ON STRATEGY: A PRIMER

Combat Studies Institute Press
US Army Combined Arms Center
Fort Leavenworth, KS

NATHAN K. FINNEY

Cover design by Dale E. Cordes, Army University Press

On Strategy:
A Primer

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Combat Studies Institute Press
Fort Leavenworth, Kansas

An imprint of The Army University Press

Library of Congress Cataloging-in-Publication Data

Names: Finney, Nathan K., editor. | U.S. Army Combined Arms Center, issuing body.

Title: On strategy : a primer / edited by Nathan K. Finney.

Other titles: On strategy (U.S. Army Combined Arms Center)

Description: Fort Leavenworth, Kansas : Combat Studies Institute Press, US Army Combined Arms Center, 2020. | "An imprint of The Army University Press." | Includes bibliographical references.

Identifiers: LCCN 2020020512 (print) | LCCN 2020020513 (ebook) | ISBN 9781940804811 (paperback) | ISBN 9781940804811 (Adobe PDF)

Subjects: LCSH: Strategy. | Strategy--History.

Classification: LCC U162 .O5 2020 (print) | LCC U162 (ebook) | DDC 355.02--dc23 | SUDOC D 110.2:ST 8.

LC record available at https://lccn.loc.gov/2020020512.

LC ebook record available at https://lccn.loc.gov/2020020513.

2020

Editors
Diane R. Walker and Amanda M. Hemmingsen

Foreword

What is strategy? This rather mysterious quality does not photograph well, if at all. Despite such elusiveness, the concept of strategy enjoys high authority. Plainly, the world at large considers strategy important to the point of essentiality. Strategy is not an optional extra either for aspiring politicians or soldiers. Inherited from the Greeks, the word strategy refers to generals and their generalship, or lack thereof! By way of an economical—but trustworthy—definition, strategy can best be understood as the threat or use of force for political purposes. Many other uses are made these days of the adjective, strategic, but we should not be tempted to stray into considering "business strategy" and suchlike as abominations. When an idea is stolen or borrowed for tasks well removed from its original home (military in this case), it is very likely to lose much of its purpose. It can be linguistically all but lobotomized. Strategy and strategic are concepts with such widespread appeal that they appear almost to invite theft, which commonly results in the word being used inappropriately. Ironically, perhaps, our strategic language itself may require defending. It should be emphatically obvious from the table of contents of this book that we are not interested in strategies for potato farming, or widget selling, important though those enterprises certainly are.

All history is strategic history. This is simply a fact that rests on empirical evidence of the most unforgiving kind. I wish I could cite a strategic quality to some societies but not others. However, strategic concerns do not permit neighbors to decline to play. Review of our all-too-human history reveals quite unarguably that a "Game of Thrones" is so eternal and ubiquitous as to merit classification as unavoidable, at least with any hopes for community security, that is! Looking back on my own academic career of more than fifty years, I taught in three very different countries (Britain, Canada, and the United States) but was never invited, let alone expected, to teach anything closely resembling "strategic history." Too often, the idea of strategic history is simply confused with rather old-fashioned-sounding military history. The critically significant difference between military and strategic history lies in the zone of our experience, where the political and the military realms meet. The focus of attention for a strategic historian has to be the consequences of military threat and action. This certainly is not to say, or mean, that war and its warfare always are, or should be, the principal focus of official attention. However, throughout history there has been a strategic context to the events of particular interest to us. This context will not always be menacing, but usually there has been

some close or distant menace to normal life. We should not forget that the contextual quality to our lives is really heir to generations of functionally similar phenomena. Readers may notice that I identify the vital concept of context as being of inestimable significance. Appreciation of our contextuality enables us to understand much of what we do and what we attempt. American soldiers today need contextual self-awareness to survive the circumstances life will likely throw at them.

There continues to be some disagreement among scholars regarding historical change. Warfare seems especially prone to ill-tempered argument on the distinctly non-trivial issue of what changed, or at least appears to change, and what does not. Students find themselves assailed by expert commentators who disagree on whether this technology is really much of a change from its predecessor. The entire subject of strategy is liable to political capture by the immediacy of the menace of the month. All weapons have context. They will have some particular political and military purpose. Military technology of unusual competence may be fairly described as possessing strategic quality. While the use of weapons must be in the realm of tactics, their consequences in threat and use may warrant encryption as strategic. It is important to remember that strategy is made only from tactical and operational behavior; it has no other ingredients. It is little short of amazing to realize that relatively few among the host of strategic theorists and other commentators truly grasp the nature, including the limits, of our subject. The adjective strategic should apply, or not, solely to the consequences of action that we understand strictly as the realm of the tactical. Threat and actual behavior can only be judged strategic in the vital sense of its consequential effect. Incorrect use of the noun and adjective, strategy and strategic, unavoidably clouds what ought to be kept clear, at least at the important branch of understanding in principle. We think about relevant theory in an orderly fashion, specifying ascending/descending steps in a clear hierarchy of threat and actual violence. It is commonplace for us to resort to PowerPoint presentations of the character of the escalation. Typically, policy—and the politics that provide the stimuli necessary for it—are placed at the summit of the relevant pyramid of command authority, followed, nominally at least, by strategy; then strategy, duly in its logical turn, is done by operations and tactics. In historical practice, students should be alert to the abundance of evidence that suggests policy and its executive strategy were not always present or significant.

There is an essential unity to the several characters of thought just cited, that all too often either passes comprehension or simply is ignored. Indeed, we can become so enamored of our favorite neat organization of

theory and forget what we are striving to explain. It is desirable and arguably necessary to appreciate the true unity of our subject. To be blunt about it, soldiers—knowingly or not—simultaneously do politics/policy, strategy, operations, and tactics. They may only be aware of the tactical component that could place them at lethal risk this afternoon; but, in truth, context is always the compound product of politics, strategy, and tactics. Possibly of greatest relative significance of all, soldiers at the distinctly sharp end of warfare must be vulnerable to harmful inaccurate assumptions. To risk being unduly obvious, it is necessary to remember that every layer of action and command depends critically on the rest. The humble infantry soldier is essential fuel for the sound and purposeful working of the whole engine of warfare—and it was always thus!

Scholars have differed, as they are inclined to do, over changes in strategic history. Is apparent mastery of one historical period mastery of all? This is an unusually important question to answer. To some—probably many—scholars, the question can appear close to ridiculous. After all, the evidence of surviving artifactual detail is surely overwhelmingly persuasive. Nonetheless, many scholars have discovered that their own thoughts and behavior were not unprecedented, even if contemporary figures were unaware of the much older discoveries. The contemporary would-be strategist has a difficult choice to make. While knowing with acceptably high confidence what, say, Julius Caesar did, he is much less confident about why he did it. The problem here is one of context. While we should be capable of understanding Caesar's circumstances and character, we do not and cannot know how he processed all these details of risk and apparent opportunity. Religious and generally moral assumptions are especially challenging to assess, since in many cases even the subjects themselves did not know that they were held and likely to exert executive authority over behavior. Nonetheless, we should try to understand the choices people had to make in our past.

Some historians have speculated on the implications of seeing time as a great and unending stream. We have to notice, also, that the process of historical change occurs in large part because of mighty oppositions. The military historian should know that all success—personal, national, and technological—has some effect through the encouragement of opposition.

The industrial and scientific revolutions of the early nineteenth century bequeathed a tidal flow of new weapons to succeeding generations, as well as vehicles to take them to war. In the past 100 years, we have been blessed and cursed by the achievement of manned flight, the weaponization

of atomic physics, space satellites, and most recently the electronic marvels of cyberspace. All, alas, are subject to the theory and occasional practice of strategy. This, once again, is dominated by the adversarial politics from human nature as we continue, endlessly I hope, to struggle for security.

To address all of these elements of strategy, the following chapters strive to take into account the descriptive power of strategic history, the importance of tactical and operational actions on strategy, the role of warfare's changing character, and, more than anything, the role of individuals in the development of strategy. This book's goal is to provide the basics of strategic theory—tempered with the practical implications of working on strategy—to support the continuing professional development of those new to the discipline of the craft.

Colin S. Gray
Wokingham, England
May 2019

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Preface

Calvin: *They say the world is a stage.*
Calvin: *But obviously the play is unrehearsed and everybody is ad-libbing his lines.*
Hobbes: *Maybe that's why it's hard to tell if we're in a tragedy or a farce.*
Calvin: *We need more special effects and dance numbers.*[1]
—From *The Essential Calvin and Hobbes*

I recently came across the old Calvin and Hobbes cartoon quoted above, published twenty years before my book, *Strategy: A History.* The boy and his tiger anticipated my book's closing thoughts brilliantly, in which I discussed strategy in terms of scripts and the advantage the dramatist has over the strategist in controlling the narrative. I concluded, "The dramatist knows from the start whether she is writing comedy or a tragedy; the strategist aims for comedy but risks tragedy."[2] The distinction between comedy (or farce) and tragedy, originating in ancient Greece, is not one between the amusing and the miserable, but instead one between how conflicts are resolved. With comedy, the resolution is satisfactory and the outlook positive. With tragedy, the main character faces a dismal prospect even if a more general social equilibrium is restored. Tragedy follows a failed attempt to change the status quo.

Strategies are narratives about the future. A narrative devised for the stage provides each character's lines. From the opening scenes, and whatever the twists and turns in the plot, the story moves inexorably to a predetermined conclusion. Dramatists control all the characters in their stories. This is something about which strategists can only dream. Even though they appear in leading roles, there are other actors—sometimes a large number; all have their own ideas about how the plot might develop as well as their own scripts. The struggle will be about whose script prevails. That is why it cannot be known at the start whether the strategist has set in motion a comedy or a tragedy. Good strategy will involve following lines that can anticipate the lines of others, and so can bring the apparently contradictory scripts into some sort of alignment. But even actors with good lines that have been well-rehearsed must deal with the unexpected and the downright disruptive. Eventually, as Calvin observes, everybody will be ad-libbing.

By its nature, therefore, strategy addresses situations that are confusing and processes that can have a number of different outcomes—more of an improvised drama rather than a reliable plan. This does not mean

that all strategies are doomed to end in chaos or failure. Obviously, that is not the case. Two conditions might encourage a strategist to believe in success: a goal that is well within reach and superior resources. If these two conditions are met, then the strategist will open with the best lines—founded on hard capabilities. The words will have credibility, and actions will count. Those with superior resources can even afford to make mistakes, throw whatever is needed at a problem, and adjust to new demands. They, therefore, need to improvise less. Successful strategies often depend not so much on being clever or imaginative but simply on sufficient strength that can be efficiently applied to overcome any opposition. There are, of course, examples of superior resources being squandered or misdirected; the requisite efficiency may not always be achieved.

Strategists who prefer the dramatic touch may find this boring and soulless, but trying to be too clever can be counter-productive—confusing one's own side while creating opportunities for opponents. In later Cold War year debates on the relative merits of attrition and maneuver, relying on superior firepower was dismissed as an accountant's approach compared with the artistry of a brilliant flanking movement, even though far more could go wrong with the latter. Calvin puts himself on the side of extra drama with his call for "special effects and dance numbers." In this context, the phrase is flippant; then again, not that long ago "shock and awe" featured prominently in strategic discourse. The substantive point is that spectacle and distraction may be required because the script's opening lines are too weak. Creating the impression of great energy and activity, of more impressive capabilities, might encourage a stronger opponent to doubt whether its power would be as great in practice as assumed. This suggests a spectrum of strategies with raw, overwhelming power at one end, befuddling special effects on the other, and lots of ad-libbing in the middle. Strategies dependent on special effects and dance numbers are more likely to fail because they work by misleading opponents about the underlying balance of power. American strategists may be inclined to the theatricality of maneuver, but what makes movement and victory possible is far superior firepower.

Regardless of whether they intend to include some special effects and dance numbers, strategists are bound to focus on the opening scenes. They are most in control as the first lines are spoken and starting moves made. This is the moment when they have the greatest confidence in their underlying assumptions and the causal chains they hope to set in motion. This is when they try to catch their opponent by surprise, creating a lasting advantage—still imagining an end game in which a depleted and demoralized

opponent capitulates. One or two moves on, the confidence may not be as strong. The first moves may not have been as decisive as hoped; the opposition may have come up with surprises of their own. Even more alarming, the opening scene may belong to other actors; the opposition may have taken the initiative. Strikingly, so much writing on strategy is written from the perspective of those taking the initiative, expecting to change the existing state of affairs for the better. Yet strategies are as necessary, and more desperate, in circumstances where the immediate challenge is to defend or even retreat and recover lost ground.

In circumstances where the opponent has taken the initiative or one's own initiative has faltered, there is no course other than improvisation—ad-libbing to adapt to an unanticipated situation. This might risk panicky and random actions without obvious benefit. Improvisation depends on quick assessments of situations and options. This is also the real test of the strategist. With superior resources, the original strategy should include spare capacity for contingencies as well as steps to be followed should they occur. If resources are stretched and a significant change of course and new priorities is necessary, however, demands on the strategist become much greater.

In the end, strategy is an executive or command function. Many people described as strategists are at most advisors. They are not accountable for the success or failure of what they propose. It is easier to make the case for bold gambles when you will not be the one to answer for the consequences. This is not to belittle the importance of thorough and elaborate staff work to prepare for moves when there is time to plan, or close advisors who will be present when big decisions are made. But the only true strategist is still the one deciding what actions are to be taken when, by whom, and to what objectives. This is not only a matter of accountability but also of the range of considerations that those at the top must address. For them, strategy on one issue must be balanced by strategy on another, a crisis in one part of the world against an existing conflict elsewhere, the demands of the short-term crisis against the demands of long-term finances, the need to address external challenges against the requirements of domestic political order.

The need to accommodate distinctive interests, sometimes contradicting and making overlapping demands on available resources, means that leaders may make decisions that at times seem astrategic—with a deliberate lack of specificity, keeping options open while avoiding unequivocal commitments. At some point, choices will need to be made, but until that

point it might be better if others can only speculate and opponents perhaps reveal a bit more of their own strategies. Complexity, uncertainty, fluidity, and ambiguity are often assumed to make strategy more difficult. For a capable strategist, however, they open up opportunities as well as new possibilities. This is the difference between having a strategy and acting strategically, between a guide to action and a way of thinking, between a noun and a verb.

The regular focus on good process with strategy is bound up with the idea of strategy as the formal conclusion of a period of deliberation and consultation. Most organizations, military and civilian, produce documents labelled as a strategy at regular intervals, often when previous documents no longer seem valid or in response to a new and perplexing issue. These documents set out goals, make assumptions, evaluate alternative courses of action, and propose next steps leading to a full implementation plan. If produced as public documents, they are apt to lose their hard edges and sense of risk, becoming organizational propaganda with a short half-life. It may be that this all that is required. The organization or country will gain some sense of where and how it relates to the environment and challenges that may develop in the future, as well as its capabilities to meet them.

But this is strategy of a very general kind. The forms of strategy that are closer to dramas will be much more specific. In these circumstances, the audience for the strategy document may be small, private, and senior and the problem one that will hold their attention. Then the document will get the strategic discussion going. It may be a high-level briefing, proposing a way forward but also prompting questions to ask and leading to new options being explored. A prepared strategy may make it possible to think strategically but by itself is unlikely to be sufficient. The essential conceit of strategy is that by applying some time-tested and wise principles, difficult situations can be kept under control. The reality of most situations which require strategy is that control is elusive. Instead of constantly referencing a planning document, acting strategically means addressing the problem at hand with the resources available. It requires all the qualities assumed to be necessary when writing out a strategy—the ability to bring together ends, ways, and means based on the best intelligence and a realistic assessment of the options. But it also requires the ability to extemporize, to move quickly—even intuitively—because of a sudden opportunity or danger. It may not always be helped by special effects and musical numbers, as per Calvin (although theatricality may have a place), but it certainly will require the ability to ad lib.

Though some authors of the following chapters may not agree with this characterization of strategy and strategists, this intensive discussion on the theory of strategy and its place in the national security space opens up the debate and provides valuable insights into strategy as practice. For those who expect to be in positions where they must act strategically, these pages will provide valuable ideas about how to think through the challenges and steps to take when they are "on the stage."

Lawrence Freedman
London, England
July 2019

Editor's Note

> W*e can never predict who will be in the key positions of strategy formulation and execution in a time of crisis. . . . We need young strategists because we need senior strategists, and we need a lot because when the time comes we need* enough.[3]
>
> —General John R. Galvin

This volume came about as correspondence between Army officers discussing the need for a simple, easy-to-understand primer on the basic ideas and practical uses of strategy. What was originally conceived as a self-published handbook by a few writers expanded to a full book as continued conversations brought more and more subject matter experts into the project. The result is a book written by a diverse cast representing multiple nations, with military officers from multiple services and academics of various disciplines.

O*n Strategy* is tailored for mid-career professionals working at the strategic level for the first time, including civilians entering the national security profession and military officers transitioning into strategy from jobs at the tactical level. The structure of the book is designed to walk readers step-by-step through the various aspects of strategy. Part I: The Basics (chapters 1 through 8) addresses the basics of strategy, from its component parts and history to its role in decision-making. Part II: The Strategist (chapters 9 through 11) provides detail on what is required as a strategist, including the practical aspects of the job and characteristics that contribute to success. Finally, Part III: Advanced Concepts (chapters 12 through 19) begins elevating the reader's understanding of more advanced concepts in strategy, from its application in different contexts to the future of strategy. Additional readings are provided at the end of each chapter for further study.

We dedicate this book to Professor Colin S. Gray, who passed away on 27 February 2020. You will see his impact on strategy and American strategists throughout this book. It is no accident. Gray was a prolific author and mentor to those thinking about strategy, and his work was the first I encountered as a new young strategist that gripped my imagination on strategic theory. I was lucky enough to share a place with him on the editorial advisory board for an international journal on strategy, and he was always kind in answering my questions via email, including acceding

to write a foreword for this book. The world is certainly poorer without Gray's presence, but his robust body of work will continue to shape strategists for years to come.

With that, we hope you enjoy engaging the material in this book as much as we did putting it together.

Nathan K. Finney
Durham, North Carolina
March 2020

Notes

1. Bill Watterson, *The Essential Calvin and Hobbes: A Calvin and Hobbes Treasury* (New York: Andrews McMeel Publishing, 1988).

2. Lawrence Freedman, *Strategy: A History* (Oxford: Oxford University Press, 2013), 630.

3. John R. Galvin, "What's the Matter with Being a Strategist?," *Parameters* (Winter 2010–11), 84.

Part I:
The Basics

Chapter 1
A Brief Introduction to Strategy

Nathan K. Finney and Francis J. H. Park

> *Those who excel at the operational level will get their chance at the strategic, general level of operations. Most will bring their tactical baggage along, over-emphasize the weapons and techniques they learned as junior officers, and plan for victory. Some will transcend the operational level and rise to strategist.*[1]
>
> —Everett Dolman

Individuals newly exposed to strategy often face difficulties trying to grasp the basis of the subject and how it works. While it is outwardly similar to the logic of the tactics with which they are most recently familiar, it is not the same. Therefore, those desiring to become practitioners of strategy must develop a fundamental understanding of the topic, most especially its difference from tactics and how it translates those tactics into achievable political objectives. While tactics provide the "how," strategy provides a view to the "why" that bounds the intent for military actions and the limitations on the use of military power.

Every military action has potential strategic implications, whether positive or negative. In a military context, commanders and planners attain strategic objectives through planning and executing operations and tactics. Militaries do not undertake tactical actions simply for their own sake, but rather to achieve objectives that can be translated into the desired political conditions. Tactical actions, even successful ones, can also have negative strategic implications. This paradox is exceedingly apparent today, whereby modern media coverage and the information environment have intensified both the awareness of and sensitivity toward any military action. The "distance" between local or tactical actions and the effects of these actions at the strategic or political level may be very short. While tactical actions have their own guiding logic driven by battlefield geography and tangible physical objectives, sometimes a seemingly unimportant action by any participant (as senior as a general or as junior as a private) can have a powerful political impact.[2] However, while discrete tactical actions can have strategic consequences, whether intended or unintended, a simple aggregation of tactical actions does not in itself constitute a strategy. Neither is a collection of operations plans a strategy.

