1969.[11] Participants in a 2014 conference on political transitions were challenged to guess what year the following quotes were published:[12]

> To raise hopes of a spectacular transformation may only invite disillusionment and failure . . . Development is necessarily a gradual process.[13]

> No amount of aid, technical or financial, can replace the essential will and determination . . . of the country concerned.[14]

> Strong vested interests often resist any changes which would alter their position. . . . The problem of making necessary adjustments in [a] traditional social relationship without destroying the stability essential for development is one which requires exceptional understanding and leadership.[15]

Participants' guesses ranged from the 1969 Pearson report through the 2013 SIGIR report. In fact, they were drawn from the World Bank's fourth annual report published in 1949, which contained a full two-thirds of the 15 lessons listed above.[16]

To be fair, there have been real improvements over the past decade and a half in, for example, civil-military cooperation, interagency coordination, and a recognition of the importance of understanding local politics and local systems. Civilian and military institutions have also contributed to important successes (albeit mainly at the sector and community levels) that have been a result of policy and operational learning. It is important to acknowledge that these 15 themes are not necessarily lessons that should be applied to all contexts; nor are they the only lessons that need to be learned, especially as conflicts continue to become more complex. But the stability of these 15 top-level

lessons over two-thirds of a century suggests there are systemic impediments to effective policy in fragile and conflict environments, and those impediments are found not just in societies where complex conflicts are taking place but in the institutions and societies that respond to those conflicts from the outside as well.

In other words, the failure to learn and institutionalize lessons from experience is a symptom of the dual-system problem. Policy systems are complex systems, and some dynamic within such systems is preventing the uptake of these lessons. The studies themselves make recommendations that answer, in effect, "What should we do the next time?" without ever having addressed the question, "Why didn't we do it the last time?" The unacknowledged assumption has always been that the target of the recommendation is actually capable of doing what is recommended. It turns out that that is simply not the case:

> Most assessments in the development, peacebuilding, and stabilization fields end with recommendations for what the donor should do differently or what the donor should require the recipient to do differently, without accounting for whether the donor is capable of implementing the recommendation. . . . This longstanding problem suggests that the personnel within these institutions who are "learning" these lessons are not the same people who have authority to make key decisions about how interventions are to be planned and implemented. Either the knowledge is not being transferred from unit to unit within these institutions, or different units have formal processes, informal practices and attitudes, or various incentives that push them away from designing and implementing locally appropriate interventions.[17]

Policy recommendations are generally targeted to decisionmakers, planners, and on-the-ground implementers. They tend to overlook both the constraints

on those actors imposed by other functions within their own organization required to carry out their tasks, and the interrelationships between those critical but often ignored functions. The degree to which a policy system is capable of turning inputs (recommendations and decisions) into intended outputs (actions and resources) is sometimes called its "delivery capacity"—the:

> knowledge, processes, cultural facts, or incentives [that] affect the ability or willingness of [the organization's] personnel, budgeting, security, contracting, planning, and leadership units to allow the intervention to be designed and implemented in a way that is compatible with local conditions.[18]

Research carried out in 2012 and 2013 found very pointedly that shortcomings in implementation leading to program failures are at least as much a function of donor capacity as they are a function of the complexity of the environments in which they are working.[19]

Explanations for failures of donor capacity are wide ranging: incompetence and stubbornness of political leaders, lack of knowledge about best practices, competing and perverse incentives at all levels, too little money, too much money, too short rotations, and on and on. In fact, the informal "lessons" review discussed earlier identified 24 sets of hypotheses for why mistakes keep being repeated, categorized by knowledge, culture, incentives, and processes across six organizational functions (personnel, budgeting, security, contracting, planning, and leadership).[20] For example, it is repeatedly recommended that field personnel should interact with local populations so that they can understand the local context. This is truly essential, but the recommendation misses an important point: in conflict

environments, field personnel are often outright forbidden from doing so by the personnel security department of their own organization. The security team will face consequences if someone is killed or kidnapped, so they have an incentive to minimize that probability, and if the success of the project in question depends on personnel taking that risk, then the project will not succeed. Similarly, the recommendation to let field personnel be agile, flexible, and experimental is, of course, a good one. But if the contract to do that work was based on a proposal specifying precisely what the contractor will and will not do, the field personnel will be legally required to do those precise things, even if it turns out the proposal's assumptions had been wrong or if local conditions changed. The contracting officer might be willing to grant a waiver to give the contractor more flexibility on certain contract provisions, but many contracting officers are hesitant to set precedents. They have the legal right to grant that waiver, but no other contracting officer has done so in the past, and that unit is, for whatever reason, culturally risk-averse, so the waiver will not be granted. Many other hypotheses exist, and can be tested:

> Do program managers, planners, contracting officers, finance and accounting officials, and others take full advantage of the flexibility they are legally permitted, or do they tend to be risk-averse and unwelcoming toward experimentation or requests for waivers? Are processes in place for changing course quickly if a crisis arises during implementation? . . . Do security rules punish personnel security officials if something bad happens to field staff, or do they have clear guidance giving them flexibility to approve field-staff requests to operate in dangerous areas? Do human resources processes and management philosophies allow for the development of regional or country expertise and offer rewards to personnel who

> take on high-risk or experimental projects? Or do certain rotations or high-risk projects inhibit career advancement? Do budgeting rules give field staff or implementers flexibility in how much they can spend (e.g., are they required to spend a minimum amount) or in how long they can take to spend it (e.g., are they required to spend it all during the fiscal year)?[21]

When there are so many hypotheses to explain a set of outcomes, and when so many of them seem reasonable, then that is a fairly good indicator that a complex system is at work. Most of these hypotheses have never been tested systematically. They should be, and those tests should be designed around the assumption that the policy system is a complex system. Sources of policy resistance can be identified and, ultimately, overcome. No researcher carrying out a study of an operation to identify "lessons learned" should stop once the lessons are identified, especially if the lessons are any of the 15 themes identified earlier, or any lesson familiar to people who work in complex environments. Instead, their research and recommendations should focus on why that known lesson had not been carried out in the case under study in the first place, and should seek to identify and recommend ways to overcome the source of resistance to the practice in question. Otherwise, the great stores of knowledge about what is and is not effective in different environments will continue to get lost in the complexity of our own policy systems.

INTERNATIONAL CRIMINAL LAW AND COMPLEX CONFLICTS

As the last section argued, when people associated with certain knowledge institutions fail to account for the dual-system problem in the context of complex conflicts, mistakes are repeated and knowledge becomes a weak tool for helping decisionmakers achieve their objectives. Similarly, this section argues that when people associated with certain supranational legal institutions fail to account for the dual-system problem in the context of complex conflicts, international law becomes a weak tool for helping decisionmakers achieve their objectives, whether those objectives are strategic or humanitarian. In both instances (knowledge and law), the problem is not that the institutions in question are complex. The problem is that key personnel do not treat them as such, and as a consequence they overlook key components and interrelationships within those systems that have significant influence over outcomes, and they fail to appreciate the time lags produced by some of those unseen processes as they work their way through the complex system. In the case of knowledge, it is the back-office functions (and their cultures, incentives, processes, and knowledge) that are overlooked. In the case of law, it is extralegal (or customary) norms that may be overlooked.

In this section, we illustrate the challenges of deterring and prosecuting atrocities (large-scale, violent crimes) when key personnel fail to account for complexity in both the legal institutions and the conflicts they are trying to manage, reconcile, or prosecute—that is, when they fail to account for the dual-system problem.

A salient example is that over the last several years, members of the international community have begun to call for the indictment of major parties to the Syrian conflict, who have either directly or because of superior responsibility contributed to the commission of atrocities within Syria's borders. Potential indictees are alleged to include President Bashar al-Assad, several leaders of the Islamic State of Iraq and the Levant (ISIL), and a number of other heads of Syrian intelligence agencies and detention facilities.[22] Syria stands as an exemplar of atrocity perpetration amidst complexity in geopolitics and a highly-fractionalized war; almost every international actor involved in the Syrian conflict faces its own dual-system problem. Other examples of atrocity perpetration in the midst of complex conflicts include acts alleged to have been committed in Sudan (in particular Darfur, discussed in more depth below), Uganda, Libya, and Yemen.[23] Though varying in prominence and international attention, all of these conflicts have generated calls from international criminal lawyers for justice, accountability, and an end to impunity for the orchestrators of mass violence.

International criminal law (ICL) is intended to be an essential mechanism for accountability and deterrence; it forms a structural barrier to the commission of protracted atrocity crimes.[24] While the timeline of its development is sometimes disputed, the historical starting point for ICL is often traced back to the Nuremberg, Germany, and Tokyo, Japan, tribunals in the aftermath of World War II, when criminal accountability, justice, and the rule of law were considered to be foundational components of post-conflict reconstruction and reconciliation.[25] Since then, and especially over the last several decades, ICL has evolved rapidly and significantly. From the establishment of the ad

hoc tribunals for the conflicts in the former Yugoslavia and Rwanda, to the hybrid tribunals for the crises in Sierra Leone, Cambodia, and East Timor, the law has progressed to provide modes of criminal liability for the worst possible transgressions: war crimes, crimes against humanity, and genocide. These developments culminated in the establishment of the International Criminal Court (ICC) in 2002. The ICC's "core" crimes (genocide, crimes against humanity, war crimes, and the crime of aggression) are enshrined in the *Rome Statute for the International Criminal Court* (1998) and apply to heads of state, military commanders, and other top-level orchestrators of mass atrocities.[26] In addition to the work of the ICC, there remains the potential for additional ad hoc tribunals run by the UN. As with the International Criminal Tribunals for Rwanda and the Former Yugoslavia, such tribunals generally focus on a specific country or conflict.[27]

As ICL has advanced from its origins in conventional warfare, conflicts themselves have evolved into something far more complex, as chapter 2 points out. The feasibility of ICL as a vehicle for deterring atrocity crimes during complex emergencies and instances of mass violence is therefore increasingly questioned.[28] In fact, there are a number of indicators that the presence and exercise of ICL may actually harden the resolve of actors working **against** international norms and laws. Scholars and practitioners who fail to recognize that the international legal system is a complex system will have difficulty explaining and overcoming ICL's potential to generate maladaptive outputs, which then risk feeding into complex conflict systems and exacerbating undesirable outcomes before top-level appointees even have time to implement workable changes. The same systemic obstacles inhibiting the successful

implementation of innovative and workable foreign policy at the state level may also hinder the successful exercise of ICL as an effective legal or moral tool at the international level. To an even greater degree than domestic legal institutions, ICL as an international institution bears the hallmarks of a complex system—it absorbs inputs, exhibits feedback between interdependent elements (e.g., states, international courts, and other international or multilateral actors), and generates outputs with long-term secondary consequences.[29] It could be modeled as an independent system, as a subsystem within another complex policy system, or as a system that subsumes multiple policy systems, depending on the needs of the systems analyst. The choice of model boundaries, however, matters less for present purposes than the recognition of its complexity. Treating it as a predictable legal institution makes it a weak tool for protecting the innocent. Ignoring key components of the complex conflicts to which it is intended to be applied renders it even weaker.

ICL is not as predictable an institution as many decisionmakers believe. Inputs or components of the ICL system can include case-law precedents, theories of criminal activity, the activities and legitimacy of individual laws and courts (e.g., the ICC),[30] and the power, activities, and specific decisions of different actors in the international community (e.g., United Nations Security Council [UNSC] members). Outputs are equally varied and can include investigations and indictments, laws and rulings, or (as some have argued) an overarching principle of deterrence for would-be perpetrators of atrocity crimes. As with all policy systems, ICL is an interconnected series of decisions, behaviors, and processes with high levels of

aggregation, large-scale impacts, significant self-regulation, and, at times, unintended consequences.

Unfortunately, ICL is not always treated as a complex system or subsystem within a broader complex system but rather as something that is linear, structured, and deterministic. Decisionmakers involved in ICL tend to respond to international crises in highly predictable ways, which does not often translate effectively to liberal democracies at the domestic level, let alone to highly unstructured, fractionalized, and fragile contexts.[31] The interconnectedness of ICL with global power dynamics, and the conflation of ICL with specifically Western and historic forms of law, have made its outputs difficult to apply to complex conflict systems. ICL has developed in reaction to conflicts and crises, evolved over long swathes of time, and is founded on expectations of certainty and consistency. By its very nature, it is virtually impossible for ICL to adapt with sufficient speed to either keep pace with changing circumstances in complex situations or take proactive approaches to fragile settings and mass violence. One expert we interviewed argued that the U.S. policy system is simply not structured to operate in the complex world we live in today, saying: "We are using 20th century solutions to 21st century problems."[32] This statement is equally true of ICL.