At its most fundamental sense, strategy is the effective translation of military means (force or the threat of force through military capabilities)

to political ends (desired policy or political condition). The military does not act for its own purposes; the application of military force is ultimately in the pursuit of political goals. Strategy is the method for translating those political goals into tangible military action.

What Is Strategy?

The origins of "strategy" in its contemporary usage are derived from Paul Gédéon Joly de Maizeroy's reference to "*la stratégique*" in 1771, the general meaning of which has remained the same since.[3] Joly de Maizeroy, in a translation of the writings of Byzantine emperor Leo VI, noted that "in order to formulate plans, strategy studies the relationships between time, positions, means, and different interests, and takes every factor into account . . . which is the province of dialectics, that is to say, of reasoning, which is the highest faculty of the mind."[4] A German translation of Joly de Maizeroy's book included a description of strategy as "sublime," suggesting that strategy required a degree of reason rather than adherence to rules.[5]

A useful starting point for newcomers to strategy appears in current American joint doctrine, which defines strategy as "a prudent idea or set of ideas for employing the instruments of national power in a synchronized and integrated fashion to achieve theater, national, and/or multinational objectives."[6] That same doctrine defines the strategic level of war as "the level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) strategic security objectives and guidance, then develops and uses national resources to achieve those objectives."[7] This definition highlights the role strategy plays in determining the outcomes for a state.

Another early definition of strategy by B. H. Liddell Hart described the discipline as "the art of distributing and applying military means to fulfill the ends of policy."[8] Colin Gray provided a broader description of strategy in functional terms, namely "the direction and use made of means by chosen ways in order to achieve desired ends."[9] Strategy seeks to balance the projected employment of resources against the availability of those resources to achieve the goals of a state, which is broader than just the use of military force alone.

One of the most commonly accepted frameworks for strategy is the one that Arthur F. Lykke Jr. and others at the US Army War College developed and taught from the 1980s to the present. This framework, which has gained wide acceptance elsewhere in the US government and in foreign militaries, focuses primarily on the employment of instruments of national power in the pursuit of political (rather than purely military) objectives.[10]

Lykke saw strategy within a comprehensive continuum that encompassed the entire political environment, but that strategy had to be practical enough to enable a strategist to act toward achievement of the political goals involved, using four elements:

• *Ends (objectives)* explain "what" is to be accomplished. Ends are objectives that, if accomplished, create or contribute to the achievement of the desired end state at the level of strategy being analyzed and ultimately serve national interests.

• *Ways (strategic concepts/courses of action)* explain "how" the ends are to be accomplished by the employment of resources. The concept must be explicit enough to provide planning guidance to those who must implement and resource it. Since ways convey action, they often include the use of a verb, but ways are statements of "how" not "what" in relation to the objective of a strategy. A simple test for a way is to ask, "in order to do what?" That should lead to the real objective. Some concepts are now commonly accepted and their names have been given to specific strategies (e.g., containment, forward defense, assured destruction, forward presence). But note that in actual practice these strategies have specific political objectives and forces associated with them and the concept is better developed than the short title suggests.

• *Means (resources)* explain what specific resources are to be used in applying the concepts to accomplish the objectives. Means are described through the use of nouns, vice verbs, and can be tangible or intangible. Examples of tangible means include forces, people, equipment, money, and facilities. Intangible resources include things like will, courage, and intellect.

• *Risk* explains the gap between what is to be achieved and the concepts and resources available to achieve the objective. Since war is a human endeavor that incurs chance and friction, and there are never enough resources or a clever enough concept to assure 100 percent success in the competitive international environment, there is always risk in any military operation. The strategist seeks to minimize this risk through the development of the strategy—the balance of ends, ways, and means.[11]

In practice, Lykke's model is hardly as linear as a balance of ends, ways, means, and risk might suggest, and the notion of risk is often overlooked or given only cursory treatment. However, vetting a strategy realistically for risk is critical. An honest assessment of the other elements of a strategy will highlight where that risk exists.

Instruments of National Power

The US Department of Defense currently defines the instruments of national power as tools used by a state "to apply its sources of power, including its culture, human potential, industry, science and technology, academic institutions, geography, and national will," articulated as diplomatic, information, military, and economic instruments.[12] While other studies of strategy and other non-Western countries have recognized additional forms of national power such as legal, intelligence, and financial, those other forms are derivatives of the four that represent the primary basis for the practice of strategy.[13] These instruments are most effectively employed in combination to gain leverage to attain strategically decisive outcomes.

The diplomatic and military instruments of national power are typically directive in their employment, in that policymakers and their subordinates can direct the employment of these instruments towards the interests of a state. Diplomacy relies on other instruments of national power to provide credible coercive value, whether by military force or by economic sanction, while military power encompasses the available resources and actions taken in support of national security goals by the military and its associated organizations to coerce or compel another state or non-state actor to submit.[14]

The other two instruments of national power are less subject to directive control. Of the two, the economic instrument of national power is influenced by entities like the Department of the Treasury, which acts as a steward of American economic and financial systems, but also by international financial institutions and the private sector, which the US government does not directly control. The informational instrument of national power is the one that is the hardest to manage in practice, as it encompasses multiple components that do not lend themselves to centralized control.[15]

Strategy in Context

In its current interpretation, strategy fits into a continuum ranging from policy down to tactics. Strategy—especially military strategy—is a servant to the goals that are necessarily a function of national policy, which the US Department of Defense defines as "a broad course of action or statements of guidance adopted by the government at the national level in pursuit of national objectives."[16] In its practice, policy is an expression of politics within the external security environment, often bounded by the national interests at hand. While military forces do not directly make policy in American practice, military leaders certainly exercise influence and must be cognizant of the dictates of that policy. Eliot Cohen described an "unequal

dialogue" of civilian leaders dictating terms to military professionals that mostly execute civilian policy.[17] Colin Gray termed strategy as a "bridge" or negotiation, whereby the strategic situation dictates a back and forth evolution of dialogue among civilian policymakers, military professionals, and other national security stakeholders such as the State Department.[18] In general, policy is expressed as an action to be taken or a condition to be achieved; statements of policy rarely provide clear statements of strategic objectives that would achieve that condition. When phrased as ends, many policy statements border on aspirational in their tone, requiring significant discussion and interpretation as to how they will be achieved.[19]

However, for militaries that are subordinate to civilian authority, strategists are obligated to develop strategies bounded by the dictates of policy guidance. As a result, the relationship of policy to strategy is inherently unequal; defective policy bolstered by even the most brilliant identification of ends, ways, and means is still defective.[20] While policy necessarily governs strategy, good strategy that is consonant with policy goals can provide civilian leaders a clear statement of the full cost of that policy guidance.

As discussed in the opening of this chapter, while strategy and tactics may at first appear to be similar, their underlying logic is fundamentally different. Classically, strategy addresses the translation of national security objectives into a balance of ends, ways, and means. It is principally focused on doing the "right" thing. In contrast, tactics focus on employing the resources at hand (typically forces on the battlefield) to accomplish the tasks assigned it—with the premise of doing things "right."[21] Bridging the two normally requires the conduct of operational art, which translates the abstractions of strategy into concrete tactical direction.

The basis of that fundamental difference rests in how strategy and tactics treat assumptions. Decisive tactical execution entails deliberate battlefield logic, reacting to events in the operational environment using a set of principles and procedures that are generally considered to be norms. In short, the basic assumptions that underpin tactics are considered to be right until proven wrong, in which case the tactics do not work as intended and therefore change to suit a changed situation—a statement of *what*. However, assumptions in strategy focus on the intellectual foundations for understanding the environment itself—a statement of *why*.[22] Unlike tactics, every one of those assumptions is at risk of being called into question. It is for this reason that true strategic "doctrine" does not exist. Context is king; every choice is contingent on the specific environment. The myriad circumstances that strategists must account for are not generalizable into a playbook, which doctrine provides at the tactical level.

While good tactics give options to strategy, even the most skillful tactician cannot rescue bad strategy. That was the point made at the beginning of *On Strategy: A Critical Analysis of the Vietnam War,* in which Harry Summers notes that the North Vietnamese never defeated the United States on the battlefield—a perspective that a Vietnamese counterpart noted was irrelevant.[23]

One of the most practically useful distinctions between tactics and strategy appears in *Pure Strategy,* in which Everett Dolman noted that the "tactical thinker seeks an answer," whereas "the strategist will instead search for the right questions."[24] Instead of tactics' pursuit of culmination (or victory, as Dolman also wrote), strategy seeks a favorable continuation of events. In that sense, so-called strategic "end states" are not termination; instead, they are really transition points to the next desired continuation of events whereby a country hopes to be in a position of advantage when compared to its adversaries.

Strategy in Practice: National Strategy

In general, strategy divides along national and theater lines. The former is focused on the role of the nation in a geopolitical context, while the latter addresses specific interests in specific areas of the globe. It is important to distinguish between national and theater strategies, as they are developed in the pursuit of different ends. In some cases, those strategies that are unique to a particular military campaign may take on traits of both. Within the US government, the standing document to translate national policy to national strategy is the *National Security Strategy* (*NSS*), which is produced by the National Security Council and approved by the president under the provisions of Title 50, section 3043, of the US Code (in short form, 50 USC §3043). The *NSS* articulates the national interests of the United States, and outlines some broad policy goals to support those national interests. It provides the basis for the departments of the Executive Branch to develop their own strategies.

The strategy for the Department of Defense is, appropriately enough, called the *National Defense Strategy* (*NDS*), which is produced by the Office of the Secretary of Defense and approved by the secretary of defense under the provisions of 10 USC §113. The *NDS* draws from the national interests and broad policy goals in the *NSS* to provide a set of priority missions for the department, to include those deemed important enough to drive the size of the force, which in turn helps determine what types of units are developed or maintained to meet that overall force size. The *NDS*

guides other strategies for employing the force and developing the future force. As a result, the military services pay especially close attention to the *NDS*, because it ultimately drives their budget submissions.

The Joint Staff produces the *National Military Strategy* (*NMS*), which is signed by the chairman of the Joint Chiefs of Staff pursuant to 10 USC §153. The *NMS* describes how the military will support the objectives as articulated in the *NSS* and the *NDS*. The *NMS* is the chairman's expression of the ends, ways, and means that the military must take to accomplish its assigned missions, and it also provides the basis for the Chairman's Risk Assessment, which determines the risks to national interests and the missions in the *NMS*. Uniquely, the chairman is not in the chain of command and does not exercise authority over the services or the combatant commands. Instead, the *NMS* and other Joint Staff documents represent military advice independent of the chain of command to fulfill the chairman's role as the uniformed military advisor to the secretary of defense and the president.[25]

Strategy in Practice: Theater Strategy

Below the national level, combatant commanders (CCDRs) develop their theater strategies in accordance with strategic ends as approved by the secretary, through the chairman, and detailed in the Unified Command Plan, the *NDS*, the *NMS*, and the Joint Strategic Campaign Plan.[26] For their geographical areas of responsibility or domains, CCDR strategies (formerly referred to as theater strategies) describe ways and means to attain those secretary-approved ends, bounded by the CCDR's assessment of risk. Those strategies provide the basis for campaign plans, which translate the ends, ways, means, and risk in the CCDR strategy into tasks to subordinate commanders within the region or domain. The campaign plan is the first expression of operational art at the theater level by a CCDR.

In some cases, joint task forces, which are established subordinate to a combatant command, may also have their own strategies and campaign plans.[27] In the event of missions that take on national importance, there may be national strategic guidance specific to the mission that supplements the guidance expressed through the combatant command. This may come from the National Security Council in the form of a document such as the 2005 *National Strategy for Victory in Iraq,* or a speech, such as a 1 December 2009 presidential address at West Point that set the parameters for an Afghanistan strategy. Ideally, the joint task force would be able to take the guidance provided and develop its own strategy and campaign

plan internal to its own joint operating area. In some cases, if there is a time-critical need to outline the strategy for an operation, the joint task force may have to infer that policy or strategy guidance.

The Limits of Strategy

The dependence of strategy on policy creates a number of challenges for the strategist. Tensions can and do develop between the demands of policymakers, who must factor in both domestic and foreign political considerations, and the reluctance of uniformed strategists to provide options without a full understanding of the costs, risks, and benefits for each option. Strategists may find themselves at the crux of what Janine Davidson, a former deputy assistant secretary of defense, described as a principal-agent problem, whereby a principal policymaker must delegate implementation of a policy to agents who have their own interests and agendas.[28] The principals and agents frequently offer different perspectives on how to attain policy goals.

One traditional view to the interactions between policy and strategy has become institutionalized in joint doctrine: that military options are best produced when civilians provide fully formed national policy guidance. That definitive policy guidance presumably allows the military to develop options in significant detail for force employment. Despite some critique as to the failure to create such definitive guidance and its impact on the last decade of strategy and foreign policy, political considerations may preclude the effective formulation of policy guidance, or worse still, prevent the communication of policy in any useful form.[29]

Instead, strategists must be prepared to develop strategy even in the absence of published policy. Those strategists will face a paradox between policy uncertainties and the need to express strategy with clarity to the tactical force, especially in ongoing operations. The best a strategist can hope for is an educated guess as to what might constitute policy guidance even when none is forthcoming, then develop strategy against that nominal guidance. Maintaining a dialogue with counterparts who may be privy to policy considerations becomes paramount, as it will better inform that educated guess.

Developing a strategy in the absence of policy guidance could be construed as military leaders impinging on the equities of policymakers. At the same time, the absence of policy guidance makes it virtually impossible to develop a coherent strategy of any kind. Both sides of the policy-strategy divide must be cognizant of the relationship between the two

to empower both. Ultimately, it is incumbent on strategists, and especially military strategists, to provide appropriate context for the conduct of operations and the translation of that strategy into purposeful action.

Conclusion

Any understanding of strategy requires knowing what it is, where it fits, and the form it takes. Translating political guidance into military actions requires a method for taking the demands of policy and operationalizing that guidance into tactical action. While strategy may take various forms, the model most commonly used in American military thought is Lykke's construct of ends, ways, means, and risk. While that construct seems simple enough, its application is hardly linear and rarely simple considering the nuances that come with its application, whether at the national or theater level.

Strategy and tactics, while seemingly similar, are merely cognates of each other and not interchangeable. Competent strategists can and must distinguish between the logic that governs strategy's selection of choices and the focus on task accomplishment that is at the heart of tactics. Knowing the dictates of strategy will guide tactics to the net strategic effect that will make those tactics relevant.

Further Reading

• Everett Carl Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (London: Frank Cass, 2005).

• Lawrence Freedman, *Strategy: A History* (New York: Oxford University Press, 2013).

• Colin S. Gray, *The Strategy Bridge: Theory for Practice* (Oxford: Oxford University Press, 2010).

• Oliver Prescott Robinson, *The Fundamentals of Military Strategy* (Washington, DC: US Infantry Association, 1928).

• Harry G. Summers Jr., *On Strategy: A Critical Analysis of the Vietnam War* (Novato, CA: Presidio Press, 1982).

Notes

1. Everett Carl Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (London: Frank Cass, 2005), 161.

2. The photos taken at the military detention facility at Abu Ghraib, Iraq, in 2004 are a particularly infamous example.

3. Colin S. Gray, *The Strategy Bridge: Theory for Practice* (Oxford: Oxford University Press, 2010), 4.

4. Lawrence Freedman, *Strategy: A History* (New York: Oxford University Press, 2013), 73. Further treatment of the history of strategy will appear in Chapter 2.

5. Freedman, 73.

6. Joint Chiefs of Staff, Joint Publication (JP) 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: Government Printing Office, 2012, amended 15 February 2016), 227. Chapter 6 will discuss further how strategy is captured in doctrine.

7. Joint Chiefs of Staff, 227.

8. Basil H. Liddell Hart, *Strategy* (New York: Meridian, 1991), 321. Gray defined policy as "the political objectives that provide the purposes of particular historical strategies." Gray, *The Strategy Bridge*, 18. Policy is a product of politics; it provides the basis for the political objectives that underpin strategic ends.

9. Gray, 17–19.

10. H. Richard Yarger, "Toward a Theory of Strategy: Art Lykke and the U.S. Army War College Strategy Model," in *The U.S. Army War College Guide to National Security Issues*, vol. 1, ed. J. Boone Bartholomees Jr., 5th ed. (Carlisle Barracks, PA: Strategic Studies Institute, US Army War College, 2012), 45.

11. Yarger, 45–49.

12. Joint Chiefs of Staff, Joint Publication (JP) 1, *Joint Warfare of the Armed Forces of the United States* (Washington, DC: Government Printing Office, 2013), I-11.

13. J. Boone Bartholomees Jr., "A Survey of the Theory of Strategy," in Bartholomees, *The U.S. Army War College Guide to National Security Issues*, 18–19.

14. Joint Chiefs of Staff, JP 1, I-11, I-13. The distinction between "coerce" and "compel" comes from Daniel Byman and Matthew C. Waxman, *The Dynamics of Coercion: American Foreign Policy and the Limits of Military Might* (New York: Cambridge University Press, 2002), 3–9.

15. Joint Chiefs of Staff, JP 1, I-11.

16. Joint Chiefs of Staff, GL-9.

17. For the "unequal dialogue," see Eliot Cohen, *Supreme Command: Soldiers, Statesmen, and Leadership in Wartime* (New York: Anchor Books, 2003).

18. For the "bridge" or "negotiation," see Gray, *The Strategy Bridge.*

19. An example of such an aspirational goal appeared in the 2005 *National Strategy for Victory in Iraq,* which was actually a policy statement that articulated, among others, a longer term goal of an "Iraq that is a partner in the global

war on terror and the fight against the proliferation of weapons of mass destruction, integrated into the international community, an engine for regional economic growth, and proving the fruits of democratic governance to the region." George W. Bush, "National Strategy for Victory in Iraq," 30 November 2005, 3.

20. Cohen, *Supreme Command*, 208–24.

21. Col. Dennis M. Drew and Dr. Donald M. Snow, *Making Strategy: An Introduction to National Security Processes and Problems* (Maxwell Air Force Base, AL: Air University Press, 1988), 20–21.

22. Hal Brands, Peter Feaver, William Inboden, and Paul D. Miller, *Critical Assumptions and American Grand Strategy* (Washington, DC: Center for Strategic and Budgetary Assessments, 2017), 1.

23. Harry G. Summers Jr., *On Strategy: A Critical Analysis of the Vietnam War* (Novato, CA: Presidio Press, 1982), 1.

24. Dolman, *Pure Strategy*, 4–5.

25. The expression "best military advice" has drawn criticism from scholars and practitioners, most notably Mara Karlin and Jim Golby in "Why 'Best Military Advice' Is Bad for the Military—and Worse for Civilians," *Orbis* 62, no. 1 (2018): 137–53. Rather than stipulating a quality of such advice, this chapter simply uses the term *military advice* to indicate uniformed input to civilian policymakers.

26. The abbreviation COCOM refers to a command authority specified in Joint Publication (JP) 1, *Doctrine of the Armed Forces of the United States,* not the individual (a combatant commander, abbreviated CCDR) or the organization (a combatant command, abbreviated CCMD). While a common practice, using COCOM to refer to a CCDR or CCMD is incorrect.

27. Historical examples of joint task forces with responsibilities for strategy have included Military Assistance Command, Vietnam; Multi-National Force-Iraq; and United States Forces, Afghanistan.

28. Janine Davidson, "Civil-Military Friction and Presidential Decision Making: Explaining the Broken Dialogue," *Presidential Studies Quarterly* 43, no. 1 (March 2013): 131. Principal-agent theory is covered broadly in the civil-military literature, most comprehensively in Peter Feaver, *Armed Servants: Agency, Oversight, and Civil-Military Relations* (Cambridge, MA: Harvard University Press, 2003).

29. Such critiques come from many commentators but most effectively (and prolifically) Andrew Bacevich, who has written multiple books about the failure of modern American foreign policy and the lack of clear strategic thinking on behalf of the United States. See, for instance, *Twilight of the American Century* (Notre Dame, IN: Notre Dame Press, 2018) and *The Age of Illusions: How America Squandered Its Cold War Victory* (New York: Metropolitan Books, 2020).

Chapter 2
A Brief History of Strategy

Scott T. Davis

> *The Romans recognized potential difficulties in advance and always remedied in time. They never let problems develop just so they could escape a war, for they knew that such wars cannot be avoided, only postponed to the advantage of others*.[1]
>
> —Niccolò Machiavelli

Familiarization with the history of strategy sets those new to the concept on firm footing when they encounter strategic challenges while serving on combatant command, allied, joint, or interagency staffs. Service at a strategic-level headquarters exposes mid-career professionals to complex activities such as campaign planning, assessing military operations, interpreting ambiguous national policies into military objectives, preparing Congressional testimony, defining rules of engagement, knowing allied and partner caveats, supporting international negotiations, or conducting defense support to civil authorities. Unfortunately, no single checklist, publication, or amount of training can equip rising officers and defense professionals to effectively deal with these dynamic issues.

A grounding in the history of strategy, however, will help those new to the discipline appreciate the linkages between issues of the day, the bigger picture, and their relationships, past and present, with political and military leadership. What follows is a very brief survey of early contributions to the history of strategy, a couple of thousand years prior to Carl von Clausewitz and his monumental *On War*. While not specifically covered in this chapter, it is recommended those new to strategy should view this topic as more than just a survey of key thinkers in the discipline of strategy, but instead a more detailed examination of "strategic history." Colin Gray defined strategic history as "the history of the influence of the use of force" and related further to Clausewitz in that "strategy refers to the use made of force and the threat of force for the ends of policy."[2] Strategic history explores war, warfare, strategy, and political and military relationships. It also integrates several contexts: political, socio-cultural, economic, technological, military strategic, geographical, and historical.[3] This chapter is not intended as a comprehensive review of the history of strategy or strategic history in general. In the simplest terms, it is a snapshot of what exists, its significance, and how it could apply in one's daily work.

Ancient Traces

The earliest strategies were likely employed for survival and evolved to suit societal needs. Neolithic communities, for example, transitioned from hunting and gathering to pursuing agriculture, domestication, and coordinated defense.[4] Organized states appeared 5,000 to 7,000 years ago and city-states were evident in Southern Mesopotamia by the fourth millennium.[5] Threatened by natural disasters and subject to perpetual insecurity, pressure for greater centralization intensified.[6] Civilizations like the Babylonians and Egyptians centralized political and religious systems; and in the coming millennia, empires and eventually states used organized political violence to gain and maintain power.[7] Our understanding of ancient strategy derives from traces found in oral traditions recorded later, save a few precious written exceptions.[8] Despite a lack of clear evidence, it is logical to consider that leaders in ancient civilizations formulated strategies for war, similar to the Lykke model mentioned in Chapter 1, by balancing ends (what and why), ways (how), means (resources and tools), and risks to greater or lesser extents.

Classical Foundations, West and East

Hellenic civilization imparted much upon Western history and strategy. Homer's *Iliad* and *Odyssey*, interspersed with myth and hyperbole, reveal a history of strategy through the epic of the Trojan War (c. 1750–1330 BCE) and the character of Odysseus. Odysseus's application of strategy facilitated access for a small breaching force into the supposedly impenetrable citadel of Troy. Whether or not his famed "Trojan Horse" was an historical truth, its value in the history of strategy is Odysseus's artful strategy of deception used to fool the Trojans into underestimating the Greek feint to withdraw and believing they had won the war.[9] In the simplest terms, Odysseus's strategy served as the vehicle of Troy's destruction and Greek victory. Historian Barbara Tuchman described it as "the most famous story of the Western world, the prototype of all tales of human conflict . . . with or without some vestige of historical foundation, of the wooden horse."[10] Homer's story would be retold again and again, inspiring military strategists to seek innovative ways and means to achieve seemingly impossible ends. Today in cyber-warfare a "Trojan Horse" strategy—malicious code cloaked as legitimate information—is deployed to penetrate networked defenses.[11]

Following the Greeks, the Roman world provided strategy with the likes of Livy, Tacitus, Suetonius, Seneca, Josephus, and Vegetius, just to name a few whose political and military histories have guided generations

of Western leaders. Flavius Josephus's *The Jewish War* was one of the most complete works of war and military history of the age. A general and later deserter to the Romans, Josephus chronicled the Judeans' civil war and protracted insurgency against Rome from 66–73 CE, including most significantly the sieges of Jerusalem and Masada. His observations on the insurgency and its effect on the population are remarkable. For example, Josephus noted that "in all the districts of Judea there was an upsurge of terrorism . . . as in the body if the chief member is inflamed all others are infected." [12] For military strategists, *The Jewish War* also provides valuable insight—negative and positive—into the Roman counterinsurgency campaign, including exploitation of social/class divisions, isolation and suffocation of insurgent strongholds, psychological operations, and the military resilience of ideologically motivated religious extremists.[13] A strategist can see parallels within *The Jewish War* that can be applied to countering ideologically motivated conflicts, like those seen against al-Qaeda, the Islamic State of Iraq and the Levant, and other global efforts to counter violent extremist organizations. Investing in the defeat of a determined, zealous opponent requires a total, systematic commitment and support of local allies to achieve victory. Fighting a committed adversary like the Roman-era Jewish or modern-day Islamist extremists requires an equal if not greater commitment to one's own ends.

Vegetius's fourth century *De Re Militari (*or *Epitoma Rei Militaris*) is an enigmatic book that described formations as well as siege warfare and called for reforms in the Empire's legionary system.[14] Perhaps its most important lesson for strategists was, as Lawrence Freedman noted, "that battle was the 'last extremity' and should only be followed when all other plans had been considered and expedients tried."[15] Vegetius's work would become a principle guide for military strategy through the Middle Ages.

Moving to the Eastern perspective, Sun Tzu, Cheng Yi, Zhuge Liang, and Kautilya each represent myriad counterparts to Homer and Thucydides who bequeathed much to the history of strategy. China's legacy of military literature, going back to 500 BCE, is more or less continuous to the present day.[16] Their writings—from Zhuge Liang's discourse on the necessity for moral education of generals to Cheng Yi's principle that the military exists to serve the nation and its people—are timeless.[17] They also share a common trajectory of influencing conventional, revolutionary, irregular, and civil conflicts across Asia. However, with a few exceptions and no regularity, these Eastern works penetrated Western intellectual walls only late in the twentieth century. Two of these greats randomly sampled here are China's Sun Tzu and India's Kautilya.

A general and strategist, or possibly a composite of multiple thinkers, Sun Tzu ranks amongst the foremost learned Chinese military thinkers. Produced in the fifth century BCE, the classic *The Art of War* is as insightful as any text written on strategy.[18] His influence on Chinese strategic culture affixed "strategy around using force as a political instrument."[19] He communicated practical insights for winning battles, managing conflict between states, and using an indirect approach to competing. From unit maneuver to offensive and defensive operations during a campaign, Sun Tzu expounded on the spectrum of war. When it came to estimating for war, Sun Tzu's conceptualization of the five fundamental factors—moral influence, weather, terrain, command, and doctrine—and concepts such as "when he concentrates, prepare against him; where he is strong avoid him" or "keep him under a strain and wear him down" are extant today from warfare in Marawi City, Philippines, to Aleppo, Syria.[20] His principles for strategy provided a philosophical map for guerrilla warfare around the world.[21]

India furnished a brilliant example of a ruler-strategist duo in the persons of Chandragupta Maurya and Kautilya. A gifted general and ruler guided by the strategic thinking of Kautilya, Chandragupta (reigning 321–298 BCE) was the first ruler to unify most of the Indian sub-continent into an imperial system. Kautilya's *Arthashastra*, or *Book of the State*, is a manual describing how to conquer, govern, and establish an empire.[22] Kautilya's work serves as a primer for alliance management today. He coined the Mauryan Empire's version of "the enemy of my enemy is my friend" and defined mutual interest binding "the conqueror, his friend, and his friend's friend" together as an alliance.[23] He also captured a state's "ends" with "strength is power, and happiness is the end or ultimate purpose of power." Kautilya may even have been the first to define the concept of neutrality and the steps a conquering ruler must carefully adopt when encountering neutral states. However obvious his concepts might appear, Kautilya's observations are relevant today for strategists navigating the interagency process in which an unambiguous understanding of the relationship between, and functions of, the ends and elements of national power are vital to policy development. Not widely appreciated in the West like Sun Tzu, Kautilya's accumulated knowledge in the *Arthashastra* is a "how-to guide" for strategy and statecraft to gain and maintain state power.

Early Modern Building Blocks

Early Modern Europe (~1450–1750) witnessed great social and political transformation resulting from conflict. During this period, Europe's

kingdoms and republics fought limited wars near constantly. Into this mix came Niccolò Machiavelli (1469–1527), the most well-known strategic thinker of the era. Diplomat, politician, and historian, Machiavelli crossed multiple disciplines with his works.[24] His celebrated *The Prince* (1513) was circulated widely in the following centuries across Europe and beyond. *The Prince* emphasized the responsibility of the ruler to protect the state by preparing for war, equating this militaristic view as a ruler's very reason for existence.[25] Machiavelli wrote, "A prince must therefore have no other thought or objective, nor dedicate himself to any other art, but that of war with its rules and discipline, because this is the only art suitable for a man who commands."[26] Machiavelli's *The Art of War* (1521) sought to establish a professional military system and chain of command using Roman historical precedents and became the most widely read work of strategy in its time. This military history sparked a rebirth and fascination with Greek and Roman classical insights in Early Modern Europe.[27]

For military strategists, Machiavelli's paramount lessons are on power and the political will to use force as a way to break out of mercenary, internecine warfare through the consolidation of force around a professional military beholden to a sovereign. A central theme invaluable for military strategists permeating Machiavelli's *The Prince* and *The Art of War* is that as "the life of the state depends on the excellence of its army, the political institutions must be organized in such a manner that they create favorable preconditions for the functioning of the military organization."[28] Today he and his works are seen as largely pejorative and passé. "Machiavellian" is often a sobriquet for evil aspects of realpolitik. Notwithstanding this general perception, Machiavelli continues to be read by politicians, generals, statesmen, and businessmen alike for its lucid outlook and candid advice on strategic leadership.

The later rise of absolutist monarchies brought unlimited war to the coming two centuries, generated by greater centralized military strength and innovation; these eventually facilitated Europe's expansion around the globe.[29] States competed with each other for access to resources and information in even the most distant corners. Prominent military leaders such as Maurice of Nassau, Raimondo Montecuccoli, and later Gustavus Adolphus left their mark with new tactical and operational revolutions in military affairs—such as combined arms, mobile artillery, logistical organization, and recruiting—that made European armies more professional.[30] At the close of the Thirty Years War and the Peace of Westphalia, the Early Modern era began to give way to the dawn of the Enlightenment.

Enlightenment and Revolutionary Frameworks

Strategy as we know it today gained prominence in the late eighteenth century as a professional discipline set apart from other pursuits of knowledge.[31] The product of Enlightenment intellectual underpinnings, strategists employed empirical observations and rationality to solve military problems, igniting a boom in the scientific approach to war. Some of the most widely known military giants of the age included Frederick the Great and later Napoleon.[32] Ignited by the French Revolution and subsequent social upheavals, war and warfare itself were transformed between 1792 and 1815 by human and political forces, taking on gigantic, unlimited proportions.[33] Formidable resources were brought to bear through mass mobilization—*levée en masse*—that generated armies of hundreds of thousands of troops.[34]

These changes also brought ordering, classification, and structure—specifically stratifying the tactical, operational, and finally the strategic levels of war. As discussed in Chapter 1, the modern definition of strategy descends from French Paul Gédéon Joly de Maizeroy's rules and principles of strategy resulted in several works over ten years, culminating in *Theorie del la guerre* (1777). He offered that strategy is dependent on numerous circumstances, such as "physical, political, and moral" and "there exist some general rules" which endure and should be applied when setting plans in motion for war.[35] These rules—what we would define today as principles of war—included knowing, but avoiding, what the enemy desires; identification of the enemy's principle objective; seizing the initiative and disrupting the enemy's initiative; maintaining freedom of maneuver; and the moment of action.

Combining the existing framework of Joly de Maizeroy and many others with the experiences of Napoleon, Antoine Henri Jomini (1779–1869) advanced a set of rules that, if adhered to, would lead to victory.[36] In Jomini's view, the principles of strategy he coined were based on solid scientific principles and battlefield geometry and therefore could be depended upon. His best-known work, *Précis de l'Art de la Guerre*, or *Summary of the Art of War* (1837), became the most influential text of military strategy in the nineteenth century. Like his predecessor Maizeroy, Jomini used a systematic scientific approach to lay out principles of war, including lines of operations and, perhaps most significant, the decisive point where the mass of an army should be thrown against a smaller element of the enemy's force to achieve success.[37] Jomini's influence permeated the profession of arms in his own lifetime in Europe and America, where his

work became the "foundation of the teaching of strategy at West Point."[38] Jomini's principles were eventually eclipsed by the originality and preeminence of Clausewitz's *On War.*

Conclusion

Strategy is an art and its expression in war has shaped human history. While the exact history of strategy is debatable, its essential elements—ends, ways, means, and risks—provide enduring and adaptable levers to change the course of history. We cannot hope to accurately predict the future, but, as Colin Gray noted, "We do have highly variable, but still often usable, understanding of what was done or attempted with strategy over the course of 2,500 years!"[39] What may seem like new thinking in strategy is likely older than we think. History provides vital context to help strategists make sense of the world and identify creative and innovative ways to make possible ends achievable, and impossible ends a possibility.

Further Reading

• Lawrence Freedman, *Strategy: A History* (Oxford: Oxford University Press, 2013).

• Azar Gat, *A History of Military Thought: From the Enlightenment to the Cold War* (Oxford: Oxford University Press, 2001).

• Colin S. Gray, *War, Peace, and International Relations: An Introduction to Strategic History* (Cambridge: Polity Press, 2015).

• Beatrice Heuser, *Strategy Before Clausewitz* (London: Routledge, 2018).

• Peter Paret, ed., *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Princeton, NJ: Princeton University Press, 1986).

Notes

1. Niccolò Machiavelli, *The Essential Writings of Machiavelli,* ed. and trans. Peter Constantine (New York: The Modern Library, 2007), 13.

2. Colin S. Gray, *War, Peace, and International Relations: An Introduction to Strategic History* (London: Routledge, 2007), 1.

3. Gray, 4–13.

4. Jared Diamond, *Guns, Germs, and Steel: The Fate of Human Societies* (New York: W. W. Norton & Company), 93–113.

5. David Christian, *Maps of Time: An Introduction to Big History* (Berkley, CA: University of California Press, 2004), 245–49; Susan Pollock, *Ancient Mesopotamia* (Cambridge: Cambridge University Press, 1999), 45–77.

6. Barry Buzan and Richard Little, *International Systems in World History: Remaking the Study of International Relations.* (Oxford: Oxford University Press, 2000), 169–72.

7. Paul Kriwaczek, *Babylon: Mesopotamia and the Birth of Civilization* (New York: Thomas Dunne Books-St. Martin's Press, 2010), 105–12; contemporary smaller states along the Nile Valley coalesced into a unified, dynastic state in 3100 BCE. See Arthur Goldschmidt, *A Brief History of Egypt* (New York: Checkmark Books, 2008), 11–29.

8. Exceptions have survived in the archaeological record such as the military relief works on temples and tombs in Egypt, Iraq, and Iran or the stone and clay cuneiform of the Akkadian Treaties from Assyria (c. 2300–2100 BCE), the Epic of Gilgamesh (c. 2100 BCE), or the Code of Hammurabi (c. 1750 BCE); even these are fragmentary translations. See James B. Pritchard, *The Ancient Near East: An Anthology of Texts and Pictures* (Princeton, NJ: Princeton University Press, 2011), 39–70, 155–78, and 208–13.

9. For more on how myth and literature affected and shaped strategy, see Charles Hill, *Grand Strategies: Literature, Statecraft, and World Order* (New Haven, CT: Yale University Press), 2010.

10. Barbara W. Tuchman, *The March of Folly: From Troy to Vietnam* (New York: Ballantine, 1984), 36.

11. Philip Bobbitt, *The Shield of Achilles: War, Peace, and the Course of History* (New York: Anchor Books, 2003), 21–23. Thucydides, another highly influential Greek author, left his mark on the history of strategy and will be explored in depth in Chapter 3.

12. Flavius Josephus, *The Wars of the Jews: The History of the Destruction of Jerusalem* (Scotts Valley, CA: Information Age Publishing, 2009), IV, 406–9.

13. Neil Faulkner, *Apocalypse: The Great Jewish Revolt Against Rome AD 66–73* (Gloucestershire: Amberley, 2011).

14. Jonathan P. Roth, *Roman Warfare* (Cambridge: Cambridge University Press, 2009), 4 and 257–58.

15. Lawrence Freedman, *Strategy: A History* (Oxford: Oxford University Press, 2013), 47.

16. Ralph D. Sawyer, "Military Writings," in *A Military History of China*, ed. David A. Graff and Robin Higham (Cambridge: Westview Press, 2002), 97.

17. Zhuge Liang and Liu Ji, *Mastering the Art of War*, trans. Thomas Cleary (Boston: Shambhala, 2005), 33–37.

18. Born Sun Wu, the figure Sun Tzu likely reflects a composite of individuals writing over the course of two centuries. *The Art of War* may have had several authors by the time its form was used by the Han and subsequent dynasties. See Sun Tzu, *Sun Tzu: The Art of War*, trans. Samuel B. Griffith (Oxford: Oxford University Press, 1971), 10-11.

19. *Shih* is an intangible power that has a strategic connotation when military implications apply. Sun Tzu saw the "ruler and the general as practicing the same profession, each with a unique expertise, a separate context, and a particular *Shih*." For more on the concept of Shih, see William H. Mott's and Jae Chang Kim's *The Philosophy of Chinese Military Culture: Shih vs. Li* (New York: Palgrave MacMillan, 2006), 24–29.

20. At the heart of Sun Tzu's writings is the indirect approach where the acme of success for strategy is to actually win without fighting. See Sun Tzu, *Sun Tzu*, 67, 68.

21. Robert Taber, *War of the Flea: The Classic Study of Guerrilla Warfare* (Washington, DC: Potomac Books, 2002), 148–71. Sun Tzu will be explored in further depth in Chapter 3.

22. Chandragupta and Kautilya founded the Mauryan Empire, knitting a patchwork of disparate political and religious communities together. Kautilya's basic yet fundamental concepts have left a framework for strategy and statecraft. His mapping of the state as a system within a "circle of states" defined such concepts as sovereignty, state power, alliance structures, and classification of state enemies. See Adam Watson, *The Evolution of International Society: A Comparative Historical Analysis* (London: Routledge Press, 1992), 78.

23. Kautilya defined the organ of the state with a king at the center; each state consisted of six elements: 1) the king, 2) the government, 3) the country and its population, 4) the country's fortifications, 5) the treasury available to the king, and 6) the armed forces. Working outward from the state's elements, Kautilya also plotted concentric scenarios with neighbors—friend and foe alike—advising the ruler on the risks and opportunities with each state-to-state power relationship. See Adam Watson, *The Evolution of International Society: A Comparative Historical Analysis* (London: Routledge Press, 1992), 80.