In fact, it is true of ICL, of the U.S. policy system, of most policy systems embedded in large countries today, and indeed in the international state system in which all of them operate. These systems emerged from the imaginations and negotiations of people living in earlier times, facing different sets of constraints and incentives, and shaped by different norms and goals. Yet like other elements of global policy, ICL continues to reflect the ideals and priorities of significant parts

of the international community, even if the procedures and ethos of international courts are usually overshadowed by the balance of global power and the ongoing indemnity of international leaders. New laws, particularly international conventions and treaties, generally emerge after protracted negotiations between states and international organizations. Equally, legal precedent and legal literature may have persuasive authority over the ways in which international policies are enacted, particularly regarding humanitarian protections. Crimes of the nature under discussion here may be seen as so reprehensible that they require no less than an international focus.[33] In other words, ICL cannot be understood separately from broader political decisionmaking and incentives.

ICL also cannot be understood separately from human rights norms. In a number of commentaries relating to complex conflicts, scholars have linked the need for ICL to mediate crises and conflicts with the establishment and preservation of norms of behavior to which actors must conform (even during mass violence), framing ICL as the final bulwark through which norms of predictability, nonviolence, and rationality must be re-established.[34] Norms are generally defined in scholarship as "a standard of appropriate behavior for actors with a given identity."[35] By observing commonly understood norms, actors take meaning from events, which affect their understandings of compliance; norms generate a sense of "'oughtness' . . . [they are seen as] the appropriate thing to do."[36] Even at the international level, norms are not simply independent "rules" to be followed. State actors are often influenced by international norms that stipulate what is commonly accepted as appropriate or inappropriate behavior.

Norms may be treated as static, but they seldom are. They came from somewhere, emerged through complex and dynamic interactions, are either reinforced or challenged with every related action, and sometimes fall out of fashion, to be replaced by a new set of norms. Some scholars have mapped this "norm lifecycle" as a process of emergence, diffusion, and cascade. At the emergent stage, human rights norms are articulated by actors known as "norm entrepreneurs."[37] The characteristics of such actors are diverse in scope; activist networks, multinational corporations, states (or governments) themselves, and even particularly influential individuals have all been classified as norm entrepreneurs.[38] Although their attributes may vary, norm entrepreneurs are deemed critical in mobilizing the international community to accept new modes of behavior, which then come to be accepted as human rights norms. The means by which norm entrepreneurs encourage decisionmakers to put issues at the forefront of the national or international agenda vary, but generally speaking, norm emergence occurs as a product of altruism, empathy, transnational mobilization with other norm entrepreneurs, consensus building, and historically favorable events that render formerly non-compliant actors more amenable to conformity.[39]

If norm entrepreneurs have created an appropriately strong frame, the norm will resonate with a wide audience (the phase characterized as "diffusion") and is therefore likely to be adopted. Once a number of elites have been convinced of the need to support a norm, the international community as a whole reaches a tipping point.[40] At this stage, it is not just the quantity of actors who choose to support the norm, but also the relative power of those who support it that matters to its adoption. Martha Finnemore and Kathryn

Sikkink describe this in terms of both raw power (i.e., the UNSC P5 members [China, France, Russia, the United Kingdom, and the United States]) and moral power (i.e., the newly transitioned South Africa in the mid-1990s).[41] As an increasing number of elite actors adopt domestic principles in favor of a human rights norm, others also become invested in promoting the "appropriate" norms and the rules of "good" conduct—their emphasis on compliance is rooted in this concern. The feedback between commonly understood rules and action resulting from adherence to those rules is known as the "logic of appropriateness." A government, for example, may understand the need to demonstrate human rights compliance, but it might do so without truly subsuming the norm into its own laws and institutions. It is only at the point in which the state actors change their discourse, engage in rule-consistent behavior, and adjust domestic laws accordingly that the state is deemed to be truly "compliant."[42]

Research has pointed to the critical role of international organizations (IOs) and international institutions (IIs) as both recipients and perpetuators of norm diffusion. International institutions draw legitimacy from their ability to address joint problems and generate benefits for states and societies. They provide strength through joint membership and generate multilateral interdependence through exchanges of goods, services, and capital between members. States may rely on IOs to manage conflicts and mediate disputes; large-scale IOs are also able to communicate their response to norms through constructing discourse that indicates support for specific human rights agendas.[43] As norms are often promoted through socialization processes that involve punishment for detractors (which may take such diverse forms as "naming and shaming,"

sanctions, legal action, etc.) and legitimation of compliance, IIs become the ideal mechanisms through which such processes occur. Therefore, they are critical at the diffusion and emergence stages of the norm lifecycle. Association with an international court is a particularly apt example of such compliance-through-membership. The possibility of an investigation by an external, ostensibly independent organization, and the possible political repercussions resulting from violations of international law, theoretically serve as a particularly strong disincentive to the commission of human rights violations. For this reason, scholars point to deterrence as a means by which international courts provide a serious threat of investigation, enforcement, and punishment for would-be norm violators.[44]

Research also suggests that compliant actors encourage adherence to international norms in order to integrate with allies and to avoid being perceived as "deviant" actors.[45] For ICL, this allows courts, states, and the international community as a whole to construct networks based on "inclusion" and "exclusion" between "violators" and "compliers."[46] Networks exist within any group that "facilitates collective action and cooperation, exercises influence or serves as a means of international governance."[47] Conformity within groups is regulated through a combination of domestic and international pressures, the shaming of human rights violators, and clarifications of acceptable behavior. Ideally, the process of norm entrenchment ultimately becomes mutually enforcing, to the extent that actors are no longer aware of the norm itself or conscious of their ongoing conformity.[48] As the field of ICL has developed, and as precedent has been established for the management of atrocity crimes, even formerly non-compliant states have arguably been motivated

to adopt domestic laws aligning with an international legal standard. In doing so, they are able to maintain the primacy of their legal systems whilst simultaneously proving compliance with human rights norms.[49] Sikkink's analysis of the "justice cascade" perfectly illustrates this process: the movements toward an international standard of accountability for atrocity crimes by Heads of State and military leaders allowed for the establishment of "a decentralized but interrelated system of accountability for violations."[50]

Norm cascades (as with the justice cascade specifically) are fully realized when a critical mass of states (both compliant and formerly-deviant) has adopted a norm. Without fully understanding this process and without pinpointing the various factors of pressure, catalytic events, dialogue, and negotiation, it is virtually impossible to understand what conditions may be necessary to ensure the survival of a norm.[51] Norms may be time-contingent or predicated on a set of conditions that has since changed. If the necessary and sufficient conditions required for the operation of a norm are not effectively understood, it is impossible to predict the extent to which its utility may be sustained over time.

Evidence is mixed as to whether ICL serves as a realistic threat to actors or groups who are not susceptible to the interactions of international law and norms. Some researchers have argued that the International Criminal Court and the presence of international human rights law are specific deterrents, while other scholars argue that many repressive autocracies are largely immune to ICL processes.[52] There is a fundamental incompatibility between actors who are committing atrocity crimes in a complex, violent, and unpredictable setting on the one hand and consistent,

functioning, peacetime norms of behavior on the other. Groups operating in complex conflicts are thus able to continue to operate while still putting themselves in diametric opposition to world norms, regardless of their power status or overall embeddedness in a global political system.[53]

As demonstrated by the simulation discussed in chapter 3, real-world actors who are spoilers to peacebuilding endeavors, who commit the worst crimes, and who are most disruptive to the conflict do not often feel a need to operate in a way that is morally bound or even consistent. In contrast, the morality and order embedded in ICL practically requires that the international community and international legal responses to atrocities be consistent, even if that consistency leads to inaction, intractability, or mission failure. Those parties perpetrating atrocity crimes in complex conflicts are highly adaptive and prone to shifting behaviors, alliances, and power structures with both domestic and international actors, and they are largely impervious to deterrence. In contrast, the ICL system is internally and externally consistent, resistant to quick adaptation, and relies on embedded expectations of "good" and "bad" actors who either understand and promulgate normative behavior (in the case of the former) or reject it completely (in the case of the latter). Its character renders it ill equipped to prevent, counteract, or manage effectively complex conflicts when they occur or to encourage or promote innovations to make it more effective. Those who believe that ICL can effectively change the mandate of actors in complex conflicts are applying a highly-structured solution to an unstructured problem; such solutions are virtually destined to fail.

Having said that, there **is** evidence that norms are being generated by actors engaged in protracted conflict; they may simply be the "wrong" kinds of norms: "in the state of war or authoritarianism, abuse can become both normal and/or state-sanctioned."[54] As a result, understanding deterrence and the diffusion of potentially amoral norms requires more nuance. While high-level commanders of rebel organizations and leaders of authoritarian states may appear to lie beyond the reach of ICL, they are not beyond the reach of normative influence at all—they still have a need for alliances and resources.[55] While indictments are unlikely to deter their behavior, and groups may see international legal classifications of their actions as irrelevant to their cause and motives, they are not beyond opprobrium or influence. Rather than relying too heavily upon the normative power of ICL and ignoring the mixed results of deterrence theories, scholars and practitioners should instead analyze the way these groups generate their own norms and modes of behavior, assessing whether it is the morality (or lack thereof) of rogue actors that allows them to function in a way that is highly adaptable, or some other facet of their networking and norm development.[56]

Another salient example of the way competing norms work in practice and weaken the effectiveness of ICL is the ongoing situation in Darfur, Sudan.[57] In March 2005, the UNSC referred the situation in Darfur to the ICC; following investigations, Pre-Trial Chamber I of the Court issued two warrants of arrest against Sudanese President Omar al-Bashir for war crimes, crimes against humanity, and genocide committed from March 2003 to (at least) July 2008.[58] Articles 86 and 89 of the 1998 *Rome Statute* dictate that any ratifying state is bound to cooperate with the ICC by arresting

and surrendering to the Court an accused person who enters that state's territory. Al-Bashir has traveled to a number of ratifying states since the issuance of the warrants against him, but to date those warrants have yet to be executed and proceedings against al-Bashir remain stagnant.[59]

Each time al-Bashir is found to have entered the territory of a ratifying state, the Court holds a hearing to determine the non-compliance of the state involved. In the 8 years since the arrest warrants were issued, Chad,[60] Kenya,[61] Djibouti,[62] Malawi,[63] Democratic Republic of Congo,[64] Uganda,[65] South Africa,[66] and most recently Jordan[67] have been found non-compliant with their 1998 *Rome Statute* obligations for failing to hand over Omar al-Bashir to the Court. Though these states have used a number of legal arguments to rationalize non-compliance, the predominant defense for non-compliance has been *ratione personae* (personal immunity from the jurisdiction of foreign states), historically granted to Heads of State during the course of their period in office.[68] Such immunity forms a long-standing cornerstone of customary international law; protection from foreign interference goes to the heart of state sovereignty, placing power in the hands of governments to punish their own people for any crimes committed in office.[69] Al-Bashir has capitalized on these principles; he has used his outstanding arrest warrants as leverage to espouse anti-Court (and pro-state sovereignty) sentiments, accused the ICC of politically-motivated prosecutions, and called for pan-African solidarity against the Court.[70] There is evidence that this tactic is succeeding.[71]

In spite of persistent findings by the Court that ratifying states' treaty obligations outweigh custom, states are nevertheless continuing to engage in behavior that

contravenes these rulings. There is thus little evidence that the Court's opprobrium is having any effect on future behavior. The norm of compliance with the *Rome Statute* is not hardening, and new means of securing state conformity are not being used. Far from strengthening the anti-impunity norm for Heads of State, it appears that the Court's rulings may be both generating and bolstering an increasingly effective rhetoric **against** its work and effectiveness—a perverse consequence typical of complex policy systems and compelling evidence for the existence of an unresolved dual-system problem.