24. Machiavelli's *Discourses* for example—a treatise on republican, representative government—is a milestone in political science. See Michael W. Doyle, *Ways of War and Peace* (New York: W. W. Norton & Company, 1997), 93–110.

25. John Hale, *The Civilization of Europe in the Renaissance* (New York: Antheum, 1994), 98.

26. *The Prince* is packed with lessons from the conduct and difference of armies to terrain analysis and intelligence preparation of the battlefield. See Machiavelli, *The Essential Writings*, 56.

27. Felix Gilbert, "Machiavelli: The Renaissance of the Art of War," in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 16–31.

28. Gilbert, 29.

29. The Absolutists included Bourbon France, Austria, Czarist Russia, and Sweden. See Jeremy Black, "Warfare, Crisis, and Absolutism," in *Early Modern Europe*, ed. Euan Cameron (Oxford: Oxford University Press, 1999), 206–7.

30. For more on the dynamic military tactical and operational changes during the seventeenth century, see Gunther E. Rothenberg, "Maurice of Nassau, Gustavus Adolphus, Raimundo Montecuccoli, and the 'Military Revolution' of the Seventeenth Century," in Paret, *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, 32–63, and Azar Gat, *A History of Military Thought: From the Enlightenment to the Cold War* (Oxford: Oxford University Press, 2001), 15–26.

31. Freedman, *Strategy*, 73–75.

32. Beginning with philosophers such as Rene Descartes, Francis Bacon, and John Locke, and later works from Voltaire, David Hume, Jean-Jacques Rousseau, Frederick the Great, Adam Smith, and Benjamin Franklin, the Enlightenment sought to bring understanding and order across the breadth of human knowledge. See Harold Nicolson, *The Age of Reason: 1700–1789* (Mount Jackson, VA: Axios Press, 2009), and Michael L. Morgan, *Classics of Moral and Political Theory* (Indianapolis: Hackett Publishing, 1992).

33. Gray, *War, Peace, and International Relations*, 37.

34. Jeremy Black, *War and the World: Military Power and the Fate of Continents* (New Haven, CT: Yale University Press, 2000), 162–63.

35. Azar Gat, *A History of Military Thought*, 41–45.

36. Gray, *War, Peace, and International Relations,* 20.

37. John Shy, "Jomini," in Paret, *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, 160–65.

38. Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (Bloomington, IN: Indiana University Press, 1977), 83.

39. Colin S. Gray, *The Future of Strategy* (Cambridge: Polity Press, 2015), 107.

Chapter 3

Strategy's Triumvirate: Thucydides, Sun Tzu, and Clausewitz

Matthew F. Cohen

> *It is right to rest our hopes not on a belief in [the enemy's] blunders, but on the soundness of our provisions. Nor ought we to believe that there is much difference between man and man, but to think that the superiority lies with him who is reared in the severest school.*[1]
>
> —Spartan King Archidamus II

As mentioned in Chapter 2, Thucydides, Carl von Clausewitz, and Sun Tzu are the "big three" of strategic thought. While they undoubtedly were all products of their particular time and place, all three are also timeless, dispensing advice that illuminates universal truths about the enduring *nature* of war (war's essence; the distinct phenomena which separate war from other endeavors) while being flexible enough to allow for changes in the *character* of war (how war manifests itself across time and space).[2] All were members of the privileged elite who had personal experiences leading men or observing warfare from positions of military weakness, which instilled within them a desire to understand war and made them particularly adept at deriving insight. The big three lived in eras when strategy was the exclusive domain of practitioners and theorists who served in the military, studied history, and interpreted the past as a guide to the present and future—a key skill, as detailed in Chapter 2. Unlike many strategic theorists writing after the Second World War, the big three did not espouse technocratic and deterministic views of international relations and military affairs. Rather, these three men had each experienced warfare and wrote with the knowledge that theory must include intangible aspects of the human condition, such as agency, emotion, and leadership.

These thinkers are so important to understanding the unchanging nature of war that it is virtually impossible to find a modern book on strategy that does not cite their foundational theories, which is why this edited volume devotes an entire chapter to introducing these approaches. Despite emerging from different cultural and historical contexts, all came to similar conclusions about the nature of war. Each theorist emphasized war's supreme importance in history and the affairs of government, its purpose as a tool of political policy, and its existence as a distinctly human endeavor highly influenced by factors such as leadership. All three, however, asked different questions and thus reached different, yet complementary

conclusions about the nature of war. Thucydides described *why* wars occur, why they escalate both vertically and horizontally, and why they are often so difficult to terminate. Sun Tzu described *how* a leader should act and prosecute the war. Finally, Clausewitz described *why* humans undertake war. Reading the triumvirate imparts a foundation for understanding the immutable nature of war—the why, how, and what. In turn, this allows one to understand that war's character can change as the context—the who, where, and when—changes.[3]

Thucydides

Thucydides served as a mid-ranking officer in the early years of the Peloponnesian War, which erupted in 431 BCE, before being appointed *strategos* (general) in 424 BCE. Though he successfully held an important port against Spartan attack, Thucydides's force arrived too late to achieve his primary assigned mission. As a result, the democratically-elected Athenian leadership exiled Thucydides for twenty years; he did not return to Athens until a few years before his death.[4] Perhaps as a consequence, Thucydides was able to chronicle the war from a position of objectivity, as a proud Athenian who had also been dealt a harsh decree by his government. As Thucydides himself pointed out, his exile allowed him to see "what was being done on both sides . . . and this leisure gave me rather exceptional facilities for looking into things."[5]

Thucydides was, in many ways, the first true historian and theorist of international relations. Like his noted predecessor, Herodotus—often cited as the father of history—Thucydides not only chronicled the past but also analyzed it to determine causality. Unlike Herodotus, however, Thucydides emphasized objectivity.[6] Significantly, he set a precedent for all future historians and military theorists by using inductive reasoning: asking a question, gathering evidence, and then drawing conclusions based on the facts. In the introduction to the *History of the Peloponnesian War*, Thucydides described this methodology and asserted that his evidence should be sufficient to support his conclusions.[7]

As a historian, Thucydides viewed history as a lab from which to derive judgment and strategic insight, hoping that his work would be used "by those inquirers who desire an exact knowledge of the past as an aid to the understanding of the future."[8] He was especially interested in the proximate (immediate, short-term) and ultimate (long-term) causes of war. The *History of the Peloponnesian War* addresses causality throughout and uses the lens of history to describe universal truths about the world and human nature. Accordingly, Thucydides prefaced his work by

declaring that he wrote not to "win the applause of the moment, but as a possession for all time."[9] Thucydides focused on the causes of the war's outbreak, placing them within a framework of fear, honor, and interest.[10] Thucydides asserted that the ultimate cause of the war was *fear*, while the proximate cause was a series of escalatory events between Athens and Sparta. In an oft-cited judgment that is even the centerpiece of a contemporary theorist's book about China's rise, Thucydides claimed that "what made war inevitable was the growth of Athenian power and the fear which this caused in Sparta."[11] Sparta, the status quo power and a highly militarized polity, felt threatened by the rise of a diffuse state with an expansive trade network, flourishing economy, and appealing soft power in the form of democracy and culture.[12]

According to Thucydides, once the battle was joined, the passions of the populace—who demanded *honor*—took over. Nowhere is this on better display than in Pericles's funeral oration. Chosen by his fellow Athenians for his intellect and reputation, Pericles emphasized Athenian honor and praised Athens as a democratic meritocracy in his address.[13] He ennobled the sacrifice of the Athenian dead, entreating others to follow their example of bravery and patriotism.[14] Notably, Thucydides used Pericles's speech to set down universal truths about why states go to war and how those wars often escalate unexpectedly, making conflict termination so difficult to achieve.

Just as important as his objective chronicle of history and incisive historical analysis, however, are Thucydides's ruminations on what is now known as international relations. It might be said that Thucydides was the first classical realist; he had a pessimistic view of human nature and, believing human agency to be of significance, imputed this dim view on the interaction of city-states.[15] In his formulation, the idea of *interest* was crucial to understanding the behavior of states, a hard-headed approach vividly illustrated by Thucydides's Melian dialogue. Melios, a small colony of Sparta that refused to join the Athenian empire, engaged in a parley with the Athenians. At the outset of this negotiation, the Athenians promised not to trouble the Melians with "specious pretenses" regarding the morality of their actions, positing that "right, as the world goes, is only in question between equals in power, while the strong do what they can and the weak suffer what they must."[16] In turn, the Melians averred that Sparta would rescue their subjects. The Athenian representatives scoffed at the notion, asserting that Sparta would not risk itself to aid such an inconsequential vassal state.[17] Thucydides's didactic passage concludes with the Melians' refusal to concede, resulting in their defeat by the Athenians,

who put all men to the sword and sold all Melian women and children into slavery. As Lord Palmerston famously said about 2,300 years after Thucydides: "Countries have no friends or enemies—only interests."[18] In the Melian dialogue, Thucydides provided a case study in this concept of power in the relationship of states.

Sun Tzu

A rough contemporary of Thucydides, Sun Tzu is believed to have written *The Art of War* during the Warring States Period (403–221 BCE), a time of great upheaval in ancient China.[19] Some believe that he was an advisor to a kingdom with a geographically small area and an army in the tens of thousands. In contrast, his rival had more territory, people, and an army in the hundreds of thousands.[20] This experience likely shaped Sun Tzu's theory of war; as the relative advantage of greater mass was alien to him, he was forced to search for alternatives. It also probably imparted difficult lessons about war's importance. Sun Tzu called it the "greatest affair of state" and "the Way (Tao) to survival or extinction."[21] Significantly, Sun Tzu's grand strategy advocated the development of a prosperous and contented populous, and careful, methodological planning prior to war.[22] The "highest realization of warfare," Sun Tzu advised, was not attacking the enemy's army, but rather attacking his plans or, if that was not possible, his alliances. In a similar vein, *The Art of War* claimed that diplomatic coercion is always preferable to armed combat; even when a ruler must use force, it should be done in such a way as to avoid the destruction of the enemy's capital and army.[23] While Thucydides's depiction of warfare was descriptive—showing the world as it is, such as theorizing that "fear, honor, and interest" drove states to make war—Sun Tzu's approach was more prescriptive, cautioning that anger, hate, haste, and fear of being accused of cowardice are never acceptable reasons for belligerence.[24] Accordingly, Sun Tzu's analysis emphasized more of the objective, rather than the subjective nature of war, asserting that those who followed his "[methods for] estimation" would "certainly be victorious."[25] Strategically, Sun Tzu advocated a cautious, rational, and methodical approach.

Like Thucydides and Clausewitz, Sun Tzu warned that war was always a means to a political end, rather than an end unto itself: "The victorious army first realizes the conditions for victory, and then seeks to engage in battle. The vanquished army fights first, and then seeks victory."[26] Also like other classical theorists, Sun Tzu's writings underscore war's human dimension and describe the ideal characteristics of a military leader. In contrast to Thucydides and Clausewitz, however, Sun Tzu's conception of the ideal leader was one who exemplified values such as tran-

quility, wisdom, strictness, benevolence, and self-discipline.[27] Similar to his fellow elites Thucydides and Clausewitz, Sun Tzu was skeptical of the masses' ability to influence policy and sound decision-making, warning that a leader "who loves the people can be troubled."[28] For Sun Tzu and his fellow members of the strategy triumvirate, reason and policy should drive war, not the passions of the people or emotional decision-making.

Notably, East Asian fighting forces are largely believed to have followed Sun Tzu's way of war—an indirect approach focused on manipulation, subterfuge, extensive use of intelligence, deception, and psychological warfare into the modern era.[29] Sun Tzu was shaped by a cultural milieu that, despite external chaos between different kingdoms, internally emphasized a consensus-driven, harmonious society. Attacking the harmony between the ruler and his people to sow discord in his social and political order was highly effective for Sun Tzu's time and place, but would also be employed by latter-day practitioners such as Mao Zedong and Vo Nguyen Giap.[30] These two men effectively employed strategies of weakness that used indirect, cumulative, and asymmetrical approaches to exhaust the political will of their enemies, who were much stronger from a purely military perspective.[31] In the contemporary era, the highly methodical manner by which China is asserting economic, diplomatic, and military control over large parts of the Indo-Asia-Pacific is highly evocative of Sun Tzu's dictum to win without fighting—a strategy of coercion.[32] Sun Tzu's method of non-linear envelopment and avoidance of direct combat where possible resembles the Chinese game of *go*, in contrast to the direct combat of chess, which epitomizes the western ideal of a strategy that seeks to compel the enemy.[33] As will be discussed in Chapter 6 by Ryan W. Kort, there are many approaches to developing a strategy to meet the needs of the state, including those that eschew the direct approach advocated by many Western theorists.

Carl von Clausewitz

While Sun Tzu advocated an indirect approach to war, Clausewitz emphasized a classically western, direct approach to war. His conception of the strategic and operational levels of war took for granted that one would mass force against the enemy's s*chwerpunkt*, or center of gravity ("the hub of all power and movement, on which everything depends") and destroy it. In other words, a war or battle of annihilation.[34] Applying Clausewitz's formulation that resistance equals mass times will, Sun Tzu focused on will, whereas Clausewitz focused on mass. This is not surprising given Clausewitz's historical context. Like Thucydides, Clausewitz served in his native military but was then afforded scholarly detachment via observation

of his countrymen from afar. Clausewitz left the Prussian army because of its forced alliance with Napoleon, serving with the Russian army before returning to his native land.[35] Clausewitz, whose *On War* was edited and published after his death by his wife, Marie, contributes significantly to understanding the enduring nature of war—including its primacy of politics, the qualities needed for military genius, and difference between theory and reality—while also analyzing the way that nation-states and mass conscription fundamentally changed the character of war.[36]

Similar to both Thucydides and Sun Tzu, Clausewitz understood that war's nature was unchanging. In Clausewitz's estimation, both physical and mental effort, danger, the psychology of troops and their leaders, and friction (that which interferes with one's plans) were immutable aspects of armed conflict. Like Sun Tzu, Clausewitz emphasized that military action must always be subordinated to political purposes. The underlying tension between military action and political policy is best expressed through Clausewitz's "paradoxical trinity," which placed irrational "primordial violence, hatred, and enmity;" "chance and probability;" and war's rational subordination to policy at the three ends of a triangle, in constant tension with each other.[37] Clausewitz then explained that passion mainly involves the people, while chance and policy concern the army and government, respectively.[38] As Clausewitz cautioned, "war should never be thought of as *something autonomous* but always as an *instrument of policy*" [emphasis in original].[39] Clausewitz's trinity holds military actions in constant tension with war as "an instrument of policy," suggesting that continuous reassessments are needed so that violence never becomes an end unto itself.

On War is notable because it emphatically stresses the human element in war. First, it described the ideal military leader as one with two main qualities: intellect, including the capacity for *coup d'oeil* (grasping the entire situation with a stroke of the eye); and determination, including decisiveness and firmness, without being obstinate.[40] Secondly, because of the human element, war often leads to unanticipated escalation and violence: "War is an act of force, and there is no logical limit to the application of that force. Each side, therefore, compels its opponent to follow suit; a reciprocal action is started which must lead, in theory, to extremes."[41] Because of the human element, war often features unintended consequences; Clausewitz likened it to a wrestling match, a "collision of two living forces," and thus it was vital to remember, "I am not in control; he dictates to me as much as I dictate to him."[42] War is an interaction that must take into account moves and countermoves, allowing for flexibility to match an opponent's actions and reactions.

In contrast to Sun Tzu, Clausewitz argued that war's objective must always be "to overcome the enemy, or disarm him."[43] Beyond this, Clausewitz advocated total victory, stating that the enemy's fighting forces must be destroyed and his country occupied. But even these two factors were insufficient, because until the enemy was compelled to sue for peace, "or the population made to submit," the enemy's will would remain unbroken, leading to further resistance.[44] Crucially, the destruction of the enemy's forces means that just as the physical element must be destroyed, so too must the enemy's moral element be defeated.[45] Thus, whereas Sun Tzu counseled avoidance of the enemy's strength, Clausewitz advocated attacking it directly, advising to "match your effort against his power of resistance," which he defined as the product of "two inseparable factors"—means and will.[46] Clausewitz advised increasing one's efforts accordingly to overcome resistance. Additionally, Clausewitz cautioned of the unexpected nature of war beyond human control, warning that "no other human activity is so continuously or universally bound up with chance."[47] Thus, Clausewitz advocated amassing probabilities; providence, as Western military officers often say, is on the side of the big battalions. In contradistinction, Sun Tzu's approach perhaps overstated the degree to which a commander can control a military operation as it unfolds. Finally, while Sun Tzu advised non-combat means to achieve victory, Clausewitz theorized that combat is the locus of all power.[48]

Significantly, Clausewitz sought to distinguish "real war from war on paper." In fact, one of the reasons that *On War* can be so challenging for the contemporary American reader is because its author wrote in a Hegelian dialectical fashion, beginning with the abstraction of ideal war (thesis), moving to a description of real war (antithesis), and finally discussing the overlap between the ideal and the real (synthesis).[49] As one who had experienced war, Clausewitz understood that theory often conflicted with practice, attributing at least some of the difference to "friction . . . the force that makes the apparently easy so difficult."[50] Changes in the weather, for example, could greatly affect military operations, as could psychological factors or any of the other myriad areas involving humans engaged in a clash of wills. The violent interaction, Clausewitz argued, made war so unpredictable and difficult. He likened action in war to attempting to walk in water—there was always resistance to the "most natural of movements"—and described war as "the realm of chance."[51]

What made Clausewitz's historical circumstance so different than Thucydides and Sun Tzu was transformation of warfare from the un-

dertaking of a small professional class fighting on behalf of a monarch, to that of nation-state's mass army. These changes occurred during the French Revolution and Napoleonic period, during which Clausewitz served as an officer. Indeed, Clausewitz was one of the first theorists to grasp the implications of the *levee en masse,* the French Revolution's use of universal conscription that ushered in a new age of warfare by increasing dramatically its size and scope and harnessing popular will to the conduct of warfare. Significantly, Clausewitz described the people's passions as a "blind natural force" that held the potential to unmoor military decisions from their rational subordination to policy.[52] Unlike many other nineteenth and even twentieth century theorists, Clausewitz grasped that the rise of the nation-state and the harnessing of the citizenry in pursuit of a state's objective changed the character of war, which had been previously fought by professional armies in pursuit of dynastic interests. With this understanding, *On War* emphasizes that war's unique admixture of violence combined with greater involvement of the people had the potential to stoke ever-greater escalatory measures at the strategic level of war.[53] Indeed, unintended escalation, often fed by nationalism—for example, the outbreak of the First World War—demonstrated that Clausewitz was all too correct.

Conclusion

Though the future *character* of war is difficult to predict, war's fundamental *nature* is unchanging. Theory provides a guide to study; it helps impart judgment and wisdom. Unlike other theorists who emphasize a formulaic, highly prescriptive approach to strategy and operational art, which is often susceptible to the dynamic character of war, Thucydides, Clausewitz, and Sun Tzu all sought to link political ends with military means in a manner that could be applied in different places and during different historical epochs. Perhaps because the three lived during periods of widespread regional turmoil and often encountered positions of military disadvantage, they all had to think purposefully and resourcefully about why war was—and forever will be—so challenging. Accordingly, the "big three" continue to endure, forming a foundation for the modern discourse of strategic thought. A strategist must not only be aware of their existence, but understand their underlying logic, their impact on strategic theory writ large, and where they may or may not be applicable in the contemporary environment.

Further Reading

• Donald Kagan, *Thucydides: The Invention of History* (New York: Viking Press, 2003).

• Peter Paret, ed., "Clausewitz," in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* (Princeton, NJ: Princeton University Press, 1986), 186–213.