The standard response in the face of such frustrating intractability is what Paula Kivimaa and Florian Kern call "policy layering" or the process of adding new goals and instruments on top of existing ones.[72] The authors argue that using layering techniques allows policymakers to accumulate new policies without systematically analyzing the shortcomings embedded in the old ones, thus inoculating organizations and bureaucracies from having to acknowledge their failures. Similar critiques may be made of ICL, as the common approach is to add to an existing repertoire of laws and treaties rather than to streamline them; such a process of evolution takes a significant amount of time, at times lagging behind ever-varying global realities. Layering also negates the need to assess ICL processes systematically as a whole. Historical analyses suggest that, due to its recent and rapid proliferation, the bulk of ICL evolved through jurisprudence at the International Criminal Tribunals for Rwanda and the Former Yugoslavia, the Special Court for Sierra Leone, and the Extraordinary Chambers in the Courts of Cambodia. All of these tribunals were post-hoc endeavors, and there is insufficient evidence that ICL has

been successful as a proactive tool against would-be criminals.[73]

The relationship between the U.S. policy system and ICL is multifaceted and has varied over time. The United States played a critical role in the Nuremberg (Germany) Military Tribunal, contributing significant resources and legal personnel, including famed Prosecutor Robert H. Jackson. U.S. jurists also played key roles in ad hoc and hybrid tribunals throughout the 1990s and early 2000s. However, in the aftermath of the 1998 Rome Conference, the United States rapidly became one of the biggest detractors to the establishment of the International Criminal Court. Having signed the *Rome Statute* in December 2002, the United States declared almost immediately afterwards that it did not intend to ratify the treaty.[74] By doing so, it freed itself from an obligation to act in accordance with the object and principles of the *Rome Statute*, per Article 18 of the 1969 *Vienna Convention on the Law of Treaties*. Such "unsignings" have been viewed as damaging to the ICC's legal power and legitimacy.[75] Indeed, the U.S. approach to international treaties as a whole has been inconsistent at best—including refusals to accept the UN Convention on the Laws of the Sea (UNCLOS), a failure to sign the 1990 Convention on the Rights of the Child, and withdrawals from international agreements on climate change.[76] Such behavior has been described as "anachronistic in an era of globalization and interdependence."[77] Although the United States is far from the only state to refuse to subscribe to ICL instruments, U.S. engagement with contemporary conflicts, coupled with its exceptionalism in the face of international rules, hinders ICL as a tool for managing complex conflicts. The effect of this is clear: if powerful actors do not appear to be bound by norms of

behavior, this then weakens the efficacy of the norms themselves in diffusing appropriate behavior for other actors, including nonstate actors.[78] U.S. exceptionalism also creates an environment in which international actors (including members of the military) may act in accordance with their own domestic rules, laws, and preferences, but may not in all circumstances consider themselves directly bound by **international** legal provisions relating to the laws of war.[79] Whether the U.S. plays a proxy role in a conflict or is directly involved in a military engagement, such an approach risks undermining the norms and efficacy of the ICL system.

How norms diffuse and are used by actors in complex conflict systems, how global politics and geopolitical demands affect the ICL system (and its relationship to complex conflicts), and how the international community interprets the appropriate role of ICL and layers new approaches on top of existing ones all affect the degree to which international law does or (more commonly) does not deter atrocity crimes or punish their perpetrators. As with institutions for generating and promulgating knowledge, complex legal institutions have unseen components that have unknown effects and interact in counterintuitive ways. Even in the face of indictments for top-tier perpetrators, there is room to question whether ICL can ever become a proactive mitigator of conflicts if its main proponents so rarely acknowledge—much less understand or model—its undeniable complexity.[80]

ENDNOTES - CHAPTER 4

1. There are precedents to treating policy institutions as systems. See, for example, John D. Steinbruner, *The Cybernetic Theory of Decision: New Dimensions of Political Analysis*, Princeton, NJ: Princeton University Press, 2002.

2. We use the term "institutions" in the sense understood by social scientists, as systems of rules and relationships, rather than the more common usage that is more or less synonymous with "organizations."

> Without doing much violence to the relevant literature, we may define *institutions* as systems of established and prevalent social rules that structure social interactions. Language, money, law, systems of weights and measures, table manners, and firms, and other organizations are thus all institutions [italics in original].

Geoffrey M. Hodgson, "What Are Institutions?" *Journal of Economic Issues*, Vol. XL, No. 1, March 2006, p. 1. In this sense, a "knowledge institution" is a system through which knowledge (e.g., in the form of lessons learned from experience) is acquired and distributed in a particular society or set of organizations.

3. Robert D. Lamb and Melissa R. Gregg, "Preparing for Complex Conflicts," *Fragility Study Group Policy Brief*, No. 7, Washington, DC: United States Institute of Peace, October 2016.

4. An earlier draft of this section of this monograph was excerpted as a commentary that was published as Robert D. Lamb, "Strategic Insights: Unlearned Lessons and the Dual-System Problem," Carlisle, PA: Strategic Studies Institute, U.S. Army War College, January 25, 2017, available from *http://ssi.armywarcollege.edu/index.cfm/articles//Unlearned-Lessons-Dual-System-Problem/2017/01/25.*

5. This is changing, however. Co-author Robert Lamb is collaborating on just such a study with several prominent system dynamics experts. Nancy Hayden, Asmeret Naugle, Len Malczynski, and Robert D. Lamb, "Fixes that Fail or Failure to Fix? Understanding the Dynamics of Policy Uptake," working paper.

6. The Post-Conflict Reconstruction (PCR) Commission was founded in 2001 and completed its work in 2002, when it stood up the PCR Project at the Washington, DC, Center for Strategic and

International Studies to carry on its work. The PCR Project was renamed the Program on Crisis, Conflict, and Cooperation in 2010, and Robert Lamb became its director the following year. See *Play to Win: Final Report of the bi-partisan Commission on Post-Conflict Reconstruction*, Washington, DC: Center for Strategic and International Studies and the Association of the U.S. Army, January 2003.

7. See *Learning from Iraq: A Final Report from the Special Inspector General for Iraq Reconstruction*, Washington, DC: Special Inspector General for Iraq Reconstruction, March 2013.

8. M. Chris Mason, *The Strategic Lessons Unlearned from Vietnam, Iraq, and Afghanistan: Why the Afghan National Security Forces Will Not Hold, and the Implications for the U.S. Army in Afghanistan,* Carlisle, PA: Strategic Studies Institute, U.S. Army War College, June 2015.

9. Richard D. Hooker, Jr. and Joseph J. Collins, eds., *Lessons Encountered: Learning from the Long War*, Washington, DC: National Defense University Press, September 2015.

10. Robert D. Lamb and Kathryn Mixon, "Stabilization and Reconstruction: What Have We Learned?" unpublished presentation, December 2013; Robert D. Lamb, "How Will We Learn?" keynote address delivered at Advances and Challenges in Political Transitions Conference at the Center for Strategic and International Studies, Washington, DC, October 21, 2014, available from *http://www.rdlamb.com*; Robert D. Lamb and Kathryn Mixon, "Institutional Impediments to Stabilization and Development," unpublished presentation, November 2014; Lamb, "Strategic Insights: Unlearned Lessons and the Dual-System Problem."

11. See *Shaping the 21st Century: The Contribution of Development Cooperation*, Paris, France: Organization for Economic Cooperation and Development, May 1996; "Paris Declaration on Aid Effectiveness: Ownership, Harmonization, Alignment, Results, and Mutual Accountability," Paris, France: Organization for Economic Cooperation and Development, March 2005; "Accra Agenda for Action," Paris, France: Organization for Economic Cooperation and Development, September 2008; and *Partners in Development: Final Report of the World Bank Commission on International Development,* Washington, DC: International Bank for Reconstruction and Development, 1969.

12. Lamb, "How Will We Learn?"

13. International Bank for Reconstruction and Development (IBRD), *Fourth Annual Report to the Board of Governors, 1948-1949,* Washington, DC: International Bank for Reconstruction and Development, 1949.

14. Ibid.

15. Ibid.

16. Ibid.

17. Robert D. Lamb, "Measuring Absorptive Capacity: A New Framework for Estimating Constraints," *CSIS Policy Brief,* May 2013, p. 7. See also Robert D. Lamb and Kathryn Mixon, *Rethinking Absorptive Capacity: A New Framework, Applied to Afghanistan's Police Training Program,* Washington, DC: Center for Strategic and International Studies and Rowman & Littlefield, June 2013.

18. Robert D. Lamb, Kathryn Mixon, and Andrew Halterman, *Measuring Absorptive Capacity in the Security and Justice Sectors: Assessing Obstacles to Success in the Donor-Recipient Relationship,* Washington, DC: Center for Strategic and International Studies and Rowman & Littlefield, June 2013, p. 6. See also the discussions of "lesson drawing" in Richard Rose, *Lesson-drawing in Public Policy,* Washington, DC: CQ Press, 1993; and Oliver James and Martin Lodge, "The Limitations of 'Policy Transfer' and 'Lesson Drawing' for Public Policy Research," *Political Studies Review,* Vol. 1, 2003, pp. 179-193.

19. Ibid.

20. Lamb, "How Will We Learn?"

21. Lamb, Mixon, and Halterman, p. 40.

22. Julian Borger, "Smuggled Syrian Documents Enough to Indict Bashar al-Assad, Say Investigators," *The Guardian,* May 12, 2015; Susanne Koelbl, "The War-Crimes Lawyer Hunting Syrian War Criminals," *Spiegel Online,* June 6, 2016.

23. Gwen P. Barnes, "The International Criminal Court's Ineffective Enforcement Mechanisms: The Indictment of President

Omar al-Bashir," *Fordham International Law Journal*, Vol. 34, No. 6, 2011, p. 1584; Lydia Polgreen, "Arab Uprisings Point Up Flaws in Global Court," *The New York Times,* July 7, 2012.

24. Matthew H. Charity, "The Criminalized State: The International Criminal Court, the Responsibility to Protect, and Darfur, Republic of Sudan," *Ohio Northern University Law Review*, Vol. 37, No. 1, 2011, p. 67; Lyal S. Sunga, "Can International Law Meet the Challenge of Today's Lawless Conflicts?" *The Guardian,* November 14, 2015.

25. Ruti Teitel traces the genealogy of ICL to The Treaty of Versailles at the end of World War I, which called for the establishment of an international tribunal to try Wilhelm II of Germany. See Ruti Teitel, *Transitional Justice*, Oxford, UK: Oxford University Press, 2000. See also Jens Iverson, "Transitional justice, Jus Post Bellum and International Criminal Law: Differentiating the Usages, History and Dynamics," *International Journal of Transitional Justice,* Vol. 7, No. 3, 2013, pp. 413-433.

26. The ICC's main jurisdictional mandate is this: any national of a state who commits one of the "core" atrocity crimes in a state which has signed and ratified the *Rome Statute*, or who commits an atrocity crime in another state which has signed and ratified the *Rome Statute*, may fall under the jurisdiction of the ICC, Article 12[2][a], *The 1998 Rome Statute*, assuming that the state is "unwilling or unable" to prosecute that individual themselves, Article 17, *The 1998 Rome Statute*. This applies to Heads of State, as well as nonstate actors. The International Criminal Court has been intended, since its inception, to be used as a "court of last resort." This, combined with the severity of the crimes over which it has jurisdiction, means that, generally speaking, only top-level perpetrators will appear before the Court. For more, see James A. Goldston, "More Candour about Criteria: The Exercise of Discretion by the Prosecutor of the International Criminal Court," *Journal of International Criminal Justice,* Vol. 8, No. 2, 2010, pp. 383-406; and William A. Schabas, "Prosecutorial Discretion v. Judicial Activism at the International Criminal Court," *Journal of International Criminal Justice,* Vol. 6, No. 4, 2008, pp. 731-761.

27. Mark Lattimer, Shabnam Mojtahedi, and Lee Anna Tucker, "A Step Towards Justice: Current accountability options for

crimes under international law committed in Syria," Washington, DC: Syria Justice and Accountability Centre, April 2015.

28. Padraig McAuliffe, "Suspended Disbelief? The Curious Endurance of the Deterrence Rationale in International Criminal Law," *New Zealand Journal of Public and International Law,* Vol. 10, No. 2, 2012, pp. 227-262; Christopher W. Mullins, and Dawn L. Rothe, "The Ability of the International Criminal Court to Deter Violations of International Criminal Law: A Theoretical Assessment," *International Criminal Law Review,* Vol. 10, No. 5, 2010, pp. 771-786.