• Andrew Scobell, "Chinese Way of War," in *The Evolution of Operational Art from Napoleon to the Present*, ed. John A. Olsen and Martin van Creveld (New York: Oxford University Press, 2011), 195–221.

• Thucydides*, The Landmark Thucydides: A Comprehensive Guide to The Peloponnesian War*, ed. Robert B. Strassler (New York: Free Press, 1996).

• Sun Tzu, *The Art of War,* trans. Ralph Sawyer (New York: Barnes and Noble, 1994).

• Carl von Clausewitz, *On War,* ed. Peter Paret (Princeton, NJ: Princeton University Press, 1984)

Notes

1. Thucydides, *The Landmark Thucydides: A Comprehensive Guide to The Peloponnesian War*, ed. Robert B. Strassler (New York: Free Press, 1996), 47.

2. Clausewitz himself formulated war's nature/character dichotomy. For an excellent explanation of the difference between the two, see Christopher Mewett, "Understanding War's Enduring Nature Alongside its Changing Character," *War on the Rocks* (21 January 2014), https://warontherocks.com/2014/01/understanding-wars-enduring-nature-alongside-its-changing-character.

3. I would like to thank Col. Ken Gleiman for helping structure these ideas.

4. Donald Kagan, *The Peloponnesian War* (New York: Viking, 2003), 173–77. Kagan opined that Thucydides's punishment "seems excessive."

5. Thucydides, *History of the Peloponnesian War*, trans. Rex Warner (New York: Penguin, 1954), 364.

6. Because of Herodotus and Thucydides, the world owes a debt of gratitude to the Greeks for inventing the scholarly study of history; not surprisingly, the word history comes from the Greek *historia*. Thucydides's introduction to the *History of the Peloponnesian War* offered a clear rebuke to Herodotus (without mentioning his predecessor's name), whose *Histories* was groundbreaking yet also lacked veracity—by first noting two errors in the *Histories* and commenting, "So little pains do the vulgar take in the investigation of truth, accepting readily the first story that comes to hand." Thucydides, *Landmark Thucydides*, 14–15.

7. Thucydides, 15.

8. Thucydides, 16.

9. Thucydides, 16.

10. Thucydides, 43, 187.

11. Thucydides, 49. Graham Allison popularized the phrase "the Thucydides trap" to describe the high likelihood of conflict between an established (status quo) power and a rising (revisionist) power. He recently expanded this idea into a book about China's rapid ascent; see Graham Allison, *Destined for War: Can America and China Escape Thucydides's Trap?* (New York: Houghton Mifflin Harcourt, 2017).

12. The war, which started in 431 BCE and ended with a pyrrhic Spartan victory in 404 BC, was a drawn-out, bloody affair that brought "unprecedented suffering to Hellas." This event was vastly important in the ancient world, marking the beginning of the end of the Hellenistic period and the dawn of Persian dominance of the Eastern Mediterranean. Thucydides noted that the "two sides were at the very height of their power and preparedness" and justified his endeavors by arguing that the war was "the greatest disturbance in the history of the Hellenes, affecting also a large part of the non-Hellenic world, and indeed, I might almost say, the whole of mankind."

13. Thucydides, *Landmark Thucydides,* 111–18, especially 112.

14. Thucydides, 115.

15. Classical realism stands in contrast to "structural realism" or "neo-realism," which emphasizes the inherently anarchic nature of the international

system. For the seminal book on neo-realism, see Kenneth N. Waltz, *Man, the State, and War*, rev. ed. (New York: Columbia University Press, 2001). For different neo-realist approaches, see John Mearsheimer, *The Tragedy of Great Power Politics* (New York: W. W. Norton, 2001); and Stephen Walt, *The Origins of Alliances* (Ithaca, NY: Cornell University Press, 1987).

16. Thucydides, *Landmark Thucydides,* 352.

17. Thucydides, 354.

18. Or, as Cardinal Richelieu (who, in the ultimate display of interests trumping ideology, allied with Protestant powers against Catholic powers in the Thirty Years' War) said, "Man is immortal, his salvation is hereafter. The state has no immortality, its salvation is now or never."

19. This is the view propounded by the late scholar (and Marine brigadier general) Samuel Griffith, who translated a version of the text. However, there are those who believe that Sun Tzu wrote during the earlier Spring and Autumn period (771–476 BC). See Sun Tzu, *The Art of War,* trans. Ralph D. Sawyer (New York: Barnes and Noble, 1994), 151–62. There are even those who believe that Sun Tzu did not exist at all, though this is a minority opinion. Sun Tzu means "Master Sun;" his actual name is believed to have been Sun Wu.

20. These were the kingdoms of Wu and Chu, respectively. Sun Tzu, 89–108.

21. Sun Tzu, 167. Sun Tzu's work is infused with Taoist philosophical principles.

22. Sun Tzu, 128.

23. Sun Tzu, 177.

24. Sun Tzu, 228.

25. Sun Tzu, 168. Some accept that war theories exist on a continuum between the objective (i.e., war is science; it is a math problem to be solved) and the subjective (i.e., war is art; it is inherently unpredictable).

26. Sun Tzu, 184.

27. Sun Tzu, 133, 204; Sun Tzu also described the human dimension of war—morale, unity—in Chapters 9 and 10 of *The Art of War.*

28. Sun Tzu, 133, 204.

29. Various scholars of *The Art of War* have spent considerable effort analyzing Sun Tzu's use of orthodox (conventional/frontal attack) vs. unorthodox (unconventional/indirect/subterfuge) without coming to a consensus; Sun Tzu, 147–50.

30. Sun Tzu's concepts can be seen in both men's works; see Mao Zedong, *On Guerilla Warfare*, trans. Samuel B. Griffith II (Champaign, IL: University of Illinois Press, 2000); and Vo Nguyen Giap, *The Military Art of People's War: Selected Writings of General Vo Nguyen Giap,* ed. Russell Stetler (New York: Monthly Review Press, 1970).

31. See Mao's "On Protracted War," a series of lectures given in 1938.

32. Contemporary theorist Robert Pape defined coercion as "efforts to change the behavior of a state by manipulating costs and benefits." It "attempts to achieve political goals "on the cheap." See Robert Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 4, 13.

33. The *go* (aka *wei qi*) versus chess insight is found in Henry Kissinger, *On China* (New York: Penguin Books, 2011), 23–25. Kissinger noted that chess teaches the Clausewitzian concepts of "center of gravity" and the "decisive point," while *go* "teaches the art of strategic encirclement." He then discussed Sun Tzu's contribution to Chinese strategic thought.

34. Carl von Clausewitz, *On War,* ed. Peter Paret (Princeton, NJ: Princeton University Press, 1984), 595–96.

35. Peter Paret, ed., *Makers of Modern Strategy* (Princeton, NJ: Princeton University Press, 1986), 195.

36. Vanya Eftimova Bellinger, *Marie von Clausewitz: The Woman Behind the Making of* On War (New York: Oxford University Press, 2015).

37. Clausewitz further asserted, "Our task therefore is to develop a theory that maintains a balance between these three tendencies, like an object suspended between three magnets." Clausewitz, *On War*, 89.

38. Clausewitz, 89.

39. Clausewitz, 88. Clausewitz further explained, "The first, the supreme, the most far-reaching act of judgment that the statesman and commander have to make is to establish by that test the kind of war on which they are embarking; neither mistaking it for, nor trying to turn it into, something that is alien to its nature."

40. Clausewitz, 102.

41. Clausewitz, 77. This passage is an example of Clausewitz's use of a Hegelian dialectic, which he used to interrogate his subject through thesis, antithesis, and synthesis.

42. Clausewitz, 77.

43. Clausewitz, 90.

44. Clausewitz, 90.

45. Clausewitz, 97.

46. Clausewitz, 77.

47. Clausewitz, 85.

48. Clausewitz, 95. It stands to follow that even so-called soft power must also "derive from combat."

49. For a helpful discussion of these concepts, see Christopher Bassford, "Clausewitz and his Works," July 2019, https://www.clausewitz.com/readings/Bassford/Cworks/Works.htm#_edn28.

50. Clausewitz, *On War,* 121.

51. Clausewitz, 121, 101.

52. Clausewitz, 89.

53. This insight comes from Dr. Mike Matheny as a part of his extemporaneous lectures on the topic in the Basic Strategic Art Program (US Army War College, Carlisle Barracks, PA, September 2012).

Chapter 4
Strategy at Sea

Jonathan P. Klug

For whosoever commands the sea commands the trade; whosoever commands the trade of the world commands the riches of the world, and consequently the world itself.[1]

—Sir Walter Raleigh

After serving as the United States secretary of war during the Second World War, Henry L. Stimson reflected on "the peculiar psychology of the Navy Department, which frequently seemed to retire from the realm of logic into a dim religious world in which Neptune was God, Mahan his prophet, and the United States Navy the only true Church."[2] Stimson's recollection underscores the fact that wielding seapower to achieve a desired strategic effect takes a unique perspective. The Navy Department understood this maritime perspective intuitively. Those who wish to practice maritime strategy or to nest with maritime strategy must develop an understanding of this maritime perspective, which begins with an understanding of the sea—what Mahan called "The Great Common."

One of the fundamental points to understanding the sea is that people are merely visitors. Sir Julian Corbett, a seapower theorist discussed in the next section, commented: "Men live upon the land and not the sea . . . you cannot conquer sea because it is not susceptible of ownership, at least outside territorial waters."[3] This remains true, as even modern economic exclusion zones remain governed by the right of innocent passage. This may seem like a very simplistic point, but it has profound implications and gets at the heart of what is different about the sea—human presence on, under, or above the sea is transitory in nature. While only visitors, mankind has had an ancient relationship with the sea, harvesting marine life for food and using waterways as transportation for millennia.

As with any source of food or wealth, people fought for control of it. Ramses III and the Sea Peoples, as one ancient example, fought for control of the Nile in the late twelfth century BC.[4] The ancient Greeks took fighting at sea and maritime trade to new levels; they were early practitioners in the use of true seapower. The Greek use of seapower, in fact, gave rise to the first state that was sea power in its truest sense, Athens, which they called a "thalassocracy." Thalassocracy comes from the Greek word *thalassa*, meaning sea, and *kratein*, meaning power, resulting in *thalassokratia*, or a sea power. A thalassocracy "requires political and

economic systems that can consciously aim at naval control of sea lanes for the transport of useful supplies and armies."[5] Another way of saying "naval control" is command of the sea, which is the ability to get men, equipment, and supplies wherever and whenever required.[6]

Several ancient Mediterranean thalassocracies provide insight into the continuities of seapower and maritime strategy. As Carthage, originally a colony of the seafaring Phoenicians, grew to become another thalassocracy, it naturally led to maritime competition and then naval conflict with Athens and eventually Rome. Seapower proved vital in the long struggle for supremacy between Athens and Sparta, the former a traditional sea power and the latter a traditional land power. Interestingly, Sparta had to build up its naval capabilities in order to finally defeat Athens. The Romans, another traditional land power, took the same approach to overcome the Carthaginians. Hannibal would not have had to cross the Alps if the Roman navy did not control the Mediterranean.[7]

The use of seapower at the strategic level has remained largely unchanged through the ages. Western technological improvements changed the use of seapower at the operational and tactical levels, however. As technology has improved man's ability to use the sea for transportation, communication, and sustenance, it has led to the dominance of Western nations at sea until the twentieth century and therefore our focus on these theories. The weapons available to fight at sea similarly changed over time. Galleys armed with cannons altered the nature of naval warfare, and the age of the armed galley diminished after the Battle of Lepanto in 1751.[8] The Age of Sail witnessed the waxing and waning of several sea empires, such as the Spanish, Portuguese, Dutch, and French, but the British Empire and the Royal Navy would be dominant after the Napoleonic Wars, through the transition to steam, and would persevere through two world wars.[9] In all these eras, wealth and trade formed the basis of a state's seapower. Much more than war on land, the exercise of seapower requires deep pockets. While society and technology changed and affected the nature of seapower, the nature of naval strategy has remained essentially constant.

To use the same approach as the discussion of general strategy in Chapter 1, maritime strategy is the effective translation of naval means (force or the threat of force through naval and amphibious capabilities, which can contribute to diplomacy) and civilian means (the use or the threat to use economic and communication maritime capabilities) to political ends (desired policy or political condition).[10] The Navy, Marine Corps, and Coast Guard do not act for their own purposes; rather, a maritime strategy uses naval and amphibious forces in concert for the pursuit

of political goals. This includes the use of shipping during wartime to help achieve the desired ends.

Poseidon's Twin Prophets: Mahan and Corbett

Poseidon was the god of the sea in Greek mythology, and if he had modern prophets, they would be maritime theorists Alfred Thayer Mahan and Sir Julian S. Corbett. Where the mention of seapower typically evokes thoughts of navies, fighting ships, and perhaps amphibious landings, these two well-known naval theorists both viewed seapower as much more than just naval power. Their works remain essential reading to the understanding and practice of maritime strategy.

Alfred Thayer Mahan was an American naval officer who championed "navalism" throughout his career. In addition to serving as a key faculty member and later president of the Naval War College, he had immense influence due to his prolific writing and correspondence, with twenty books and 137 articles. His late nineteenth-century writings struck a chord in Great Britain and led to rapid international acclaim, especially with the Royal Navy. At a time when rapid technological change raised serious doubts about the requirements for a battlefleet, Mahan used history to demonstrate that navies existed to fight battles and naval battles had proven to be decisive in the outcome of major wars. His efforts also found a sympathetic ear with the future President Theodore Roosevelt, creating a lasting friendship that affected the US Navy and its future.[11]

Mahan's most well-known work is his 1890 book *The Influence of Sea Power upon History, 1600–1783*.[12] Taken as a whole, the book was a historically derived blueprint for national greatness through control of the seas. In the first chapter, Mahan defined seapower as having three elements: (1) production, (2) shipping, and (3) colonies and markets. Mahan discussed the timeless importance of maritime trade and power and used an apt metaphor for the three elements of seapower as "the links in the chain of Sea Power," which illustrated his views from a late nineteenth-century perspective.[13] After establishing the preeminence of what amounted to economic aspects, Mahan then examined the *naval* history of seapower. Thus, naval power provided the means necessary to facilitate and, when necessary, protect the economic means to accumulate wealth.[14]

As a young man, Alfred Thayer Mahan's theories reflected those of his father Dennis Hart Mahan, a professor of military history at West Point and proponent of the theories of Antoine de Jomini. Jomini served first with Napoleon and subsequently with the Russians. He wrote one of the most influential treatises that distilled the land campaigns of the Napo-

leonic Wars into military principles. It is important to note the centrality of the decisive battle in Jomini's work.[15] Although Carl von Clausewitz also influenced Mahan's theory, Jomini influenced Mahan's focus on concentration and naval operational art culminating in the decisive battles—which Mahan felt secured command of the sea and truly decided wars.[16] Thus, both the US Army and US Navy during this era sought the decisive battle. It would take time for Clausewitz's and Corbett's works to move the services' notions of strategy beyond decisive battle.

Over the years, however, several incorrect impressions arose concerning Mahan's work, partly as people only read *The Influence of Sea Power upon History*. The result was the opinion that Mahan focused on the decisive naval battle and his approach proved mechanistic.[17] The Imperial German Navy prior to the First World War, for example, became too focused on the decisive battle based upon their reading of Mahan. This impression of Mahan, however, was largely unfair. One of Mahan's most important statements contested this impression: "The noiseless, steady, exhausting pressure with which sea power acts, cutting off the resources of the enemy while maintaining its own, supporting war in scenes where it does not appear itself, or appears only in the background, and striking open blows at rare intervals, though lost to most."[18] Mahan thus understood that seapower played a role beyond just battle. Mahan's writing on battle drowned this message out, not least because the claim for the decisiveness and importance of *naval* battle is what navies wanted to hear. The fixation on battle can be very dangerous, as it can eclipse more important operational or strategic issues.

Julian Stafford Corbett, a prolific British naval historian, impacted British leaders—naval and civilian. Corbett became a fixture in British naval circles and became friends with First Sea Lord Adm. Sir John Fisher. Corbett often supported Fisher's efforts to revolutionize the Royal Navy, and he wrote several books and newspaper articles in support. He eventually taught at the Naval College in Greenwich where—after publishing a half dozen significant works of history—he released his highly influential 1911 book on seapower, *Some Principles of Maritime Strategy*.[19]

Corbett's arguments were often sophisticated and ranged from the highest levels of national policy to naval strategy to officer education to naval doctrine. First, Corbett was a disciple of Prussian theorist Carl von Clausewitz.[20] Corbett followed Clausewitz's famous dictum that "war is the continuation of politics by other means." Effective strategy was the product of national objectives as well as a good understanding of history and solid strategic theory.[21] This meant that at the operational level, navies

and armies had to work together to achieve national strategic ends (an idea which never seemed to go over well with conservative officers in the Royal Navy or US Navy in the early twentieth century). Like Mahan, Corbett recognized that battle was important, but Corbett argued that there was more to maritime strategy and naval warfare than just major fleet actions, such as the importance of strategic points that provide navies reach. He even went to great lengths to refute the principle of concentration in naval warfare.[22] According to Corbett, "the current conception of the functions of a fleet is dangerously narrowed and our best minds cramp their strategical view by assuming unconsciously that the sole purpose of a fleet is to win battles at sea."[23] Instead, this type of naval fleet battle was few and far between. According to naval historian Andrew Lambert, Corbett "demonstrated that each nation needs a unique strategic doctrine that is based on history and theory, if it is to meet contemporary strategic needs." In this way, Corbett was the obvious theoretical successor to Mahan.[24]

Strategic Context and Technology

Mahan and Corbett posited that seapower is a combination of naval power and maritime economic power. The former is military in nature and the latter is civilian in nature; therefore, states employ seapower as an instrument of statecraft, not merely a tool of war. This is still the case, but the strategic context has changed in one critical respect since Mahan and Corbett formulated their theories in the late nineteenth century and early twentieth century, respectively.[25] Two implicit assumptions dominated the end of the nineteenth century and the beginning of the twentieth century when Mahan and Corbett wrote: states were the key international actors and states monopolized the use of violence at sea. These assumptions were not always valid even in the nineteenth century, but as technology, trade, states, and empires, as well as state's ability to monopolize the use of violence, have changed over time these changes undermined these two assumptions.[26] In the twenty-first century non-state actors are important international actors and at times use violence at sea, such as pirates off the Horn of Africa, South and Central American drug cartels, and insurgent groups such as the Tamil Tigers.

In addition to the changes in strategic context, advances in technology changed the effects of seapower. Mid-nineteenth century technological advances began to affect the seapower theories of Mahan, and to a lesser extent Corbett. Such changes on land—such as railroads, telegraphs, and coastal fortifications were used by the contemporary British geographer Halford John Mackinder to demonstrate his so-called "Heartland Theory."

Mackinder foresaw that continental powers would grow in influence and the world would soon move from "territorial expansion to the struggle for relative efficiency."[27] By the second half of the nineteenth century and despite the advent of steam-powered vessels, the only way for seapower to project itself over vast land areas was through economic power, and that invariably took a great deal of time.[28]

The advent of the torpedo forced a re-evaluation of even the basics of naval warfare. Before Mahan, a group of young French naval officers had formed what they referred to as the *Jeune école*, or "young school," to explore the implications of these weapons and promulgated new theories that incorporated them. The *Jeune école* believed that the torpedo boat would overcome large armored ships in a naval war, and, perhaps more importantly, the theorists of this school advocated showing no mercy to private commerce or property, which included attacking ports. Thus, practitioners of this school would attack all enemy maritime commerce—*guerre de course* or war of the chase—as this could increase insurance rates, reduce trade, raise unemployment, produce food shortages, trigger economic panic, and perhaps even foment rebellion.[29] However, the French Navy did not universally accept the ideas of the *Jeune école*, and at the same time, the writing of Philip Colomb and Mahan kept the Royal Navy complacent.[30] As a result, the major navies of the world retained a doctrine focused on the battle fleet—*guerre d'escadre* or war of the squadron—that concentrated on main fleet battles.[31] Nevertheless, the rise of new weapons meant that "the effectiveness of sea power itself, and the predominance of British naval mastery in particular, was being slowly but surely undermined."[32] More importantly, the rise of professional armies, railroads, and artillery were steadily eroding sea power's ability to impact continental politics.

After the mid-nineteenth century, the march of technological progress continued and will continue to impact naval warfare significantly.[33] The ability of navies to create and adapt to technology proved to be a key determinant of which navy prevailed in nineteenth- and twentieth-century naval warfare. Navies that adapted to new technologies better and faster than their enemies were successful.[34] This is in part because armies and marine corps fight at the tactical level primarily, but certainly not exclusively, with people, where navies and air forces wage war with platforms, meaning vessels and aircraft. When looking to the future, technological advances will continue to affect all forms of warfare, but advances in technology have immense effects on air and sea platforms, along with the cyber and space technology that supports those platforms, as they are especially sensitive to technological improvements. An example of this today is the concept of

"anti-access/area denial," in which "warfighting strategies focused on preventing an opponent from operating military forces near, into, or within a contested region."[35] A logical outgrowth of the *Jeune école* and subsequent navies, such as the Soviet Union's Red Navy, anti-access/area denial warfare became a more viable naval strategy, especially with improvements in submarines, torpedoes, mines, aircraft, sensors, cruise missiles, stealth technologies, and unmanned underwater vehicles, to name a few.

Leveraging Seapower for Strategic Effect

Seapower is a means to an end; it is not an end in itself. Put another way, seapower works to achieve strategic objectives and ultimately policy goals. Colin Gray noted that "superior sea power generates a strategic leverage which enables wars to be won."[36] He also offered two general truths for wars between sea powers and land powers: "First, a continental power can win a war by securing military command at sea, by achieving sea denial, or even just by disputing command at sea very vigorously."[37] Second, "for a sea power or a maritime-dependent coalition, command at sea provides the strategic conditions indispensable for success at war."[38] In the same way that Gray described, Adm. Joseph Wylie combined Mahan's notion that navies must first establish control of the sea and Corbett's principle that sea control allows power projection onto land.[39] These theoretical concepts become functions of seapower in the form of sea control, power projection, maritime communications, amphibious operations, and sea denial.

Navies are the primary military service that provides sea control, maritime power projection, and ensure maritime communications. As the modern vernacular for command of the sea, sea control allows friendly use of the sea for naval and maritime purposes as well as denying the enemy the same abilities. Milan Vego discussed this in detail: "In theory sea control and 'disputed' (or contested) sea control can be strategic, operational, and tactical in their scale," or theater wide, a significant part of the theater, and a localized area, respectively.[40] Maritime power projection "includes conventional strikes against targets ashore, advance force operations, raids, and all forms of amphibious operations, from ship-to-objective maneuver and sea-based fire support to forces ashore to missions conducted by Naval Special Warfare and Special Operations Forces."[41] Maritime power projection can determine the outcome of a conflict, open a new front, directly support land forces, force enemy forces to displace, be part of economic warfare, seize or attack naval bases and ports, force an inferior enemy to fight, or serve as political coercion.[42] Finally, navies play a vital role in both attacking and protecting maritime communications.

Attacking can take the form of fleet actions, commercial blockades, *guerre de course,* sanctions, or harassment. Defending maritime communications can take also several forms: indirect and general fleet cover, covering focal points and patrolling sea lanes, attacking enemy bases, and direct defense by convoys with escorts.[43]

For seapower to enable the physical control of land requires one of the most complex military missions: amphibious landings. The twentieth century witnessed a renaissance of sorts concerning amphibious operations. The same modern weaponry that led to the horrors of the First World War Western Front led to the disastrous Gallipoli Campaign. It would take US Marine Corps leaders such as General John Lejeune and Lt. Col. Earl "Pete" Ellis to devise and champion amphibious doctrine and capabilities. Their interwar work was essential to successful amphibious operations during the Second World War. The Navy and Army both supported these efforts, but the two services focused on other missions and therefore did not emphasize amphibious operations.[44] The result of these American efforts and the efforts of the British were scores of Allied amphibious operations during Second World War and a few in the early years of the Cold War era.

In part a reaction to Allied, especially American, amphibious capabilities, sea denial grew to be an important concept, especially today given the ongoing Chinese efforts to increase their maritime capabilities and contest US naval advantages. Sea denial—sometimes referred to anti-access, area denial, or the acronym A2/AD—denies the enemy use of the sea and air in an area.[45] The purpose for this denial of access may be to prevent the enemy from traversing the area with naval or maritime vessels, and this may include denying access to the land, especially to prevent amphibious operations. As a recent example, the Soviet Navy's primary mission during the Cold War was to one of sea denial, as its forces were to prevent North Atlantic Treaty Organization (NATO) naval forces from attacking the Soviet mainland from the sea.[46] Sam Tangredi made the important point that in the Soviet Navy sea denial "was no longer perceived as an interim step toward building the capacity toward *control*."[47] It was, and can be, a stand-alone naval strategy, as the Chinese approach in the South China Sea demonstrates.

Geoffrey Till made a powerful argument underscoring the need for the international maritime cooperation to maintain what he called "good order at sea."[48] He posited that issues at sea have political, economic, and criminal effects that can quickly translate onto land and throughout the globe. Till's three broad themes to ensure good order at sea are increasing maritime awareness, developing effective maritime policy, and

developing integrated maritime governance. Finally, closer cooperation is required of all maritime agencies on the navy-coast guard spectrum, as countering some contemporary threats requires both security and law enforcement capabilities.[49]

Conclusion

William Shakespeare underscored the unique importance of sea power in British history in his play *Henry V* when the English king exhorted his countrymen, "Cheerly to sea; the signs of war advance: No king of England, if not king of France!"[50] In order to achieve his policy goals, namely securing the French throne for himself, Henry V needed to transport and supply his land forces across the Narrow Sea, or the English Channel, to defeat France's land forces on land, and to do that he needed enough sea power to control a portion of the Narrow Sea that allowed him to move his men and material safely. King Henry's efforts exemplify the use of maritime strategy as part of a broader national strategy, as maritime strategy is the use of the sea as an instrument of statecraft. King Henry sought to employ naval and maritime means as a part of his broader strategy to achieve his national policy. More specifically, the young English monarch demonstrated that the functions of seapower—sea control, power projection, maritime communications, amphibious operations, and sea denial—are largely timeless, although they have certainly changed in theory and praxis. The strategic triumvirate's observations of land armies seen in the preceding chapter also holds true on the sea: the character of naval operations and maritime strategy has grown in complexity, but the nature of maritime strategy remains fundamentally the same.

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Notes

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12. Alfred T. Mahan, *The Influence of Sea Power Upon History, 1660–1783* (1890; repr., New York: Dover Publications, 1987).

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14. Mahan, 25–29.

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17. Sumida, 4.

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24. Lambert, *21st Century Corbett*, 2 and 11. Andrew Lambert is the Laughton Professor of Naval History in the Department of War Studies, King's College London, and has written extensively on strategy, maritime strategy, and naval history.

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28. For instance, see Andrew Lambert, *The Crimean War: British Grand Strategy, 1853–56* (New York: St. Martin's Press, 1990), 335, where he illustrates the limitations of sea power during the Crimean War.

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45. Norman Friedman, *Seapower as Strategy: Navies and National Interests* (Annapolis, MD: Naval Institute Press, 2001), 41; and Till, *Seapower,* 153–54.

46. Friedman, 83; Norman Polmar, *The Naval Institute Guide to the Soviet Navy*, 5th ed. (Annapolis, MD: Naval Institute Press, 1991), 23–25; Roger W. Barnett, "Soviet Maritime Strategy," in *Seapower and Strategy*, 297–323; and Tangredi, *Anti-Access Warfare,* 23.

47. Tangredi, 23. Professor Tangredi, the director of the Institute for Future Warfare Studies at the US Naval War College, produced an extensive list of publications on naval strategy.

48. Till, *Seapower,* 306. Till, an emeritus professor of maritime studies in the Defence Studies Department of King's College London, was the Dudley W. Knox Chair for Naval History and Strategy at the US Naval War College. His *Seapower: A Guide for the 21st Century* is essential reading for maritime strategy.

49. Till, 306–21.

50. William Shakespeare, *King Henry the Fifth,* act II, scene II, in *William Shakespeare: The Complete Works* (New York: Barnes and Nobles Books, 1994), 493.

Chapter 5
Strategy in the Air
David J. Lyle

> *Air power may be defined as the ability to do something in the air. It consists of transporting all sorts of things by aircraft from one place to another, and as air covers the whole world there is no place that is immune from influence by aircraft.*[1]
>
> —William Mitchell

For the vast majority of our collective history, human flight was purely the stuff of fantasy and dreams. Mythology warned us that those attempting to climb too high would inevitably see their wings melt in the sun, sending them crashing to the ground like Icarus. Air warfare was anticipated in heroic myths and stories for thousands of years, but for most of human history, use of the air was limited to hurling missiles through it, using birds for carrying messages to and from the battlefield, and using both to start fires in besieged cities.[2] The first enduring use of manned aircraft in warfare began shortly after the first flights of the Montgolfier brothers in 1783, with hot air and hydrogen balloons used for observation and signaling to enhance the performance of traditional military forces.[3] The aviation game changed forever in 1903 when Orville and Wilbur Wright made the first sustained powered flight in Kitty Hawk, North Carolina, benefitting from years of glider research in various countries.

As with the maritime domain, people are only visitors in the air. But the access that these new air technologies provided—quick, sustained, and precise access to anywhere over the entire surface of the planet—redefined the character of international commerce and warfare, and also maritime warfare after aircraft were added to ships. It was this new freedom of access to the expanded "third dimension," rather than the air weapons themselves, that caused a seismic shift in strategic possibilities.[4] When the speed and reach of airpower was coupled with weapons of previously unimaginable power, some questioned whether the nature of warfare itself had changed.[5] And in recent history, highly networked air weapons—provided with stealthy radar-evading capabilities and precision guidance—have led some to claim that the visions of early airpower advocates and zealots had finally been validated, changing the nature of warfare itself.[6] As with naval power, it was believed that the full use of airpower's contributions required new independent air services to see beyond the paradigms of the past, aligning the expanded visual perspectives made possible from

flight with the conceptual leaps needed to realize airpower's new tactical, operational, and strategic possibilities.[7]

While powered flight was somewhat slow to catch on in the United States military despite its origins there, other countries quickly assessed and explored the airplane's capabilities to augment traditional surface warfare. By 1911, many of the future roles airplanes would play had already been performed experimentally in combat, including the first recorded bombing missions with hand-dropped grenades by Italian air forces during their war against Turkey in Libya.[8] World War I's outbreak in 1914 became the true spark igniting the fuller development of airpower theory, driven by the need to develop alternatives to static trench warfare. While aircraft were most often used as an auxiliary force for observation, reconnaissance, and signaling, World War I also saw the birth of air-to-air combat, strategic bombing via Zeppelin, and Gotha bomber attacks against London starting in 1915. Additionally, the first large combined air and ground operations with more than 1,400 coalition aircraft supporting the St. Mihiel offensive occurred in September 1918.[9] With the first solo crossing of the Atlantic by Charles Lindberg in 1927, it was clear that even vast oceans no longer provided sanctuary from air attacks, forcing a reconsideration of all prior assumptions about the likely character of future wars.

Prophets of Airpower: Douhet, Trenchard, Mitchell

If there is one theme that perhaps captures all of the attempts to engineer strategic uses of airpower during and after World War I, it is "Never Again!" From their airborne perches high above the static trenches of Europe, World War I airmen were granted a terrible sweeping view of the human carnage and material destruction of ground warfare, in which the same few feet of bloody, devastated ground was often traded back and forth over months, at severe costs of hundreds of thousands of casualties. This made no sense to airmen in light of airpower's new possibilities—as described by an Italian airman who greatly influenced airpower thought in later years, "To cast men against concrete is to use them as a useless hammer."[10] Seeking an alternative, aviators advocated using their new access to the third dimension to bypass static ground defenses entirely. Using aircraft, they directly attacked deep, vulnerable, and mostly undefended targets in the enemy's rear, seeking a war-winning decision at a far lower cost in precious blood and treasure on both sides. Early advocates for these approaches who cast a long shadow in the development of airpower theory included Italy's Guilio Douhet, Great Britain's Sir Hugh Trenchard, and the United States' William "Billy" Mitchell.[11]

General Giulio Douhet, who traced the development of aviation since Italy launched its first dirigible in 1905, wrote an analysis of Italy's air efforts during the 1911 Ethiopian campaign as well as the 1912 *Rules for the Use of Airplanes in War*, one of the earliest tactical manuals of its kind.[12] In his 1921 book, *Il Domino dell' Aria* (*The Command of the Air*), Douhet described the airplane as "the offensive weapon par excellence" that made ground forces mostly irrelevant; he indicated that winning future wars would require destroying the enemy air force on the ground at their airfields "like eggs in the nest" to achieve "command of the air."[13]

After achieving command of the air, bombers bypassed ground formations to directly attack the "vital centers" of enemy industry, transportation infrastructure, communications nodes, and government buildings then destroy the populace will to continue resisting against the threat of unstoppable urban bombing.[14] Douhet's views were heavily couched in the assumptions that enemy government choices of whether to go to war or end a conflict depended upon popular support and the assent of the populace. Additionally, he believed that poison gas would be used as an air weapon as it had previously in trench warfare, and that no effective air defenses could be mounted against offensive air attacks—assumptions which were disproved in the wars to come.[15]

A contemporary of Douhet, Sir Hugh Trenchard was chief of Great Britain's Royal Air Force, appointed in 1919 to lead the world's first independent air service. Like Douhet, Trenchard believed that command of the air was a prerequisite for victory, and that air power was an inherently offensive weapon. In response to his need to secure an institutional foothold for the new Royal Air Force amidst post-World War I interservice wrangling for resources in Britain, and also to meet the needs of policing the vast British Empire with economy, Trenchard advocated for "air control" to reduce the need for forward-based surface forces. This experiment ultimately proved less successful than advertised. Air could be used for punishment, but had little actual effect on the granular human dynamics in foreign lands. Countries still required foreign-sourced land forces and used relatively indiscriminate bombing tactics that raised serious moral quandaries, reducing both foreign and domestic support for colonial air policing efforts.[16] Like Douhet, Trenchard believed that collapsing enemy capability and morale was the ultimate aim in reaching a decision in war, and emphasized long-range strikes using bombers to collapse key vital centers of the enemy infrastructure to force enemy capitulation.[17]

Brig. Gen. William "Billy" Mitchell of the United States is perhaps the best known of the early advocates for airpower based on his actions in World War I, his dramatic airpower demonstrations, his writings, and, most of all, the fiery rhetoric that ultimately led to his highly publicized 1925 court martial—the event that established him as a martyr for the airpower cause in the eyes of his many acolytes.[18] Mitchell's early operational record in World War I was impressive: he was one of the first Americans in Europe after the US entry into the war, the youngest American general in the war, and the architect of actions like the coalition-wide St. Mihiel air attacks. But it was his actions after the war that cemented his legacy. Billy Mitchell's sinking of captured German WWI battleship *Ostfriesland* in 1921 ushered the end of the battleship era, and also spurred the rapid development of naval aviation under Rear Adm. William Moffett.[19] The initial theory of airpower in this period might best be captured in the words of Mitchell, who wrote in his 1921 book *Our Air Force: The Keystone of National Defense*: "Our doctrine of aviation, therefore, should be to find out where the hostile air force is, to concentrate on that point with our Pursuit, Attack, and Bombardment Aviation, to obtain a decision over the hostile air force, and then to attack the enemies' armies on land or navies on the water, and obtain a decision over them."[20]

Mitchell's unrestrained advocacy for airpower earned him both fame and notoriety until his death in 1936; putting many of his ideas into action was taken up by the Air Corps Tactical School (ACTS), founded in 1920 and adopting the motto "*Proficimus More Irrenti"* ("We progress unhindered by tradition").[21] While Mitchell's ideas loomed large at ACTS, there is little evidence that Douhet's ideas were discussed there.[22] Influenced by a course director who had previous experience with the cascading effects of nodal disruptions in the railroad system, the school began developing theories and doctrine designed to destroy key enemy infrastructure, often called "industrial web theory."[23] Their goal was to use precision long-range airstrikes against select "vital targets" early in the war and thus avoid long, costly ground wars like World War I, perhaps even precluding the need to win air superiority first.[24] These theories, depending on still-emerging and untested technology and tactics, were impossible to substantiate at the time they were proposed, but they had taken primacy at the school by 1930, and were further buttressed by the arrival of the new heavily armed B-17 Flying Fortress.[25] These ideas developed in ACTS eventually became the foundation of Air War Plans Division Plan #1, or AWPD-1—later modified into AWPD-42—which

informed the joint meetings with the British that produced the 1943 Combined Bomber Offensive in the European theater.[26]

While undeniably biased toward their own domain and institutional interests, the idea that early airpower advocates were universally calling for "airpower alone" solutions is overstated in contemporary discussions of interservice rivalry. ACTS sought to minimize the requirement for surface forces to become engaged, but never called for minimization or elimination altogether. Trenchard stated that air campaigns would create conditions "in which our Army can advance and occupy his [the foe's] territory;" one of Trenchard's acolytes, Sir John Slessor, wrote that "no attitude could be more vain than to claim that the next great war—if and when it comes—will be decided in the air, and in the air alone."[27] But just a few lines later, Slessor echoed the opinion of even the most moderate early airpower advocates: "The air is only one, but it is the most decisive one, of a number of factors favouring the rise of small, highly mobile, hard hitting, armoured, and mechanized army of tomorrow."[28]

Strategic Context and Technology—the Crucibles of Modern Warfare

It did not take long for the interwar theories of the early airpower advocates to find their initial test in World War II. Airpower provided the opening punch for both theaters of war, with screaming Stuka dive bombers supporting the Blitzkrieg attacks in Poland in September 1939, and Japanese carrier aircraft paralyzing the US Pacific Fleet in Pearl Harbor in December 1941. The 1940 Battle of Britain validated early theories about the importance of the control of the air, and the British proved their resilience against subsequent V-1 and V-2 terror bomb attacks. Great Britain and the United States used strategic bombing to take the war to Germany, yet ground invasions supported by airpower were still ultimately required to defeat the Nazi forces. In the Pacific, carrier-based battles like Coral Sea and Midway demonstrated that the reign of the battleship had ended, and innovative uses of airpower by General George Kenney helped to cripple Japanese shipping, in conjunction with American submarine warfare.[29] The atom bombs that devastated Hiroshima and Nagasaki in August 1945 ushered in a new atomic era, one in which airpower appeared to change the entire character of war beyond recognition.