29. See Ben Ramalingam and Harry Jones with Toussainte Reba and John Young, *Exploring the Science of Complexity: Ideas and Implications for Development and Humanitarian Efforts,* London, UK: Overseas Development Institute, October 2008.

30. For more on the dynamics of legitimacy, see Robert D. Lamb, *Rethinking Legitimacy and Illegitimacy: A New Approach to Assessing Support and Opposition across Disciplines,* Washington, DC: Center for Strategic and International Studies and Rowman & Littlefield, May 2014.

31. Şefika Şule Erçetin, ed., *Chaos, Complexity and Leadership*, Cham, Switzerland: Springer, 2016; Catherine Gegout, "The International Criminal Court: Limits, Potential, and Conditions for the Promotion of Justice and Peace," *Third World Quarterly,* Vol. 34, No. 5, 2013, pp. 800-818.

32. Interview with former U.S. foreign policy official, anonymous by request, San Francisco, CA, November 2016.

33. Mark A. Drumbl, *Atrocity, Punishment, and International Law*, Cambridge, UK: Cambridge University Press, 2007.

34. Nathalie Tocci, *On Power and Norms: Libya, Syria, and the Responsibility to Protect,* Washington, DC: Transatlantic Academy, 2014; Elizabeth Wilmshurst, *Syria and International Law: Use of Force and State Responsibility,* London, UK: Chatham House, September 2013; Steven Blockmans, *Syria and the Red Lines of International Law*, Brussels, Belgium: Centre for European Policy Studies, September 2013.

35. Martha Finnemore and Kathryn Sikkink, "International Norm Dynamics and Political Change," *International Organization*, Vol. 52, No. 4, 1998, pp. 887-917, especially p. 891. See also Emile M. Hafner-Burton and Kiyoteru Tsutsui, "Justice Lost! The Failure of International Human Rights Law to Matter Where Needed Most," *Journal of Peace Research,* Vol. 44, No. 4, 2007, pp. 407-425.

36. Kathryn Sikkink, *The Justice Cascade: How Human Rights Prosecutions are Changing World Politics*, New York: W. W. Norton & Co, 2011, p. 11.

37. Finnemore and Sikkink.

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68. Dapo Akande and Sangeeta Shah, "Immunities of State Officials, International Crimes, and Foreign Domestic Courts," *European Journal of International Law*, Vol. 21, Iss. 4, 2010, pp. 815-852.

69. Arrest Warrant of April 11, 2000, *Democratic Republic of Congo v. Belgium* (2002), ICJ Rep 3, Joint Separate Opinion of Judges Higgins, Kooijmans, and Buergenthal, para. 75, "Immunities are granted to high State officials to guarantee the proper functioning of the network of mutual inter-State relations, which is of paramount importance for a well-ordered and harmonious international system."

70. Anonymous, "Africa and the International Criminal Court," *Strategic Comments*, Vol. 22, Iss. 10, 2016, pp. vi-vii; see also Mills and Bloomfield.

71. On October 27, 2017, Burundi became the first state party to formally withdraw its membership in the ICC. South Africa, in turn, threatened to withdraw in October 2016, revoked its withdrawal in March 2017, and expressed a new intent to withdraw in December 2017. On February 1, 2017, the African Union issued a resolution urging its member states to leave the Court en masse. For more, see Gerhard Werle, Moritz Vormbaum, and Lovell Fernandez, *Africa and the International Criminal Court: International Criminal Justice Series*, Vol. 1, 2014.

72. Paula Kivimaa and Florian Kern, "Creative Destruction or Mere Niche Support? Innovation Policy Mixes for Sustainability Transitions," *Research Policy,* Vol. 45, 2016, pp. 205-216. See also Michael Howlett and Jeremy Rayner, "Design Principles for Policy Mixes: Cohesion and Coherence in 'New Government Arrangements'," *Policy and Society*, 2007, pp. 1-18.

73. Drumbl; McAuliffe.

74. See Jamie Mayerfield, "Who Shall Be Judge? The United States, the International Criminal Court, and the Global Enforcement of Human Rights," *Human Rights Quarterly*, Vol. 25, No. 1, 2003.

75. David L. Bosco, *Rough Justice: The International Criminal Court in a World of Power Politics,* Cambridge, UK: Oxford University Press, 2014.

76. Antonia Handler Chayes, "How American Treaty Behavior Threatens National Security," *International Security,* Vol. 33, No. 1, 2008, pp. 45-81.

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78. "'Slay This Monster': The United States and Opposition to the Rome Statute on the International Criminal Court," *Human Rights Review,* Vol. 17, No. 4, 2016, pp. 417-438.

79. Adam Bower, "Arguing with Law: Strategic Legal Argumentation, U.S. Diplomacy, and Debates over the International Criminal Court," *Review of International Studies,* Vol. 41, No. 2, 2015, pp. 337-360.

80. If ICL is not able to resolve complexity, it might be positioned to help the world make more sense of it. Comprehensive tracking and research by international legal scholars and practitioners would not only enhance the dossier of potential prosecutions during a ceasefire or transition period but also allow for a more effective understanding of the conflict systems they are investigating. Likewise, a broadening of the International Criminal Court's investigative mandate to scrutinize powerful (often proxy) actors operating within complex conflicts would allow for an enhanced understanding of norm responsiveness by dominant nations and for more robust information gathering on the **personality** of different violators of laws and norms. That could, in turn, generate information on the flexibility of actors in conflict and on the nature and power of alliances between proxy actors and those on the ground, thereby making it possible to design more effective mitigation strategies.

CHAPTER 5. POLICY RESISTANCE AND THE SYSTEMIC MINDSET

Chapter 4 focused on two significant subsystems of complex policy systems regularly foiled in their attempts to achieve important policy objectives. International criminal law, embedded in a complex global policy system, is intended to deter and prosecute atrocity crimes. However, because it has so little effect on power relations within the broader policy system, its effectiveness is often highly constrained—counterbalanced or overpowered by negative feedback dynamics. Knowledge institutions, also embedded in complex policy systems, are intended to help policymakers learn how to become more effective over time. Ironically, however, because those institutions have so little influence over the policies, cultures, and incentives of other key components within their own policy system (and in fact, rarely even account for them in their research), their effectiveness at improving policy effectiveness is often highly constrained—also counterbalanced and overpowered by negative feedback dynamics.

These are clear examples of policy resistance, a phenomenon most policymakers have experienced but few have ever studied explicitly. A classic case in domestic policy illustrates the concept. In the late 1960s, schools in Boston were becoming increasingly segregated, with white students making up a third of the population of mixed-race schools in 1968 and less than a quarter by 1973. In 1974, the city enacted a policy to send students by bus, if needed, to different schools in order to maintain more balanced ratios of races. That policy resulted in an immediate increase of white enrollment at mixed-race schools to about a

third in 1974 and as high as 40 percent in 1975. Then white families unhappy with the busing policy started moving to the suburbs. By 1982, not only had the percentage of white students returned to the pre-busing level, but the decline of the white-student population in mixed-race schools had also returned to its previous trajectory, eventually dropping below 20 percent by 1991. A Department of Energy tutorial on system dynamics published that year neatly summarized this classic example of policy resistance:

> Policy resistance occurs when a policy is applied to a system dominated by negative feedback processes and the policy change does not alter the desired states of the negative loops. In the case of the percentage of white students attending Boston schools with nonwhite students, the busing policy did not change the desire of white parents to have their children attend school primarily with other white students. . . . Thus, after busing was instituted, many white families gradually moved to the suburbs and enrolled their children in primarily white schools.[1]

There are generally two ways the term "**policy resistance**" is used. The classic archetype of policy resistance in the system dynamics literature is actually characterized by positive (or reinforcing) feedback rather than the negative feedback of the example above. In positive feedback, an increase in some problem puts pressure on decision-makers to implement a solution, which ameliorates the problem in the short term but has unintended consequences that, after a delay, ends up making the problem worse in the long term—which puts pressure on decision-makers to double-down on the solution, repeating the vicious cycle.[2] Outside of system dynamics, policy resistance can have a looser definition, at times more akin to policy

stasis or constraints to policy uptake. In dynamic terms, policy stasis takes place in systems with negative (or balancing) feedback. The appearance of a problem or an increase in the problem puts pressure on decision-makers to implement a solution. However, countervailing pressures in the system (negative feedback) either prevent the policy from being implemented, prevent the solution from ameliorating the problem, or build up after a short-term improvement then neutralize the solution after a delay—all of which, in the end, result in the problem's returning to its previous level or trajectory.

A complex problem-solving system cannot solve a complex problem unless the problem solvers themselves have a high-level understanding of both systems. In cybernetics, the field that studies command and control in systems, the term "**variety**" is used to describe how complex a system is known to be (i.e., a measure of all possible system outcomes). The First Law of Cybernetics—also called Ashby's Law of Requisite Variety—stipulates that a system with a low level of variety cannot "regulate" a system with a higher level of variety: only "variety can destroy variety."[3] In other words, if you cannot imagine (or model) how complex a problem is, you cannot come up with solutions that account for unforeseen possibilities. If decision-makers do not know how complex their own policy system is, they will not be able to imagine all the ways their decisions could be implemented by their own system—including the unintended consequences of their decisions. The decision-maker has a lower variety than the policy system and therefore cannot control how decisions are implemented. In turn, because the policy system's full complexity remains unstudied, it has a lower variety than the conflict system

and therefore cannot hope to succeed in such complex environments except by chance. Dr. Lamb, one of the authors, has made a similar observation using a framework designed to study the problem-solving capabilities of systems at six levels of sophistication: problem-solving systems at one level can only solve problems at or below that level. What that research shows is not merely that some problems are harder to solve than others:

> but rather that some problems are *fundamentally unsolvable* by lower-level problem-solving systems. . . . It's hard enough when the problem system and the problem-solving system are at the same level. This research shows that the dual-system problem is *fundamentally insurmountable* for higher-level problems [italics in original].[4]

To deal with the growing complexity of the challenges we face as a society, the U.S. policy system needs to become a better (higher-level) problem-solving system. The remainder of this chapter focuses on what might be required to accomplish such an upgrade, recommending first steps toward becoming more entrepreneurial, more experimental, and more systemic.

BECOMING MORE ENTREPRENEURIAL

To be entrepreneurial is to "undertake" a significant venture or activity of some sort,[5] so the adjective has come to be associated with all the various character traits that involve creating something. This includes a thirst for adventure; enthusiasm for challenges; willingness to take risks; ability to be flexible; and a tendency to be innovative, creative, motivated, persuasive, resilient, agile, patient, trustworthy, and passionate.[6] Most commonly, it is understood that entrepreneurs are opportunistic. Peter Drucker suggested, "[T]he

entrepreneur always searches for change, responds to it, and exploits it as an opportunity."[7] Howard Stevenson coined probably the most famous definition of entrepreneurship as "the pursuit of opportunity without regard to resources currently controlled"[8] and contrasted an entrepreneurial mindset with a managerial or administrative mindset:

> In making decisions, administrators and entrepreneurs often proceed with a very different order of questions. The typical administrator asks: What resources do I control? What structure determines our organization's relationship to its market? How can I minimize the impact of others on my ability to perform? What opportunity is appropriate? The entrepreneur, at the other end of the spectrum, tends to ask: Where is the opportunity? How do I capitalize on it? What resources do I need? How do I gain control over them? What structure is best?[9]

Entrepreneurs—whether building for-profit businesses, non-profit organizations ("social entrepreneurs"), or innovative services inside government agencies or corporate departments ("intrapreneurs")—are people who know their constituents; take risks; find whatever resources they need; accept failure, adapt, and try again; and the most successful ones never let themselves be fooled by their own public relations. By contrast, in institutions where failure is punished, people tend to become risk-averse and feel pressure to frame results optimistically. Those who are more comfortable with risk and ambiguity, however, can become real sources of innovation even within well-established institutions.

Before discussing what it means for a government and its personnel to become more entrepreneurial, it is useful to clarify what it does not mean. A government is responsible for achieving significantly more than

simply making a profit for shareholders. It is responsible for the survival of a whole society. Inefficiencies are built into the system on purpose. In *The Federalist Papers No. 51*, James Madison argued, "ambition must be made to counteract ambition" so that power-hungry individuals would have difficulty concentrating power. Checks and balances were put in place in the U.S. Constitution as a way to be sure the broadest interests were accounted for and ambition could be channeled into a source of stability.[10]

Because the government is responsible for the society's long-term survival and because there are many factors influencing a society's survival, a government is required to accomplish a very wide range of objectives at the same time—defense, prosperity, justice, stability, etc.—and some objectives can be mutually contradictory (security vs. freedom, stability vs. growth, etc.).[11] In business, there are always tradeoffs to be made when trying to maximize long-term cash flow, but in government, there are exponentially more tradeoffs simply because there are so many more objectives. Domestic policy again provides a useful illustration, in this case an illustration of the government's simultaneous objectives of helping the needy, minimizing fraud, rewarding productive labor, and avoiding racial discrimination.