Although it's undeniable that airpower contributed greatly in the ultimate Allied victories of World War II, the war also illustrated the lim-

itations of theories advanced by early airpower advocates. Many of their planning assumptions about industrial capacity were not met, as industrial targets proved more resilient than anticipated.[30] Air defense innovations proved British Prime Minister Stanley Baldwin's assumption that "the bomber will always get through" would only be true with massive losses to bombers, downed by enemy anti-aircraft fire and pursuit fighters. This approach created tens of thousands of aircrew casualties over the skies of Europe, and even more in civilian areas below, contrary to the original intent of the airpower theorists to reduce war's carnage.[31]

Assumptions about attacking the enemy's will to resist via air attacks, and how many resources those attacks would require, also fell short of expectations. Rather than causing populations to rise up against their leaders, attacking urban areas and civilians actually made the populations less capable of mounting a challenge to authoritarian governments that regularly used force against their own people at the first signs of discontent.[32] Long-range bombing was far less accurate than anticipated, which increased the resources required to achieve desired effects compared to prewar estimates. In their defense, however, the AWPD-1 planners provided a valuable service. They developed a methodology for assessing targets and matching them to resourcing requirements that helped the Army Air Corps transition into the behemoth Army Air Forces. In just nine days, they estimated that the war would require more than 63,000 aircraft, 135,000 pilots, and a force totaling 2.1 million personnel; the AWPD-1 planners provided industrial base planners with a head start on the 231,000 aircraft the Army Air Forces would eventually build. [33]

Though some early theories about airpower proved incorrect, airpower played a vital role in Allied victories of World War II. As historian Richard Overy concisely stated, "The difficult question to answer is not whether air power was important, but how important it was. . . . The only conclusion that the evidence bears is the more negative conclusion that victory for either side could not have been gained without the exercise of air power."[34] One conclusion from the World War II experience was the value of a unified approach to the application of airpower. Nations that strictly divided their airpower between separate roles and locations found themselves vulnerable to adversaries that used airpower more flexibly, as was shown in the rapid defeat of the materially comparable but inferiorly organized French Air Force in the face of German attack.[35] Airpower's new "never again" moment came at Kasserine Pass, where "penny-packeted" airpower proved ineffective against Rommel.[36] The preferred mode of operation, ultimately adopted by the Allies, was to simultaneously in-

terchange airpower between air defense, strategic, bombing, naval forces support, and ground forces support. This approach helped the Allies overcome the Axis powers, which tended to split their airpower by using less flexible, relatively uncoordinated planning and execution constructs.[37]

With the advent of nuclear warfare marked by the atomic bombings of Hiroshima and Nagasaki, some thought that nuclear air forces had made conventional surface forces and conventional wars obsolete. But North Korea's surprise invasion of South Korea in 1950, and the conventional war with Chinese forces that followed, quickly put those theories to rest.[38] Vietnam saw a return to divided airpower in the form of "route packages," and tested and invalidated similar theories of "graduated response" during Operation Rolling Thunder between 1965 and 1968, making such approaches anathema to the next generation of airpower thinkers.[39] Operations Linebacker I and II in 1972 intensified bombing on key North Vietnamese infrastructure before the Paris Peace Accords, convincing many—even absent credible evidence—that victory could have been possible if the US had taken a more aggressive conventional approach in that war.[40] After Vietnam and from 1982 into the '90s, the US military collectively focused on AirLand Battle to slow the anticipated Soviet juggernaut in the Fulda Gap, preferring to write off Korea and Vietnam as "one-off" anomalies.[41] Serious reflection on past strategic shortcomings was generally avoided, even when victorious enemies pointed out that the United States' undisputable tactical superiority was strategically irrelevant.[42]

Leveraging Airpower for Strategic Effect

If airpower theorists had yet another "never again" moment, it was in the years after Korea and Vietnam. Veterans of those conflicts sought decisive theories of warfare after decades of strategic stalemate by rejecting previous failed concepts in favor of more aggressive air forces use. This led them to focus on the ability to simultaneously attack both the enemy's physical and cognitive capabilities. Two leading airpower and general theorists during this era cast a large shadow on the combat operations of the next three decades of warfare: Air Force Colonels John Boyd and John Warden.[43] Boyd, through his study of gaining advantage in aerial dogfighting, realized that decisive advantage in that arena didn't come from overpowering an opponent physically, but rather from disrupting the opponent's cognitive processes while preserving one's own. Extrapolating that insight to the level of general theory, the OODA Loop (Observe-Orient-Decide-Act) was born, describing how to leverage the cognitive processes of both oneself and the adversary for maximum adaptive benefit.[44] Boyd developed

other general theories in his influential talk, "A Discourse on Winning and Losing," which incorporated classical military theories and cutting edge nonlinear science insights to provide a new synthesis that would highly influence maneuver warfare advocates in the '90s and 2000s.[45]

Col. John Warden similarly influenced the organizational cognitive processes of his opponents regarding how to paralyze enemy forces without physically engaging them in attrition-style warfare.[46] Similar to early airpower advocates, Warden advised using precision airstrikes to target enemy nation leadership then system essentials, infrastructure, the population, and finally the enemy military, a parallel warfare methodology described in his Five Rings model.[47] Warden gained two years of theoretical preparation as the head of the Air Staff's Checkmate planning group then put his ideas into practice when General Norman Schwarzkopf requested air options for dislodging Iraqi forces from Kuwait in the buildup to 1991's Operation Desert Storm.[48]

Warden and Boyd were both credited in part for the amazingly lopsided tactical victory of Coalition forces in Operation Desert Storm, but this hollow victory led into more than thirty years of continuous deployment and combat in that region, including a second US invasion of Iraq in 2003.[49] The soul-cleansing effect of the Coalition's rapid Desert Storm victory after the long debacle of Vietnam—combined with misguided perceptions of "airpower alone" victories in Bosnia and Kosovo in the 1990s—spurred a new generation of advocates to claim a new era for airpower, often ignoring wider confluence of events that resulted in an ugly win for the North Atlantic Treaty Organization (NATO).[50] Systems engineering schemas and both valid and misappropriated nonlinear science concepts influenced methodologies like effects-based operations and network centric warfare to construct airpower-based shock and awe approaches.[51] Some even claimed that the new reconnaissance strike complex—built on Boyd and Warden's theories—would finally vindicate early airpower theorists like Douhet.[52] But subsequent decades of intractable irregular warfare showed the limitations of these paralysis models as general theories for strategy; hitting targets precisely was still important, but satisfactory results could not be achieved by merely servicing target lists, unless the desired results were very limited in scope in the first place.[53]

Conclusion

More than a decade after his service as the Coalition Force Air Component commander (CFACC) during the 1999 NATO war in Kosovo, re-

tired US Air Force Lt. Gen. Mike Short served as a senior mentor to rising air leaders in joint and coalition forces attending joint and coalition planning courses. At the center of his instruction was a statement, "There is *no such thing as the air campaign*! There is *one joint campaign*, and the air component provides a contribution to it.[54] Short would repeat this phrase like a mantra to all audiences, be they young majors or two-star generals ready to become CFACCs themselves.

In the same way, one could say that there is no such thing as airpower strategy in execution. There is strategy writ large, and airpower contributes to this strategy. But we can still talk about airpower strategies for purposes of description and analysis. Colin Gray described the unity of strategy with subordinate strategies in *The Future of Strategy:* "Military power at all times and in all kinds is united in its function and dynamics. . . . It is important to recognize that each geographically specialized form of military power is vitally important, both in itself and as a contributor to strategic effect, and as an enabling factor for other contributing agents."[55] This brings us full circle to Douhet who, despite his theoretical misfires, captured the core of airpower's contribution to strategy—or any specific domain service, for that matter—when he wrote: "A nation's naval forces, like all armed forces, influence international politics by their potentialities."[56] This also brings up a topic that was teased in the introduction but impacted the discussion of airpower strategy little in the preceding pages: specifically, the strategic effect of air-launched nuclear weapons. While it is empirically impossible to prove that such weapons limited or reduced the scope of conflict following their introduction, they have undoubtedly created a strategic context favoring restraint from high-intensity war between nations that possess them, as well as increased latitude to behave badly by weak nations that possess them.

The general theory of strategy is agnostic to specific ways and means, but it is still useful to talk about how to approach the challenge of practicing strategy using a specific set of skills and tools. As both Colin Gray and Dag Henrikson noted, airpower strategy has suffered from deficiencies in our general theory of strategy; the latter noted that the airpower community traditionally focused on "more narrow perspectives of flying, aircraft, tactical air combat and technology."[57] This is as much a cultural shortcoming as a conceptual one, as one can never generate and sustain new and better ideas if an organization's internal incentive structures and norms do not incentivize development of new and improved airpower theories, and sustain the careers of those who develop them.[58]

Airpower will continue to provide vital and unique tactical capabilities to joint and coalition forces, but it can only achieve strategic efficacy if its place in the general theory of strategy is embraced and understood. Paralyzing one's enemies—and dislocating or defeating their fielded forces—will continue to be tactically necessary, but the ability to service targets or hold them at risk from a distance is only the price of entry to the strategy game. To paraphrase Thomas Schelling, and H. A. Calahan before him, the real point of strategy is not paralysis or destruction of your enemies, but constructive (or at least not destructive) continuation of social discourse with the people who survive the war.[59] Strategists use military force and threats of force to remove barriers to cooperation between otherwise warring societies, ideally using a portfolio of options to enlist former adversaries in new complementary patterns of political interaction. Making that connection between tactical actions and strategic outcomes requires the general theory of strategy, not a narrow domain-focused strategy done in isolation from the wider process of social context creation that airpower—like all forms of military power—serves when strategy is done well.

Further Reading

• Tami Davis Biddle, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas About Strategic Bombing, 1914–1945* (Princeton, NJ: Princeton University Press, 2002).

• Stephen Budiansky, *Air Power: The Men, Machines, and Ideas that Revolutionized War, From Kitty Hawk to Gulf War II* (New York: Penguin Group, 2004).

• Colin S. Gray, *Airpower for Strategic Effect* (Maxwell Air Force Base, AL: Air University Press, 2012).

• Phillip S. Meilinger, ed., *The Paths of Heaven: The Evolution of Airpower Theory* (Maxwell Air Force Base, AL: Air University Press, 1997).

• John Andreas Olsen, *A History of Air Warfare* (Washington, DC: Potomac Books, 2010).

Notes

1. William Mitchell, *Winged Defense* (New York: G. P. Putnam's Sons, 1925), xii.

2. As reported in Michael Prawdin, *The Mongol Empire: Its Rise and Legacy* (New York: Routledge 2017), 107–8: "Now Jenghiz Khan had no further need of open gates. He commanded his men to tie a tuft of cotton-wool to the tail of every cat and every swallow, to light these impedimenta, and to turn the beasts and birds loose. The affrighted swallows sought their nests and the enraged and bewildered cats made for their lairs. The inhabitants of the city gained nothing by killing a few of these fire-bearers. The town was ablaze in hundreds of places at once, and, while the conflagrations raged, the Mongols stormed the city."

3. See Donald Dale Jackson and the Time-Life Editors, *The Epic of Flight: The Aeronauts* (Alexandria, VA: Time-Life Books, 1980).

4. As described by Air Vice-Marshal E.J. Kingston-McCloughry, *War in Three Dimensions: The Impact of Air Power upon the Classical Principles of War* (Oxford: Alden Press, 1949), 21: "For practical purposes three dimensional warfare means the combination of surface warfare with warfare below the surface of the sea and above the surface of the land and sea."

5. With the caveat that this depends heavily upon how one characterizes the nature of war, generally considered to be features of war that transcend different times and modes of warfare, an example of asking such a question can be seen in Bernard Brodie, "Changing Attitudes toward War," *War and Politics* (New York: Macmillan Publishing, 1973), 274: "Because nations insist upon remaining judges in their own cases, one has to retain some reservations about the effectiveness of the changes of view that we have observed since 1916. Nevertheless, a change of such dimensions, combined with the advent of nuclear weapons on top of the terrible experience of two world wars, is bound to be of the greatest significance. . . . Nations that formerly thought it quite impossible to live together in a condition of expanding nuclear capabilities have now got considerably used to it."

6. See Brig. Gen. David A. Deptula, *Effects Based Operations: A Change in the Nature of Warfare,* Air Force Association Defense and Airpower Series (Arlington, VA: Aerospace Education Foundation, 2001).

7. Airmindedness is a term used in the 1920s to describe the increasing fascination with aviation and aircraft that arose in the wake of World War I. Dale Hayden offers a contemporary definition here: "[Airmindedness] is a global, strategic mind-set providing perspective through which the battlespace is not constrained by geography, distance, location, or time. The airmindedness lens enables airmen to think about conflict in which force-on-force and armies in the field are only one element. It implies the ability to influence the links between adversary materiel and moral strength. Although airmen rarely claim to target the enemy's will, they perceive a direct connection between his physical capacity and desire to continue the fight." Dale Hayden, "Airmindedness," *Air and Space Power Journal* (Winter 2008): 44–45. See also James Thurston, *The*

Aeroplane and Astronautics 97, no. 2498 (4 September 1959); Brett Hollman, *The Next War in the Air: Britain's Fear of the Bomber, 1908–1941* (Surrey, UK: Ashgate, 2014); and Robert G. O'Meally, ed., *The Jazz Cadence of American Culture* (New York: Columbia University Press, 1998).

8. Alan Johnson, "Libya 1911: How an Italian Pilot Began the Air War Era," *BBC News* (10 May 2011).

9. John H. Morrow Jr., *The Great War in the Air: Military Aviation from 1909 to 1921* (Tuscaloosa, AL: University of Alabama Press, 2009).

10. Phillip S. Meilinger "Giulio Douhet and the Origins of Airpower Theory," in *The Paths of Heaven: The Evolution of Airpower Theory,* ed. Phillip S. Meilinger (Maxwell Air Force Base, AL: Air University Press, 1997), 5.

11. Tami Davis Biddle, "The Airplane and Warfare: Theory and History," in *U.S. Army War College Guide to National Security Issues, Vol 1: Theory of War and Strategy* (Carlisle, PA: Strategic Studies Institute, 2012), 273–93.

12. Meilinger, "Giulio Douhet and the Origins of Airpower Theory," 3–4.

13. Guilio Douhet, *The Command of the Air* (Tuscaloosa, AL: University of Alabama Press, 1998), 23.

14. Meilinger, "Giulio Douhet and the Origins of Airpower Theory," 10–11.

15. For an interesting study on the underlying thought that turned Douhet from an advocate for banning the air weapon to eventually going to the opposite extreme, see Thomas Hippler, "Democracy and War in the Strategic Thought of Giulio Douhet," in *The Changing Character of War*, ed. Hew Strachan and Sibylle Scheipers (Oxford: Oxford University Press, 2011).

16. Phillip S. Meilinger, "Trenchard, Slessor, and Royal Air Force Doctrine before World War II," in Meilinger, *The Paths of Heaven*, 49–50; Michael A. Longoria, "A Historical View of Air Policing Doctrine" (master's thesis, School of Advanced Air and Space Studies, Maxwell Air Force Base, AL, May 1992); and James Corum and Wray Johnson, *Airpower in Small Wars* (Lawrence, KS: University Press of Kansas, 2003).

17. Meilinger, 51–54.

18. Douglass Waller, *A Question of Loyalty: Gen. Billy Mitchell and the Court Marshall that Gripped the Nation* (New York: Harper Collins Publishers, 2004); and Alfred E. Hurley, *Billy Mitchell: Crusader for Air Power* (Bloomington, IN: Indiana University Press, 1975).

19. William F. Trimble, *Admiral William A. Moffett: Architect of Naval Aviation* (Annapolis, MD: Naval Institute Press, 2007).

20. William Mitchell, *Our Air Force: The Keystone of National Defense* (1921; repr., London: Frank Cass, 2005), 15.

21. In a double (and perhaps triple) irony, attempts by recent airpower scholars to establish the historical lineage of this motto indicate that the Latin word "*Irrenti*" did not exist in tactical usage but was a later invention of those seeking to emulate Latin. Thanks to Dr. Everett Dolman and Dr. Paul Hoffman of Air Command and Staff College for this anecdote.

22. Robert T. Finney, *History of the Air Corps Tactical School, 1920–1940* (Washington, DC: Center for Air Force History, 1992). Finney remarked on page

57: “Although Douhet’s writings began to appear in Italy in the early 1920s, they do not seem to have found their way immediately to American publications. At ACTS [Air Corps Tactical School], only an imperfect translation was available and this not until 1933. By that time school concepts had begun to take shape.”

23. Finney, 65.

24. Finney, 71–75.

25. Antulio J. Echevarria II, “Strategic Anarchy and the American Way of War,” *Infinity Journal* 6, no. 3 (Winter 2019): 10–14. Echevarria noted: “The central concept of these theorists was using aerial bombing to inflict intolerable levels of pain on the hostile party’s populace and thus compel its government to concede. They assumed a direct connection existed between a foe’s political and socio-cultural dimensions, an assumption that proved problematic in the Second World War.” On strategic bombing, Finney’s *History of the Air Corps Tactical School* stated on page 64 that the updated texts reflected the faculty’s belief that bomber aircraft were better suited than fighter aircraft for counterair missions of attacking enemy aircraft on the ground as well as attacking strategic ground targets and attacking targets in the vicinity of the battlefield—only in unusual circumstances.

26. Haywood Hansell, *The Air Plan that Defeated Hitler* (Atlanta: Higgins/McArthur/Longino & Porter, 1972); Charles Griffith, *The Quest: Haywood Hansell and American Strategic Bombing in World War II* (Maxwell Air Force Base, AL: Air University Press, 1999); and Steven A. Parker, “Targeting For Victory: The Rationale Behind Strategic Bombing Objectives in America’s First Air War Plan,” *Airpower Journal* 3, no 2 (Summer 1989): 59–70.

27. Meilinger “Trenchard,” 51; John C. Slessor, *Air Power and Armies* (Oxford: Oxford University Press, 1936), 214.

28. Slessor, *Air Power and Armies*, 214.

29. Thomas C. Hone, ed., *The Battle of Midway: The Naval Institute’s Guide to the U.S. Navy’s Greatest Victory* (Annapolis, MD: Naval Institute Press, 2016); and Thomas E. Griffith Jr., *MacArthur’s Airman: General George C. Kenney and the War in the Southwest Pacific* (Lawrence, KS: University Press of Kansas, 1998).

30. US Air Force, *The United States Strategic Bombing Surveys (European War/Pacific War)* (Maxwell Air Force Base, AL: Air University Press, 1987); Tami Davis Biddle, *Rhetoric and Reality in Air Warfare* (Princeton, NJ: Princeton University Press, 2002); and Gian Gentile, *How Effective is Strategic Bombing? Lessons Learned from World War II to Kosovo* (New York: New York University Press, 2001).

31. Edward B. Westermann, *Flak: German Anti-Aircraft Defenses, 1914–1945* (Lawrence, KS: University Press of Kansas, 2001). The Stanley Baldwin comment is taken from a 1932 British House of Commons debate; the full quote: “I think it is well also for the man in the street to realise that there is no power on earth that can protect him from being bombed. Whatever people may tell him, the bomber will always get through, and it is very easy to understand that, if you

realise the area of space. I said that any town within reach of an aerodrome could be bombed." House of Commons Debate, 10 November 1932, vol. 270, 525–641.

32. Richard Overy, *The Air War, 1939–1945* (Washington, DC: Potomac Books, 2005), 207–8.

33. Philip Meilinger, "The Prescient Planners of AWPD-1," *Air Force Magazine* (29 June 2011).

34. Overy, *The Air War,* 205–6.

35. Anthony Christopher Cain, "L'Armee de l'Air, 1933–1940: Drifting toward Defeat," in *Why Air Forces Fail* (Lexington, KY: University Press of Kentucky, 2006).

36. Clint Hinote, "*Centralized Control* and *Decentralized Execution*: A Catchphrase in Crisis?" (research paper, Air Force Research Institute, March 2009); Rebecca Grant, "Penny Packets: Then and Now," *Air Force Magazine* (26 May 2010); and William W. Momyer, "Command and Control of Airpower," in *Airpower in Three Wars* (Washington, DC: US Government Printing Office, 1978). Penny packet is a concept whereby small units of aircraft are provided to ground forces for their use, versus a more centralized approach.

37. From Richard Overy, *The Air War*, 204–5: "It was the realization from early in the war that air power, to be effective, could not be divisible that distinguished the attitude of the Allies from that of the Axis powers. . . . To distinguish thus between a general and limited air strategy helps to explain why the Allies won the air war in its most direct sense, in the defeat of the enemy air force and the winning the command of the air. Resources could have been allocated differently between services, but it is still difficult to escape the conclusion that the adoption of a general air strategy was an important factor in explaining victory in the war as a whole as well."