> This combination of financial help and the occasional verbal kick in the pants is something close to what the ideal of government help used to be. Social workers used to make individual judgments about what sort of help their clients needed or deserved. But such judgments always have an inherently subjective and arbitrary quality, which courts began to frown on in the middle of the 20th century, in part because they offered considerable discretion for racial discrimination. Turning government welfare into an automatic entitlement based on simple

> rules undoubtedly made it fairer, and kept people from slipping through the cracks. But making it harder to remove benefits from people who stopped trying also made it easier for people to make understandable short-term decisions which turned into long-term dependence, leaving a significant number of people disconnected from work and mired in multi-generational poverty.[12]

The difficulty of balancing multiple objectives comes into play when dealing with complex conflict situations all the time. Take contracting as an example. In business, contracting should be a straightforward matter of two parties negotiating terms and coming to an agreement about a business relationship, including how money can and must be spent and for what it is given in exchange. But that contract depends on being in a society with enough social capital that parties to contracts can be trusted to negotiate more or less in good faith, and on the rule of law fostered and enforced by governments so that, when contract violations do occur, there is a predictable system in place through which the parties can argue their case, expect a neutral outcome, and be assured that the outcome will be enforced. The government is the neutral third party. Government contracting is different for precisely that reason: it has the potential for one of the parties to the contract to be the enforcer. It therefore requires extra provisions to protect against corruption—either a government taking advantage of its privileged status as both party and enforcer, or a government worker engaging in bribery or nepotism.

To make government contracting more efficient and flexible—to, for example, enable program managers to be more entrepreneurial in the field—requires a prior understanding of the purpose any particular inefficiency is serving. What would happen if you

broadened waiver authority or removed certain extra steps that are in place to protect against nepotism or kickbacks? It would make some contracts more flexible, but it would also risk more corruption, and the corruption would lead to a situation in which contracts are awarded based more on who is in a position to make money than on who is capable of doing the best work. This is what policy resistance in a complex system looks like: a policy intended to make contracting more efficient so that programming that can be more effective is put into place. As people within the system adapt to the new policy (e.g., by not trusting enforcement, or by engaging in secret side deals), the result ends up being that programming is now less effective. The simple—in fact, simplistic—solution to contracting inefficiencies that is often proposed is to reduce the regulatory load so it operates more like business contracting; but as noted, that risks perverse consequences. The complexity-aware solution would be to produce a number of hypotheses about how contracting can be made more efficient; then, understanding all the competing objectives and the dynamics of what affects and is affected by the contracting system, to work through how each scenario might lead to the desired outcome. System dynamics modeling, grounded theory, political economy analysis, human-centered design, and complexity-aware process tracing all could be useful approaches to undertaking such an analysis (see "Becoming More Systemic" in this chapter).

To take another example relevant to complex conflicts, security personnel make determinations about whether field staff can go out in the field to meet locals under certain circumstances. A private citizen can book a commercial flight to, say, Afghanistan or Somaliland and stay in a private hotel or guest house; doing

business might require a couple of additional approvals—but that is nothing compared to the approvals needed by a government employee or private-sector staff working on a government contract. As a civilian staff on conflict-related issues, there are many layers of approvals needed to get there physically, and the result is that many people who should be interacting with locals and learning the local environment are not able to do so. Effectiveness suffers as a result.

Clearly, there needs to be more risk-taking and more flexibility—the way businesses are able to operate in such environments. However, again, businesses are not governments; if staff are kidnapped or killed, the business can pull out of the country, with the main consequence being lost profit, or a few owners and possibly some employees or executives having to answer to the board. However, if a government has to pull out of a country, the consequences can range from no real effect at all to an outbreak of a viral epidemic or a resumption of war. If some of the layers of approvals are removed in the name of efficiency, or if some of the approvers are encouraged to approve waivers more easily, there are potential political ramifications at home if someone is killed or kidnapped, and the country has to pull out additional personnel as well (see, for example, the domestic politics over Benghazi, Libya). The political responses to those consequences in the past are what led to today's regulations in the first place—and they made programming less effective, and therefore potentially more dangerous, and therefore less likely to permit flexibility, and so on, feeding into the vicious cycle.

These are the sorts of problems policymakers have to contend with in complex policy systems. It can never be as simple as "running governments more

like businesses" because businesses and governments are simply different things. A policy system is always going to be more complex than even the largest and most diversified multinational corporation. In fact, because governments are governments and not businesses, any attempt to treat a government like a business—by, for example, reducing regulations without attention to their second-order effects or by ignoring certain constituencies—is likely to have second- and third-order effects that neutralize any gains from the naive pseudo-privatization strategy. A strategy of dominance—for example, by political appointees attempting to sideline the bureaucracy—is likely to backfire for the same reasons.

There are, however, some practices and some mindsets that governments can constructively adopt from the business world that explicitly recognize the complex nature of the policy system. Some approaches to managing businesses and developing business strategies take as a starting point the observation that, because the factors contributing to business success exist in dynamic relationships, dynamic methods can be used in strategy and management:

> [The] strategy dynamics method for developing and implementing strategy … is made possible by deploying the rigorous, scientific method of system dynamics—well-established since the 1960s—to the task of strategic management. In essence, system dynamics is the application of engineering control theory principles to social systems, and since all enterprises are "designed" systems, those principles are directly applicable to their design and management.[13]

Such approaches could in principle be applied to analyzing the complex dynamics limiting the ability of the policy system to become more entrepreneurial, making

it possible to simulate different policy and institutional reforms to see which have the fewest unintended perverse consequences.

In addition to applying sophisticated business management and strategy tools to policy management and reform, probably the most promising way to discover how the government could become more entrepreneurial is simply by experimenting with approaches to incorporating innovation (see the next section for more on experimentation). There are some good examples taking place already. The United States Institute of Peace incubated the PeaceTech Lab to accelerate the development of technologies useful in conflict prevention and peacebuilding. The State Department started a Strategy Lab to identify innovative approaches to foreign policy challenges and opened an office in Silicon Valley to build technology and innovation relationships with the private sector. The Defense Department opened Defense Innovation Unit-Experimental (DIUx) offices in San Francisco and Boston to find ways to improve its access to new commercial technologies. The Department of Homeland Security opened an office in Silicon Valley for similar reasons. The Government Accountability Office established an internal consultancy called 18F to offer agile development services to other agencies.[14] The White House established the U.S. Digital Service to improve the quality and speed of technology development. Most recently, the Office of American Innovation (which encourages private-sector levels of efficiency) and the U.S. Agency for International Development's U.S. Global Development Lab funds innovative approaches to fighting extreme poverty through its Development Innovation Ventures program, and its Feed the Future initiative has established innovation laboratories at several universities

to accelerate applied research on food security.[15] The U.S. Army has also implemented reforms intended to make it more agile in response to the growing complexity of today's operating environment, including an agile acquisition process introduced in 2011 and a major reorganization into a modular force structure some years earlier.[16]

Some of these initiatives are not without criticism. Several interviewees who wish to remain anonymous suggested that some offices seem to have adopted the language of innovation while, in fact, continuing to run conventional programs.[17] However, most at least have begun processes that are necessary and important first steps toward bypassing the sources of resistance to innovation within the overall policy system. They are worth keeping in place and perhaps expanding for at least several more years to give them a chance to either live up to their potential or demonstrate failure and try something else. It would be particularly helpful to offer more opportunities for rotations in those offices by career civil servants and military officers and to reward them for participating in those rotations so that an entrepreneurial mindset can be more widely incubated.

Finally, it should not be overlooked that, despite the shortcomings of the U.S. policy system when it comes to decision making on complex matters, Western forms of government such as the American system historically have been engines of innovation precisely because of how they are structured. As Karl Deutsch has argued, three of the most important "techniques for accelerating innovation" that Western governments have developed are "majority rule, the protection of minorities, and the institutionalization of dissent":

> Majority rule in the Western manner permits . . . a change to be carried out much earlier and thus much faster [than systems requiring unanimity]. At the same time, Western traditions for the protection of minorities may prevent majority-imposed rates of change from disrupting the integrity and dignity of dissenting individuals and groups, or of breaking the bonds and communication channels of social cohesion. Finally, the institutionalization of dissent, and the provision of acceptable channels and modes for the expression of criticism and self-criticism, of counterproposals, and of new suggestions, protect not merely the majority of yesterday but also provide potential growing points for the majorities of tomorrow. Taken together, majority rule, minority protection, and institutionalized dissent . . . provide Western societies and political systems with an unusually wide range of resources and instrumentalities for rapid social learning and innovation.[18]

In other words, any approach to encouraging entrepreneurial innovation that has the effect of undermining majority rule, minority protection, or institutionalized dissent will not lead to more innovation, but instead, to the **suppression** of innovation, not just in policymaking, but also throughout society as a whole. Such approaches are to be avoided.

BECOMING MORE EXPERIMENTAL

In the late 1960s and early 1970s, prominent social psychologist and research methodologist Donald Campbell, reflecting on his many years of work on policymaking and program evaluation, concluded that many policy recommendations fail to account for the realities of the political systems through which they are intended to be implemented:

> On the one hand, as we try to implement high-quality program evaluations, we meet with continual frustration

> from the political system. It seems at times set up just so as to prevent social reality-testing. . . . On the other hand, if we look to our own recommendations to government regarding how to implement programs so that their impact can be evaluated, one can see that we evaluation methodologists are, in fact, often proposing novel procedures for political decisionmaking. We are, in fact, designing alternative political systems. If we were self-consciously aware of this, we would, I believe, often make different recommendations.[19]

In Campbell's view, a society that wanted to solve hard problems would design its institutions around experimentation and learning and would design programs for implementing policies as experiments. Planners and program managers would treat policies not as answers to the problems they are intended to solve but as questions: will this particular policy, and this particular plan for implementing it, actually work in this particular circumstance?

Unfortunately, no society has ever designed itself as an "experimenting society," and it is likely that none ever will. Human and organizational psychology and social and political dynamics work to push against the development of the levels of social trust, collective action, skepticism, empathy, and learning required. Learning is still possible, and a society's institutions can still do a lot to become more experimental.

All policies are hypotheses. All plans are experiments. All programs have impact. However, policymakers think they are proposing answers, when they should be posing questions. Planners think they are drawing roadmaps, when they should be designing laboratories. Program evaluators think they are seeing whether the question was answered, when they should be discovering what questions were never asked in the first place (e.g., did the program have unintended

effects we did not think to measure?). Two common quotes in military circles—"Plans are worthless, but planning is everything"[20] and "No plan survives first contact with the enemy"[21]—suggest these observations are intuitively understood by many. Treating policies as experiments need not be treated figuratively, however—they should be taken literally. Ideas and plans should be treated as testable hypotheses and opportunities to learn—using and generating the best information possible, questioning assumptions, identifying hidden assumptions, being willing to learn from failures, and rejecting half-truths, biased evidence, and intellectual dishonesty. At minimum, a willingness to be honest about what is and is not known and to follow the facts wherever they lead is essential. As one expert told us, "Everything we do should be evidence-based or evidence-producing."[22] Actual experiments are not always possible in complex conflicts, but natural experiments and opportunities to explore dynamics are abundant and should be encouraged. Policies can at least be designed as if they were scientific experiments so data can be collected systematically.

Science is systematic curiosity. If policymakers and planners were given freedom, training, and incentives to be more scientific, they would be more systematic (defining hypotheses, ranges of outcomes, variables, observation methods, thresholds of success, etc.) and curious (more interested in discovering whether a particular approach can work in certain contexts than in naively implementing it). Programs would be designed and managed around the need to make field observations and collect data systematically.

Governments already sponsor research using the full range of research methods, such as randomized controlled experiments, case studies, and natural

experiments as well as highly technical methods requiring advanced mathematics, computing power, and data visualization. The Army and other military services already engage in sophisticated simulations or war games, many of which are excellent examples of using experimental methods to make important discoveries about the circumstances under which certain objectives can and cannot be achieved. The Army's Force XXI initiative of the 1990s was also a good example of using experimental methods to test different force structures to discover the structures best aligned with the operating environment, in this case ultimately resulting in the modular structure the Army adopted in the 2000s. The Army Operating Concept of 2014 places experimentation at the center of the kind of thinking required to learn about the complex operating environment of the future (focusing on 2020-2040): "Army leaders develop and mature concepts for future armed conflict, assess concepts in experimentation and other learning activities, and use what is learned to drive future force development."[23] These efforts make essential contributions to the knowledge institutions that make policy learning possible and, in some cases, make it possible to identify organizational barriers to learning and adaptation.

What we mean by becoming more experimental is to apply that same degree of scientific and military rigor to policy design and implementation, not just to knowledge production.

Consider a similar dynamic in the private sector. In a for-profit business, decisions are made by management and implemented by staff, who produce an output—a product or service—that results in revenue for the company. Product design is essential, because what is being sold needs to meet an important need

of people with the money to buy it. Business model design is essential as well, because how the product is made will determine how well it meets the customer's needs, and how the product is brought to market will determine how much revenue is ultimately absorbed. Linear design models can fail in rapidly changing environments. For example, one author describes how investors in the Iridium satellite phone company lost almost all of their original $5 billion investment in 2000 because its:

> business plan had assumptions about potential customers, their problems, and the product needed to solve that problem . . . predicated on the state of the mobile phone industry in 1990. . . . [Iridium then] went into an 8-year Waterfall engineering development process. Waterfall development is a sequential way to develop a product (requirements, design, implementation, verification—ship). Waterfall makes lots of sense in a market [where] the customer problem is known, and all customer needs and product features can be specified up front. It is death in a rapidly changing business. [In] the 11 years it took Iridium to go from concept to launch, innovation in mobile phones and cell phone networks moved at blinding speed. By the time Iridium launched, there were far fewer places on the planet where cell phone service was unavailable.[24]

This anecdote will likely sound familiar to any federal government contractors working on international development projects in fragile and conflict environments. The requirements are stated, a request for proposals is issued, a proposal is selected, and the contractor is expected to execute the contract as written. In some cases, a degree of flexibility is built into the contract. But if the assumptions written into the proposal turn out to be wrong, or if the situation on the ground changes in a way not anticipated in the contract, then

the project might well continue to be implemented regardless—to the detriment of the original policy objective and often the very people the project was supposed to help.

Some private-sector investors, having learned this lesson the hard way, experimented (often without realizing they were running experiments) with new approaches to designing new products and business models (see "Expert Engagement" in chapter 3). Perhaps the most famous articulation of the new approach was the "lean startup" method of Eric Ries, based partly on Steve Blank's "customer development" approach a decade earlier.[25] Blank summarizes the difference between the old "product development" methods and the new approach:

> The difference between the winners and losers is simple. Products developed with senior management out in front of customers early and often—win. Products handed off to a sales and marketing organization that has only been tangentially involved in the new product development process lose. It's that simple. . . . [Companies designing new products win by] listening to potential future customers [and] by going out into the field and investigating potential customers' needs and markets before being inexorably committed to a specific path and precise product specs.[26]

The "lean" approach is, in effect, iterative hypothesis testing. Instead of market research, product design, launch, and marketing, the entrepreneur or intrapreneur launches a series of experiments in rapid succession to test hypotheses. These experiments include "this specific customer segment in this specific market needs these specific features to get this specific job done," "people who like this product will pay $X for it every month," "this particular marketing channel

can reliably expose my product to potential customers with adequate budgets," and "this customer segment will work X% more quickly by using my product." Then a simple prototype with minimal features is presented to actual representatives of the target market (i.e., potential customers) to see how they behave in response, and the results of those quick market tests are used to validate the hypothesis or invalidate the hypothesis. A product design and its accompanying business model, then, are treated as collections of hypotheses, tested and revised repeatedly until a set of hypotheses is found that generates the desired response: customers actually purchasing a product. The first version released in the market is sometimes called a "minimally viable product" because new features will only be added to the product of future experiments to test new hypotheses about those features.

As noted previously, governments and military institutions cannot be run like businesses because they are responsible for much more than earning profits for shareholders. Adopting lean and agile methods is therefore significantly more complicated in public-sector organizations than in the private sector. Governments cannot generally refuse service to certain citizens when inconvenienced the way businesses can segment customer markets. Governments can reduce waste, fraud, and cost, which are easy to measure, but they are also responsible for equitable service provision and general societal welfare, which can be difficult to measure reliably. Therefore, there is a risk that an experiment that proves to yield one result measurably might validate a hypothesis whose other results have not even been tested. Governments tend to be massive organizations in which no one manager has visibility much less authority over the entirety of a process, and

therefore the cultural mindsets and skills needed to operate on lean principles are often lacking.

> A key characteristic of a lean organization is its ability to improve itself constantly by bringing problems to the surface and resolving them. Here as well the public sector often finds itself in a weaker starting position, with gaps in skills and entrenched mind-sets. … Successful lean transformations must close the capability gap early in the process, so managers and staff can make the transition to a new way of working. Closing the gap typically involves hiring a few people with lean expertise and experience from outside the public sector to seed the transformation and build new internal capabilities.[27]

The first step in constructing experimental policy approaches is to find the right personnel with the appropriate skills and mindsets and give them opportunities to experiment, fail, and try again without harming their careers. This seems more likely to happen in one of the experimental offices mentioned at the end of the previous section or in a new, separate initiative tasked with discovering approaches to learn policy design that maximize the benefits of private-sector customer discovery, while overcoming the limitations imposed by the nature of government service discussed earlier. The objective of such initiatives would be a policymaking process capable of identifying specific types of problems frequently encountered in conflict environments. They would draw on lessons learned to develop hypotheses for how some particular aspect of the problem can be solved in context and design a simple set of activities and resources (along with specific measures of success) that can be tested as a potential solution. They would implement it on a small scale in context, measuring and comparing the results to the hypothesis, then either redesigning the

hypothesis and trying again if it fails or moving on to test a different aspect of the hypothesized policy. After discovering what works in context, the same process can be used to test the hypothesis that the small-scale version can be scaled up effectively.

When it comes to engaging in complex conflicts, it is very difficult to experiment with new ways of doing business amid active violence. In contexts with similar features as violent conflicts, it is possible to experiment with new approaches. Fragility is the laboratory of complexity. Places that top various lists of "fragile states" are usually the places where the most complex conflicts break out. They are therefore ideal places to practice new approaches to dealing with complex conflicts—when violence is still at low enough levels that it is possible to operate on the ground, learn the internal dynamics, and experiment with agile decision making and implementation processes. Experimenting with new processes in fragile states can therefore accomplish two things: learning about operating in complex conflict environments, and, ideally if probably only occasionally, preventing violent conflict from erupting in the first place.

BECOMING MORE SYSTEMIC

Before the age of electronics, scientists who studied human societies used intuition, keen observation, history, and good record keeping to develop theories explaining the dynamics of social, political, and economic systems. For example, Max Weber explained a century ago that the dynamics of social stability would include sophisticated descriptions of what today would be termed feedback loops and adaptive behavior. People hold beliefs about how other people expect

them to act, so they avoid social disapproval by acting in ways consistent with those beliefs, which then provides public evidence to others that certain behaviors are or are not acceptable, which reinforces the norm, and so on.[28]

Once humans figured out that machines could make complicated mathematical calculations, the need arose for better and better ways to instruct machines how to do so. That led not only to the development of sophisticated methods for studying and controlling systems such as radar antennas and air-defense systems, but also to the realization that key insights from the study of electronic systems can be applied to social systems as well. Dynamic modeling, simulation of organizations, and even more complex human systems had thus become possible by the 1950s.

From the beginning, the entities most interested in being able to simulate the complex dynamics their organizations faced were large corporations and the military.[29] General Electric (GE) asked Massachusetts Institute of Technology (MIT) engineer Jay Forrester in the mid-1950s to help them understand puzzling fluctuations in their business cycle. Forrester used the knowledge he had acquired designing electronic systems and servomechanisms for the Navy during World War II to demonstrate that GE's fluctuations were caused by management decisions rather than market conditions—and he invented system dynamics as a discrete field of practice in the process.[30] He later partnered with a former mayor of Boston to apply his methods to urban dynamics, and the book that resulted launched broad interest in systems thinking as a mindset for studying complex social systems—from organizational dynamics to global dynamics.[31]

Since then, systems-oriented modeling techniques have been recommended and used for designing war games, modeling conflicts, integrating joint operations, planning operations, and making operational decisions in the field, among other applications.[32] The Army recognized the complexity of its operating environment a decade ago and updated its field manual on the operations process with a section on "agile design for complex environments."[33] Around the same time and in response to the same challenges, the Defense Department attempted to introduce "adaptive planning" techniques.[34] In chapter 2, we reviewed some of the voluminous research that has treated conflicts as complex systems over the past decade or so. Today, in Washington, DC, there is hardly a conference or think tank report on conflict, fragility, or international development that fails to mention the complexity of such environments and the importance of understanding them in "systems," "design," "lean," or "agile" terms.

Why, then, is systems thinking still so strongly resisted among policymakers, planners, strategists, monitoring and evaluation specialists, and even peace and conflict scholars and policy researchers? What can be done to overcome that resistance? The case of a famous PowerPoint slide illustrates both the promise of systems thinking and the barriers to its widespread adoption. The details matter because they demonstrate good systems thinking in action—through both formal methods and instinct—as well as some of the limits to what systems approaches are able to accomplish under current institutional arrangements and cultural tendencies. The concluding section that follows offers thoughts for overcoming the key challenges the case uncovers.

In December 2006, the same month the Army and Marines published their joint counterinsurgency (COIN) manual,[35] a Navy captain and test pilot named Brett Pierson became the Irregular Warfare Branch Chief at the Joint Staff's J8 Warfighting Analysis Division, where he was to develop better modeling and simulation tools for COIN analysis. COIN doctrine is explicit that the factors affecting success are abundant and highly interrelated. In other words, insurgencies are complex conflicts, and Pierson recognized that methods such as agent-based modeling, wargames, and system dynamics modeling were designed for the study of precisely such circumstances. Among other work, his team therefore used system dynamics techniques to model the new COIN manual. In briefing his work, he was careful to lead his audience through the reasons system dynamics (SD) was the right approach, how SD works, and how his team (working with external systems experts at Boeing, MIT, Old Dominion University, and the PA Consulting Group) built up their SD model of COIN doctrine.

In at least one version of the briefing materials (i.e., PowerPoint slides[36]), they started by identifying the three tasks the COIN manual argues are the objectives of COIN strategy: getting supporters of insurgents to become neutral, getting neutral individuals to support the host government, and getting supporters of the host government to stay supportive. From there, the presentation showed what factors directly influence those objectives (portrayed using arrows to show the direction of influence). It showed what additional objectives influence those factors, and on and on, until a complete model of COIN doctrine took up an entire slide filled with words and arrows in what is known as an influence map or causal loop diagram. The briefing materials then demonstrated how to interpret the

diagram for analytic purposes. They even ended with a slide showing a separate causal loop diagram of campaign design.

In other words, a decade ago, Pierson's team put **both** systems of the dual-system problem into **one** presentation using an appropriate methodology for understanding them! (For his team's work, Pierson won the 2007 Department of Defense Modeling and Simulation Award for Excellence.)[37]

Then he went to Afghanistan as an adviser to General Stanley McChrystal. McChrystal was instinctively receptive to systems thinking already. His reforms of the Joint Special Operations Task Force (JSOTF) in Iraq and Joint Special Operations Command (JSOC) globally had demonstrated that it actually was possible to transform large, lumbering bureaucracies into an agile, networked organization, a "team of teams" capable of operating successfully in a complex conflict system. He successfully persuaded the Central Intelligence Agency (CIA), the National Security Agency (NSA), and other agencies to agree to work in the field as a single unit in real time.[38]

When McChrystal was promoted to commander of the International Security Assistance Force (ISAF) in the summer of 2009, Pierson's team briefed him on their systems dynamics work. By then, the briefing materials had been updated with Afghanistan-specific dynamics.[39] One slide showed a colorful version of the full-model causal loop diagram. When McChrystal saw it, he reportedly quipped, "When we understand that slide, we'll have won the war."[40] Within months, that slide and that quip had escaped into public awareness, thanks to MSNBC's Richard Engel, who reported in a December 2009 blog posting that the "attempt to visualize the strategy reveals how immensely complicated

it is for U.S. forces to accomplish" its objectives in Afghanistan.[41] A few months later, a *New York Times* writer held it up as an example of the military's pathological dependence on PowerPoint as a tool for communication, comparing the causal-loop slide to "a bowl of spaghetti."[42] From there, Pierson's work soon became publicly derided as the "Afghanistan spaghetti chart." Even Jon Stewart of Comedy Central's *The Daily Show* did a segment mocking it; at one point comparing it to a circuit diagram of a funny-sounding electronic musical instrument (likely, without realizing that circuit diagrams and causal loop diagrams both represent dynamic systems).[43]

The public criticisms of Pierson's work wrongly conflated standard PowerPoint slide designs that tend not to communicate complexity adequately—with system dynamics modeling, which is designed specifically to represent complexity. Most also focused only on that one slide and not on the rest of the presentations, which in fact had done a good job of explaining the need for dynamic modeling techniques to be used in complex conflict environments:

> System dynamics modeling . . . provides a platform for: effectively framing issues and problems; representing the essence of the interdependencies that underlie system performance; minimizing policy resistance; reliably inferring the dynamics associated with a set of initiatives; [and] communicating—creating a single 'sheet of music' to play."[44]

As one of Pierson's briefing slides notes, system dynamics are "Very difficult to communicate!"[45]

A number of systems thinkers tried defending the work behind the causal loop diagram, including the

executive chairman of one of the contractors on the project:

> This chart was published [in newspapers] without context; it was designed to be part of a broad briefing, where it was slowly revealed alongside a verbal description of each major element. [Its public mockery] was a dream for those wanting to respond trivially. But do we really want simplistic philosophies to win out in defense thinking? Do we want strategies developed that take no account of complexity and the sometimes-counterintuitive outcomes of well-intentioned actions? We should support dynamic thinking and duck the temptations of over-simplistic linear thinking.[46]

Another argued that public reporting on this episode missed "a chance to consider how PowerPoint really does lead to oversimplification . . . and the chance to consider the real complexity of the situation in Afghanistan, something that too many would prefer to ignore":

> This diagram is nothing to laugh at, and nothing to make fun of. This diagram is something to celebrate, because it shows us that our military leaders are trying to take a systems approach to the complex problems in Afghanistan. The opposite of a laughable waste of energy, this particular causal loop diagram has been held up (in scientific circles) as a masterful example of how to make complex systems simple enough to understand.[47]

Unfortunately, public derision is not the worst part of this story. The worst part is that its main message was not absorbed by the very policy system it was intended to help. To his credit, McChrystal had already succeeded in making JSOTF and JSOC and their interagency partners more systemic—and more successful—in an exceedingly complex conflict environment by the time he encountered this particular briefing. He

was then promoted to commander of ISAF in Afghanistan, where he now was in charge of all U.S. and NATO forces there. Replicating his success at a much larger scale turned out to be difficult.

At JSOTF and JSOC, McChrystal had been able to harmonize the contributions of multiple, competing offices, which reduced the number of separate inputs and therefore the complexity of the decision making and implementation system operating in theater. In other words, he did not turn a bureaucracy into a network so much as he turned a complex system into a **less** complex system. He might not have realized that what he was doing was weakening unseen, policy-resisting, negative feedback loops. That is what he did—and that reduction in complexity produced better and more predictable outputs (i.e., targeting and other operational decisions). At ISAF, at the strategic level, however, there were far more actors, with far more competing incentives, making it much more difficult to find ways to harmonize their contributions and make their collective output more predictable. Some missteps by McChrystal alienated partners he needed on his side for his reforms to take effect.[48] It seems efforts to reduce the complexity of a policy system are always going to meet resistance.

Even if McChrystal's earlier innovation had worked at ISAF, the dual-system challenge remained. Outputs of a less complex policy system were still always going to be inputs into the complex conflict system that is Afghanistan. Killing individuals, taking their property for intelligence purposes, and immediately using that intelligence operationally—one of JSOC's more successful innovations—undeniably had the desired effect on a key subsystem within that conflict. Those operational successes never translated into strategic victory

in Afghanistan: other subsystems, inputs, and feedback loops within the conflict system repeatedly counteracted them—just as the system dynamics models on which Pierson had briefed McChrystal's team had warned they would.

Being able to map out potential second- and higher-order effects, it turns out, really is essential to translating operational success into strategic victory. That is as true for political leaders and civilian agencies as it is for military organizations. All will need to solve the dual-system problem before they can expect to protect U.S. interests and contribute to a stable international order in the future.

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CHAPTER 6. CONCLUSIONS

Where does this leave us in terms of helping the United States and its allies become more systemic, more experimental, and more entrepreneurial in their approaches to complex foreign policy problems? The cases of international criminal law and knowledge institutions discussed in chapter 4 demonstrated the challenge of operating through two complex systems at once (the dual-system problem). The Pierson case demonstrated both the promise that at least one approach to systems thinking has for overcoming the dual-system problem as well as the challenges of communicating that approach. The McChrystal case demonstrated both the promise and the challenges of integrating systems thinking into everyday practice: it is possible, but it is difficult.

To overcome these challenges, policy researchers, peace and conflict scholars, consultants, strategists, planners, and funders of research will need to address three sets of issues: how systems are studied, how the results are communicated, and how resistance to new thinking is overcome. The remainder of this monograph takes up each challenge in turn.

STUDYING SYSTEMS

Systems thinking is a mindset, or way of thinking about the world, that has been formalized methodologically through a number of approaches that facilitate studying, designing, operating in, or influencing complex or dynamic systems.[1]

- Systems engineering is used for designing dynamic (usually electronic) systems, while systems analysis is a systematic approach to

studying different ways components can be combined to form larger systems (such as acquisition systems, assembly lines, or building systems), often using economic or game theory methods.[2]

- Systems architecting shifts the focus of analysis in systems engineering from system structure to system impacts.[3]
- The "systems decision process" is a technique of managing system design processes that focuses on the particularities of a system and its lifecycle.[4]
- System dynamics as a technique and community of practice has already been discussed in this chapter, but much of the work involves modeling and simulation of stocks and flows in dynamic systems for the purpose of understanding and influencing system performance.[5]
- War gaming and qualitative simulation are exercises in experiential learning that can offer insight into how best to interact with complex systems (see "Simulation" in chapter 3).
- Iterative hypothesis testing and grounded theory are similar to "agile" software development and "lean" approaches used by entrepreneurs to test product designs and business models against complex market conditions (see the first two sections of this chapter).
- Certain critical-thinking frameworks help organize research questions that would need to be asked to make systems research complete.[6]
- Network analysis is a robust set of tools for understanding and influencing a full range of networked structures within complex systems.[7]

- Adaptive agent modeling is used to simulate and discover the rules and incentives individuals (agents) face in complex interactions and the sometimes surprising effects their individual behaviors have in aggregate.[8]
- Collective strategy is a synthesis of systems methods designed to identify what it would take to solve large-scale social problems, partly by identifying what entities have influence over key leverage points in both problem systems and problem-solving systems.[9]
- Design thinking and political economy analysis have the potential to be adapted to understanding complex environments as well.[10]

Given that such a wide range of methods exists for understanding and influencing complex systems, it is puzzling that so many policy researchers—whose jobs are to translate research methods and results into actionable recommendations for policymakers faced with complex decisions—still default to a handful of methods that either are not robust or not appropriate for dynamic interactions. Some analytic frameworks are little more than laundry lists of factors with no systematic attempt to account for how those factors interact; scales derived from them might weigh different factors in different ways, but the scoring and indexes they produce are generally of questionable policy value. Many case studies demonstrate little more than the presence or absence of certain factors under different conditions. Where quantitative data are collected, the analysis sometimes amounts to little more than a study of correlations between variables, even though correlations between two variables embedded in dynamic systems that include time delays, resource

accumulations, and feedback loops are often mathematically and substantively meaningless. Regression analysis can lead to questionable results when the variables in the model are not truly independent, as is obviously the case in complex environments. Yet these methods—all of which are completely valid and often very useful in specific circumstances—seem to be the ones most commonly employed in think tank reports and policy memos, even on topics the authors themselves recognize are complex or dynamic. Policy researchers and strategists would be significantly more useful to decision-makers if more would learn and employ systems-appropriate research methods.

Those methods should be used not just to study complex conflicts but also complex policy systems. The Defense Department instituted adaptive planning, but it eventually reverted to older approaches.[11] McChrystal could not replicate his successful operational reforms at the strategic level. Many lessons derived from experience and research in complex environments have failed to be institutionalized, even after many decades of being studied and recommended. International criminal law, seeking to deter and prosecute atrocities, often neither deters nor prosecutes. These are different examples of policy resistance and constraints on policy uptake—dynamics that could be uncovered and addressed more readily if more research energy was put into the study of policy resistance. Co-author Robert Lamb is collaborating with several system dynamics experts to develop a dynamic model of the U.S. policy system explicitly for the purpose of uncovering systemic factors that constrain policy uptake of repeated recommendations for changes in foreign policy.[12] (We are testing the model on policy resistance to adequate investments in civilian stabilization and

reconstruction capabilities.) Significantly more work like that is required for a wide variety of policy issues that are systemically resisted.

COMMUNICATING COMPLEXITY

A circuit diagram is a model of an electronic system. Most people looking at a circuit diagram would probably find it too complicated to understand, but they would likely trust that the model is a useful tool and that the electronic engineers who produced it had the specialized training needed to design a system that would work. Similarly, a causal-loop diagram is a model of a social system, and it is too complicated for most people to understand. Why did journalists and comedians react to the Afghanistan spaghetti chart with disdain rather than trust that the model is a useful tool? Why did people not trust that its designers had the specialized training needed to build a model of a complex social system?

Part of the reason is probably discomfort with the idea of social engineering: humans are not machines, and societies should not be treated as engineered systems. But a circuit diagram can also be developed as a model of a found object rather than a designed object—say, an enemy machine recovered by an intelligence service—and can therefore be an example not of engineering but of reverse engineering. That is more or less what a causal-loop diagram of a social system is: a model of a "found" system rather than a designed system, which has been reversed-engineered into a dynamic model. The founder of system dynamics summarized why many people are uneasy with the entire concept:

> The idea of a social *system* implies . . . that people are not entirely free agents but are substantially responsive to their surroundings. To put the matter even more bluntly, if human systems are indeed systems, it implies that people are at least partly cogs in a social and economic machine, that people play their roles within the totality of the whole system, and that they respond in a significantly predictable way to forces brought to bear on them by other parts of the system [italics in original].[13]

Yet behavioral science has demonstrated that people do indeed "respond in a significantly predictable way to forces brought to bear on them." We know this because corporations use the insights of behavioral science to get people to spend more money than they intend and political consultants regularly employ scientifically discovered "nudging" techniques to make people angry with political opponents.

Still, even a reverse-engineered circuit diagram can be used to build a new system, and the confidence people have in electrical engineering has to do with the knowledge that useful objects are built based on circuit designs. Complex, adaptive social systems are not and cannot be designed the same way. Certainly, simulations can make it possible to design strategies to influence social systems, but most people are entirely unaware of any cases where that has happened. Systems thinkers therefore need to do a better job of communicating how often systems methods produce actionable results—such as dynamic business models used to test alternative business strategies, a common application—or perhaps they need to produce more actionable models in the first place.[14]

It might be useful as well to engage in more research on user experiences of systems models to find ways of portraying and presenting them that do not generate

the nearly universal confusion generated by causal-loop diagrams (and their more methodologically precise cousins, stock-and-flow diagrams). Ecologist Eric Berlow has argued that, in many complex systems, the specific factors of concern often turn out to have highly localized spheres of influence and therefore have simple explanations—but you first have to model the complexity to find that simplicity. To demonstrate his point, he remodeled the Afghanistan spaghetti diagram as an ordered network to make it easier to visualize, then focused on the node of greatest interest—popular support for the government—and the nodes connected to it most closely, up to 3 degrees away (i.e., the local sphere of influence). That eliminated three-quarters of the factors in the full diagram, and most of the factors remaining in the local sphere of influence were "not actionable, like the harshness of the terrain." Aside from military force, what remained in Berlow's visualization as factors most influencing popular support were "active engagement with ethnic rivalries and religious beliefs" and "fair, transparent economic development and provisioning of services."[15] This is a much simpler strategy than what the visualization of the full model suggested, yet it is still very similar to the recommended strategy produced by teams of system dynamics consultants working with Pierson at J8.

Some systems thinkers working as management consultants have discovered that clients are much more receptive to systems thinking if they can see the model or the solution being developed in front of their eyes based on answers they themselves give to the consultant's questions about the business problem.[16] "Early system dynamics analyses were in the 'consultant' mode in which the system dynamicist would study

a corporation, go away and build a model, and come back with recommendations," the first system dynamics consultant once wrote. "Usually these suggestions would be accepted as a logical argument, but would not alter behavior. Under pressure of daily operations, decisions would revert to prior practice."[17]

Another consultant who advises businesses on dynamics affecting their performance has compared standard approaches for developing dynamic models to the way software companies used to design their products—the "waterfall" approach, which:

> starts with identifying the full scope of the desired solution, then attempts to define the entire architecture of the application to be developed, before the whole solution is coded. The software is then tested and debugged, before being installed for users to employ.[18]

As a result, standard approaches to system dynamics have been "widely viewed as taking too long, costing too much, and delivering uncertain value." He proposed adopting "agile system dynamics" as an approach that builds the diagram with the client in real time but also creates a working model simultaneously instead of at a later stage so the client can see preliminary results as early as the first meeting, encouraging buy-in.[19] Others have made similar suggestions:

> Except in rare circumstances, don't tell your managers that they must adopt systems thinking. … Your bosses will be more likely to hear you if you help them achieve their goals than if you ask them to adopt your tools. … If a manager presents you with a problem, work with him to solve it. Solicit the information you need while you're sitting with him, and capture the key aspects of the situation on paper in front of him. Scribble down statements, data, and fragments of stock and flow diagrams. Accept the manager's input about the diagram.[20]

The advice to consider the perspective of the user—to begin where the client is and take them step by step on the journey—is an important consideration in getting systems thinking to be adopted more widely.

OVERCOMING RESISTANCE

When it comes to complex foreign crises, diplomatic challenges, and international legal considerations, the U.S. federal workforce (civilian and military) contains many pockets of excellence, expertise, and experience—alongside sclerotic processes for budgeting, planning, contracting, hiring, security, and widespread ignorance about the complexity of how our own policy systems actually function. The United States, like the international community more broadly, therefore is simply not organized to deal with the complex conflicts it is already engaged in. The best we likely can expect today is skilled improvisation, lucky breaks, slow progress, and perhaps generous humanitarian assistance to relieve the suffering we are unable to prevent. If we want to do more, we will need to discover new and better ways to simplify our own complex policy system and overcome the resistance often encountered when attempting to implement best practices.

Overcoming policy resistance and policy stasis is one of the most difficult tasks decision-makers face. Some individuals are skilled at discovering hidden obstacles within their own institutions and are savvy enough bureaucratic or political operators to find ways around them. Most are not. Instead, they spend their careers learning organizational processes, management techniques, and institutional doctrines that enable them to carry out specific tasks and tactics, design and

manage programs and operations, and translate their leaders' policies and strategies into practical plans and commander's intent. In most cases, the human mind is capable of understanding what it takes to make those processes work—the number of interrelated considerations is small enough that systems thinking is unnecessary and linear thinking is desirable (as when a command needs simply to be obeyed). Tradeoffs exist, and unintended consequences are possible—and common—at all levels, of course, and especially at the level of programming and operations, those can get very complicated. Some of the biggest career challenges still come at the leap from operations to strategy, from planning and managing practical operations to designing strategies to implement policy decisions on complicated topics in complex environments.

That is because it is at the strategic level that some of the most difficult tradeoffs and risks present themselves. The human brain evolved during a period when social systems were fairly simple, but our social systems have evolved much more quickly than our own biological systems. Today our societies are simply too complex for a single human mind to comprehend fully.[21] In complex systems, there can be long delays (and intervening variables) between causes and effects, making it easy to mistake one cause for another. Circular causation between variables can turn seemingly insignificant acts into sources of massive disruption and seemingly significant acts into minor distractions. That is a key reason so many policy mistakes are made. It is why self-fulfilling prophecies and unintended consequences exist, why short-term fixes can lead to long-term disasters, and why well-intended policies can be resisted without anyone intending to resist them—or even being conscious of the resistance. Donella

Meadows attributed policy resistance to bounded rationality in the pursuit of competing goals:

> Each actor monitors the state of the system with regard to some important variable—income or prices or housing or drugs or investment—and compares that state with his, her, or its goal. If there is a discrepancy, each actor does something to correct the situation. Usually the greater the discrepancy between the goal and the actual situation, the more emphatic the action will be. Such resistance to change arises when goals of subsystems are different from and inconsistent with each other.[22]

There are three overarching approaches to overcoming policy resistance: dominance, inaction, and harmonization. Each can be an appropriate or inappropriate strategy, depending on the structure of the system in question.

In a dominance strategy, the decision-maker uses overwhelming force in an effort to overpower the sources of resistance inside the system. In this way, a military leader might plan a "shock and awe" campaign of rapid dominance in battle, an authoritarian leader might brutally suppress domestic political dissent, a corporate leader might order mass layoffs in a division to suppress union activity, or a "big push" international development campaign might try to jump-start a virtuous economic cycle with an influx of foreign capital.[23] Dominance can backfire spectacularly in systems where the resisting subsystems are tightly coupled or act in concert and where the delays in feedback are brief. Long delays and loosely coupled subsystems might make dominance a potentially winning strategy[24]—at least until the overwhelming power is withdrawn (as when authoritarian leaders of divided societies die or are overthrown).

Strategic inaction is probably the least appreciated approach to dealing with resistance, but it is entirely appropriate in the archetypical situations where taking action would only make the problem worse. In most social and political systems, however, people expect their leaders to do something. A strategy of inaction can therefore end up reinforcing the demand for action, which can eventually force the decision-maker's hand or cause a change in leadership to people promising action. For that reason, strategic inaction requires either strong, legitimate leaders who can withstand criticism for allowing short-term failures, or a parallel strategy of distraction, misinformation, or political theater to make people think action is actually taking place when it is not.

Harmonization begins with a focus on subsystems to identify, build support for, or create incentives to adopt a set of goals and techniques on which the most significant subsystems can agree. In divided societies, for example, different population groups sometimes put aside their differences to defend themselves collectively against a common threat such as a war or natural disaster. People and organizations concerned about policy resistance to climate action worked to harmonize the goals and strategies of otherwise divided groups—activists, scientists, media, businesses, government officials, educators, etc.—and after a few years of harmonization, they managed to achieve a collective impact that had evaded them for decades: the Paris climate agreement, signed in late 2015.[25] The most effective leaders of organizations and movements find a way to harmonize goals so that strategic inaction or dominance can be avoided.[26]

Employing systems-appropriate research methods; engaging in new research on policy resistance; learning

how to communicate systems thinking to key staff and decision makers; and experimenting with new ways to make, implement, and learn from successes and failures do not require bureaucratic reorganizations or radical departures from current practice. However, they do require that systems thinking, entrepreneurial mindsets, a willingness to experiment, and skillful engagement with complex situations be rewarded by leaders and decision makers at all levels and in all functions—some of whom will resist such changes. Understanding the sources of such resistance is therefore the most important first step.

We must study sources of policy resistance within our own policy systems at least as systematically as we study paths to victory in foreign conflicts and political factors in stabilization and reconstruction in foreign countries. Otherwise, we are doomed to continue repeating the same mistakes for another 65 years and to lose more and more influence in the world over time. A political system is weakest when it refuses to learn the mistakes of the past; American democracy is strongest when it heeds the knowledge held, and sometimes hidden, within its own people and institutions.

IMPLICATIONS FOR THE ARMY

The boundary between the two systems—the complex policy system and the complex conflict system—is not always, and perhaps not usually, going to be clear. Those who sit at the boundary between policy and implementation or between strategy and operations are therefore the ones who need to be most aware of the dual-system problem. They are the ones who receive the outputs of the policy system ("this is what we are trying to achieve, and how we think we can get

there") and are expected to turn them into inputs to the conflict system ("this is specifically how we are going to get there").

In the Army, that means officers from lieutenant colonel through brigadier general need to be trained and educated in a way that inculcates a systemic mindset in themselves and, at the very least, encourages them to recognize and reward experimental and entrepreneurial tendencies in their subordinates. This is particularly the case for planning staff, as Lindsay Cohn argues:

> Any officer who is going to be sent to a planning staff should have to go to an in-residence war college program that teaches (a) U.S. government and politics, (b) international relations, (c) military history, (d) joint operations and ops planning, and (e) war gaming and simulation. [They] need both the ability to think flexibly and creatively and a decent level of understanding of the systems in which they are operating, and you get that from a curriculum including the above five things. They need to be comfortable with complexity and ambiguity; they need to feel like it's okay to guess and to learn from being wrong; they need to have the humility that comes from learning just how much there is to know, and how nearly impossible it is for anyone to know it all. . . . They need to understand the system that produces policy, so that they can both contribute to it (through planning) and interpret it when it comes to them as guidance, and they need to understand the conflict system so that they can think creatively, not get frustrated, and work together with other actors (U.S., local, and international) without feeling like those other actors are either interfering in a "military job" or shirking their jobs and making the military do a "non-military job."[27]

To this, we would add explicit training in systems thinking, including how to be an intelligent consumer of dynamic models (especially system, network, and

adaptive agent models) and how to assign work (e.g., commander's intent, requests for proposals, assessments, wargame design). This must be done in a way that ensures the results will adequately account for systemic complexity and dynamic interactions, and recognizes when requirements (of a policy, strategy, or doctrine) simply cannot be fulfilled by existing institutions (e.g., identifying unstated assumptions about what is and is not possible).[28]

In fact, training in systems thinking would be useful in many areas beyond planning, including the development of joint concepts, doctrine, wargaming, and force development.[29] Joint concepts and doctrine need to do a better job of considering the delivery capacity of the U.S. Government as a whole when articulating expectations.[30] For example, it is unrealistic to expect large numbers of U.S. troops to be available over long periods of time or host-nation partners in countries at war genuinely to share U.S. objectives and doctrines. If a requirement of any kind (in strategy, operations, or tactics) identifies a level of performance that has never been achieved before, it should not be promulgated until all of the factors affecting performance have been identified and their complex interrelationships clearly articulated.[31] Wargaming in particular can be a useful way to imbue leaders with systems thinking if the simulations are designed to include second- and third-order effects, feedback loops, and causal delays—to demonstrate to participants that operational successes cannot be turned into strategic victories without accounting for them.[32] Force development and operations more generally can take a lesson from McCrystal's experiences at Joint Special Operations Command and International Security Assistance Force. Joint Staff and Combatant Commands, especially in the Middle

East and Africa, should recognize the shortcomings of the strategy-to-tasks approach to security cooperation in complex conflict situations and should again begin experimenting with more agile or adaptive planning processes.[33]

There will always be a place in military institutions for commanders to expect subordinates to obey orders, and there will always be an expectation by elected and appointed civilian leaders that their decisions will be implemented with their intent intact. Harmonized responses to complex situations are more effective than complex responses are. Whole-of-government implementation is a failed dream. Repeatedly insisting how important it is will never be enough to overcome the many sources of resistance to full interagency coordination if those barriers are never systematically identified in the first place. Shifting from "whole-of-government" to "systemic governance" is therefore a necessity. The Army has the motivation and resources to lead that shift.

The motivation is clear: the Army is expected to work through complex policy systems to make strategies and plan operations, and it is expected to fight battles and build relationships in complex war zones. Army personnel are already positioned throughout the policy system—permanently or on rotation—and on the boundary between the policy system and conflict systems. It is well positioned to influence the broader policy system by planting seeds of change in mindsets and practices that are needed to succeed in complex environments. Its education, training, and doctrine institutions are supposed to be designed to adapt as global conditions change, and the key adaptation today is to become more systemic, more entrepreneurial, and more experimental. That is as true for political leaders

and civilian agencies as it is for military organizations. All will need to solve the dual-system problem before they can expect to protect U.S. interests and contribute to a stable international order in the future.

ENDNOTES - CHAPTER 6

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