38. Conrad C. Crane, *American Airpower Strategy in Korea, 1950–1953* (Lawrence, KS: University Press of Kansas, 2000).

39. Route packages used air forces to patrol and bomb enemy resupply routes then degrade their ability to logistically maintain their forces in South Vietnam. Graduated response was a concept that slowly increasing the use of force against an enemy would be more efficient than massive force, leading to the enemy's eventual capitulation at the least cost.

40. The single best representation of this hands-tied-behind-our-backs line of thinking, which conveniently let the military off the hook for its failures of strategic conception, was Harry G. Summers Jr., *On Strategy: A Critical Analysis of the Vietnam War* (New York: Dell Publishing, 1982). One of the best critiques of this line of thinking was Andrew Krepinevich Jr., *The Army and Vietnam* (Baltimore: Johns Hopkins University Press, 1986). For the air perspective, see Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (Lincoln, NE: Bison Books, 2006).

41. Robert Leonhard, *The Art of Maneuver: Maneuver Warfare Theory and Airland Battle* (New York: Presidio Press, 1994); and Robert Farley, "AirLand Battle: The Army's Cold War Plan to Crush Russia (That Ended Up Crushing Iraq)," *National Interest* (1August 2018).

42. Col. Harry G. Summers, "Interview with General Frederick C. Weyand about the American Troops who Fought in the Vietnam War," *Vietnam Magazine* (1988). The article in the magazine's inaugural issue included this comment by Summers regarding his conversation with a North Vietnamese colonel during the Paris Accord talks: "'You know, you never beat us on the battlefield,' I told my North Vietnamese counterpart during negotiations in Hanoi a week before the fall of Saigon. He pondered that remark a moment and then replied, 'That may be so, but it is also irrelevant.'"

43. John S. Fadok, "John Boyd and John Warden: Airpower's Quest for Strategic Paralysis" (master's thesis, School of Advanced Air and Space Studies, Maxwell Air Force Base, AL, 1995).

44. Dave Lyle, "Perspectives: Looped Back In," *Armed Forces Journal* (December 2011): 32–34, 40.

45. John R. Boyd, *A Discourse on Winning and Losing* (Maxwell Air Force Base, AL: Air University Press, 2018); and Grant Hammond, *The Mind of War: John Boyd and American Security* (Washington, DC: Smithsonian Books, 2001).

46. John Warden III, *The Air Campaign: Planning for Combat* (Washington, DC: National Defense University Press, 1988); and John Andreas Olsen, *John Warden and the Renaissance of American Air Power* (Washington, DC: Potomac Books, 2007).

47. John Warden, "The Enemy as a System," *Airpower Journal* 9, no 1 (Spring 1995).

48. Richard T. Reynolds, *Heart of the Storm: The Genesis of the Air Campaign Against Iraq* (Maxwell Air Force Base, AL: Air University Press, 1995); and Edward C. Mann, *Thunder and Lightning: Desert Storm and the Airpower Debates* (Maxwell Air Force Base, AL: Air University Press, 1995).

49. Jeffrey Record, *Hollow Victory: A Contrary View of the Gulf War* (Washington, DC: Potomac Books, 1993).

50. The most famous "airpower alone" claim came from John Keegan, "Please, Mr. Blair, Never Take Such a Risk Again," *The Sunday Telegraph* (6 June 1999), in which the historian optimistically stated: "Now there is a new turning point to fix on the calendar: June 3, 1999, when the capitulation of President Milosevic proved that a war can be won by airpower alone." Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Santa Monica, CA: RAND, 2001). See Ivo H. Daalder and Michael E. O'Hanlon, *Winning Ugly: NATO's War to Save Kosovo* (Washington, DC: Brookings Institution Press, 2001) for more balanced and rigorous assessments of how multiple elements, including land forces like the Kosovo Liberation Army, contributed to the final result in Kosovo.

51. Torgeir E. Saveraas, "Effects-Based Operations: Implementation in US Military Doctrine, and Practical Useage," and Arent Arntzen and Tor Olav Grotan, "A New Chance for Network Centric Warfare in the Context of Modernity," in *Conceptualizing Modern War,* ed. Karl Erik Haug and Ole Jorgen Maao (New York: Columbia University Press, 2011). See also discussions of effects-based operations and network centric warfare in Milan Vego, *Joint Operational War-*

fare: Theory and Practice (Newport, RI: US Naval War College, 2009). For a discussion of how nonlinear science was both used and abused in this era, see Sean Lawson, *Nonlinear Science and Warfare* (New York: Routledge, 2014).

52. John F. Jones Jr., "Giulio Douhet Vindicated: Desert Storm 1991," *Naval War College Review* 45, no. 4 (Autumn 1992): 97–101.

53. Mike Pietruca, "Strategies That Matter—Why Targets That Matter, Don't," *USNI News* (20 October 2015); Noah Schachtman, "How Technology Almost Lost the War: In Iraq, the Critical Networks Are Social—Not Electronic," *Wired Magazine* (11 November 2007).

54. Quote and emphasis based on author's observations over a ten-year period.

55. Colin S. Gray, *The Future of Strategy* (Cambridge: Polity Press, 2015), 94–95.

56. Guilio Douhet, *The Command of the Air* (Tuscaloosa, AL: University of Alabama Press, 1998), 287.

57. From Colin S. Gray, *The Airpower Advantage in Future Warfare: The Need for Strategy* (Maxwell Air Force Base, AL: Air University Press, 2007), vii: "A common and serious error is the belief that airpower theory is uniquely immature and contested. Currently, it so happens, literally every dimension of US military power is fraught with conceptual uncertainty." The author critiqued airpower practitioners more specifically in Dag Henrikson, "Airpower: The Need for More Analytical Warriors," in Haug and Maao, *Conceptualizing Modern War,* 223–24: "By most observers the tactical skills of the airpower community have long been considered of a very high standard—but its theoretical and strategic outlook has not. In this regard, there is a severe imbalance in the airpower community's approach to war. This will be the key issue to tackle in the next decade in order to ensure the institutional flexibility to adequately face future challenges."

58. Scott A. Bethel et al., "Change Culture, Reverse Careerism: Developing Air Force Strategists," *Joint Force Quarterly* 58 (3rd quarter 2010): 82–88.

59. As Thomas Schelling discussed in *Arms and Influence* (New Haven, CT: Yale University Press, 1966), 172–73, anything short of absolute war is about continuation, not determination, and influencing enemies you have not destroyed. Schelling wrote: "Coercion depends more on the threat of what is yet to come than on damage already done. . . . To use the threat of violence against somebody requires that you keep something in reserve—that the enemy still have something to lose. This is why coercive warfare, unless it gets altogether out of hand and becomes vengeful, is likely to look restrained. The object is to exact good behavior or oblige discontinuance of mischief, not to destroy the subject altogether." See also H. A. Calahan, *What Makes a War End* (New York: Vanguard Press, 1944).

Chapter 6
Contemporary Strategic Theories and Their Influence on Doctrine

Ryan W. Kort

The ultimate determinant in war is the man on the scene with the gun. This man is the final power in war. He is control. He determines who wins.[1]

—J. C. Wylie

Colin Gray commented that despite the flourishing of strategic thought in the contemporary era, no strategic theorist of this period has displaced Clausewitz as the "gold standard for general strategic theory."[2] While difficult to argue against the influence of Clausewitz on the direction of modern strategic thought—and for that matter Sun Tzu and Thucydides—several contemporary theorists articulated new general theories of strategy.[3] These contemporary strategic ideas reconsidered some basic tenets of strategy, and expanded on or clarified earlier ideas due to increasingly complex and changing methods of warfare.[4]

Several theorists and ideas stand out due to their influence on American strategic thinking and doctrine or as a counterpoint to perceived US strategic approaches. This chapter illuminates key ideas that national security professionals working at the strategic level will recognize in the form of strategic guidance, concepts, and doctrine. These five broad categories include: annihilation, attrition, and exhaustion; the indirect approach; strategies of control; nuclear deterrence; and strategies based on systems theory. While it cannot cover every contemporary idea and theorist of distinction, this chapter will enable those new to strategic studies to understand the key ideas and contextualize how the United States, its allies, and its potential adversaries develop doctrine as well as plan, execute, and assess strategy.

Strategies of Annihilation, Attrition, and Exhaustion

The concepts of annihilation, attrition, and exhaustion form an important set of contemporary strategic theory that directly addresses the competitive nature of strategy. This theoretical framework was first codified by turn-of-the-twentieth-century German military historian Hans Delbrück in his multi-volume History of the Art of War series. This framework was later adopted by distinguished American military historian Russell F. Weigley as the foundation for his exploration of American strategic culture in *The American Way of War*.

Delbrück used the annihilation-attrition-exhaustion framework to explore strategic military history. He defined annihilation as a concept that "sets out to directly attack the enemy armed forces and destroy them and to impose the will of the conqueror on the conquered," terms that would be familiar to Clausewitz or Jomini.[5] The concept of annihilation in many ways is similar to a direct approach, with the exception that a direct approach can be a direct attack on an adversary's center of gravity, military, or otherwise, whereas annihilation is best understood as focused solely on the destruction of an adversary's fielded forces.

Delbrück viewed a strategy of attrition, however, as one that sought victory through the gradual destruction of an enemy's armed forces, with the distinction that the intent was to either engage in battle, maneuver to establish a more favorable position, or threaten something the adversary holds dear.[6] To distinguish between a strategy involving attrition and one involving an indirect approach, a topic discussed later in this chapter, Delbrück equated attrition warfare to one of "alternating between poles" of maneuver and battle.[7] The point of attrition warfare was to keep one's own armed forces intact, play for time, maintain the ability to threaten the adversary by maneuver or threat of battle, and continuously look for opportunities to bring an adversary to battle on favorable terms. To Delbrück, the object of a strategy of attrition was the same as in a strategy of annihilation: the destruction or defeat of an adversary's military capability (i.e., the fielded army) to render further resistance futile and impose the will of the victor on that of the defeated.[8] In attrition warfare, battle is to be regarded as one means among many to defeat the adversary, to be fought when necessary or when an opportunity presents itself where the benefits of the action clearly outweigh the potential costs.[9]

Delbrück further delineated a third form of strategy: exhaustion. In contrast to a strategy of attrition, which emphasizes the gradual destruction of an adversary's armed forces, exhaustion focuses on destroying the resources and/or will of an adversary to continue the struggle.[10] A strategy of exhaustion, therefore, seeks to wear down the society and economy supporting the fielded armed forces through imposing unacceptable costs over time, eventually making the original objectives of the conflict too costly to achieve. Using the Peloponnesian War as a historical case study, Delbrück indicated that "everything depended on who first reached the point of no longer being able to bear the pain, who first became exhausted," coming to the conclusion that disparities in power between a naval power (Athens) and a land power (Sparta) that refused to accept battle on the other's terms made both the strategies of annihilation and attrition by either side infeasible.[11]

Placed in an American context, Russell Weigley argued that American strategic experience shifted from waging conflict in the early days of the Republic through a strategy of attrition to a strategy of annihilation that corresponded with the increasing economic power and the adoption of more unlimited war aims.[12] Weigley highlights the Second World War as the apotheosis of the strategy of annihilation, highlighting the strategic traditions of Ulysses S. Grant and Alfred Thayer Mahan to describe the American strategy for prosecuting the war in the European and Pacific theaters, respectively. While important to note that the United States had to adopt some elements of a strategy of attrition early in the conflict due to an imbalance of forces, lack of immediately mobilized resources, and alliance considerations that influenced how the war was prosecuted, America ultimately waged the conflict using a strategy of annihilation, especially in the European Theater, that sought the destruction of the adversary's armed forces over the continuation of a peripheral campaign focused in the Mediterranean.[13]

The attrition, annihilation, exhaustion theory serves as a good contemporary model to understand and categorize strategy. It does, however, have shortcomings. The annihilation and attrition forms of strategy are purely adversary-centric and, therefore, may be an inadequate strategic approach against an adversary that refuses to fight the conflict on the same terms.[14] The American experience in Vietnam is a good example of a strategy of annihilation unable to achieve decisive effects as the Vietnamese communist irregular and North Vietnamese regular forces did not agree to fight the American forces on the terms American strategists sought to engage on.[15] As for the strategy of exhaustion, no strategic actors would likely choose this form of strategy if they had other options. Exhaustion is a strategy of last resort or for the weak to combat the strong, as it implies a costly multi-year struggle with an uncertain outcome where military strength and expenditure may be ineffective at best or even counterproductive toward achieving policy objectives. Additionally, it may be difficult for two nuclear-armed adversaries to actively engage in a contest of exhaustion without one eventually choosing to escalate the conflict with a nuclear strike as a gambit to salvage victory out of a stalemate or stave off a potential defeat.

The Indirect Approach: Dislocation and Disintegration

As discussed in Chapter 3, Sun Tzu was the first to conceptualize and record the theory of the indirect approach. An indirect approach strategy seeks the dislocation of an adversary by applying strength against the adversary's weaknesses, or by adopting an unanticipated approach, with the

intended effect of disintegrating resistance through shock and confusion.[16] Ultimately, the aim is to bring about the collapse of an adversary's military means and political will to continue effective resistance. A direct approach may be preferable when one side possesses overwhelming numerical, material, technological, positional, or training readiness advantages. At the same time, directly attacking an adversary's strongest positions and formations, increases the risk to one's own forces and mission accomplishment. For today's strategist, the indirect approach is an important strategic theory to understand not only because of its prominent role in US doctrine, but also as a way to conceptualize the psychological effects of placing an unprepared adversary on the "horns of a dilemma" when menaced from an unforeseen direction or way.[17]

A proponent of the indirect approach was Basil Liddell Hart, a British infantry officer and veteran of the disastrous offensive at the 1916 Battle of the Somme. He blamed military leaders of the day for their inability to think around the gory Western front stalemate because of their adherence to "Clausewitzian dogma" of direct approach, decisive battles.[18] Seeking a different tack, Liddell Hart surveyed fourteen historical case studies across two millennia in which an indirect approach secured victory at less risk and cost to a combatant's own fielded military forces. As detailed in his book *Strategy*, Liddell Hart's indirect approach would achieve dislocation of the adversary by turning opponents out of a prepared position and, as a second-order effect, psychologically impair an opponent and force them to over or under react to the sudden and potentially dangerous turn of events.[19] Liddell Hart emphasized the psychological factors of the indirect approach: "Whatever the *form*, the *effect* to be sought is the dislocation of the opponent's mind and dispositions—such an effect is the true gauge of an indirect approach." [italics in the original][20] From this perspective, the successful strategist positions forces to threaten or hold at risk something exceedingly valuable to the adversary so that by the nature of his disposition, if it "does not itself produce the decision, its continuation by a battle" will.[21] The physical danger of being in a disadvantageous position then manifests itself in the mind of the adversary commander, staff, and subordinates—adding to the sense of disorientation, confusion, and fear that hastens an adversary's collapse from the tactical to the strategic level of war.[22]

Another theorist and proponent of the indirect approach was John Boyd, a US Air Force fighter pilot and staff officer.[23] Boyd is perhaps best known as the creator of the influential Observation-Orientation-Decision-Action (OODA) Loop. Less well known is his extensive body of strategic thought captured in several long lecture presentations and short

unpublished papers, the most insightful of which was "Patterns of Conflict." To Boyd, the aim of strategy was to "penetrate an adversary's moral-mental-physical being in order to isolate him from his allies, pull him apart, and collapse his will to resist."[24]

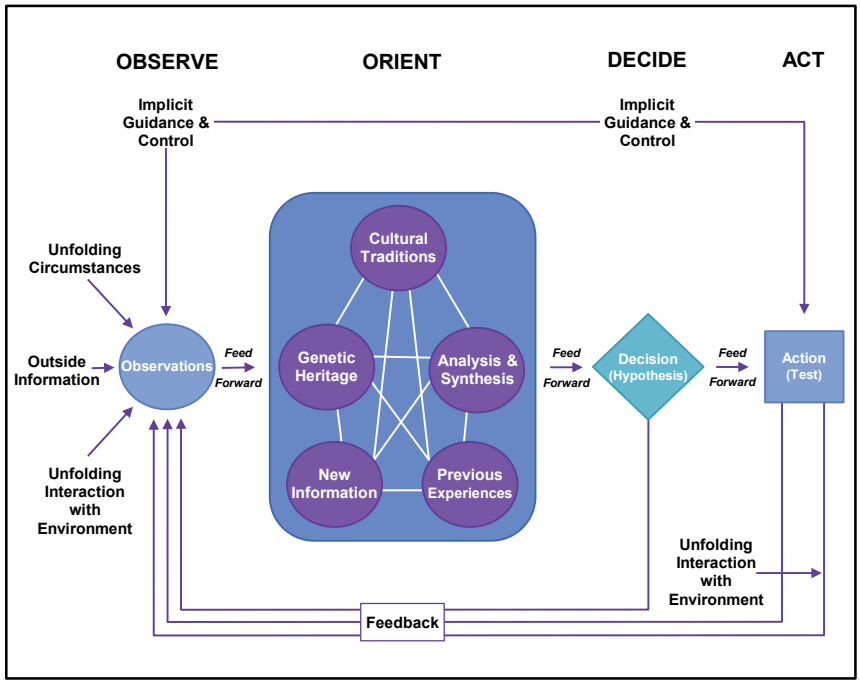

Figure 6.1. John Boyd's Observation-Orientation-Decision-Action (OODA) Loop. Created by Army University Press based on Ian T. Brown, *A New Concept of War: John Boyd, the U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marine Corps University Press, 2018), 119.

Boyd developed a general theory of strategy in which victory goes to the competitor that possesses greater speed, initiative, a variety of capabilities, and the ability to maneuver into an advantageous position from which to sow chaos and confusion in an adversary's formation.[25] The true aim of military strategy was not just dislocation, but rather paralysis imposed on an adversary struggling to cope with rapidly changing threats and the risks they pose.[26] Whereas Liddell Hart articulated the overall advantages of the indirect approach, Boyd's greatest contribution to this school of thought was his emphasis on the temporal aspect of strategy.[27] At the strategic level, this quicker competitor (operating through the OODA Loop) creates confusion and disorder, not just in the adversary's military formations, but also

between "essential connections;" the competitor ultimately pushes beyond the adversary's ability to adapt to unfolding events and eventually brings about the collapse of the opponent's will and ability to resist.[28] The basic premise of the OODA Loop is that in a contest between two competitors, the side that can run this cycle faster has a marked advantage and creates conditions for paralysis or poor decision-making by its opponent. While there is a simpler version of the OODA Loop, Boyd later emphasized that this was a closed loop system. The detailed drawing in Figure 6.1 highlights the importance of an open loop system and its ability to incorporate external information to improve the speed and quality of decision-making.

Though the ideas of both theorists provide an important addition to quality strategic thought, there are weaknesses in their arguments. While Liddell Hart's ideas have considerable merit, his views were certainly biased by his experiences in the First World War, as well as traditional British strategic culture, and may not provide the best option for a combatant to achieve a quick, decisive win for political, economic, or other military reasons.[29] Lawrence Freedman, a prominent strategic historian, also highlighted the difficulty of sustained pressure on a resilient modern society that eventually would force a direct and decisive clash of arms.[30] With regard to Boyd's theory, achieving concerted rapid action at the strategic level to disorient an adversary may be difficult in an environment without widespread acceptance of a mission command-style philosophy and the associated assumption of risk at lower echelons.[31]

Strategies of Control

Another school of contemporary strategic thought centers on the idea of control. A strategy of control seeks to shape events—either before or during declared hostilities—to enable a competitor to occupy an advantageous position or manipulate popular perceptions of ongoing events. The purpose of conflict, then, is to effect some measure of control over the adversary by dictating the nature, placement, timing, and weight of the center of gravity.[32] Theories of control occur across the competition continuum and often assume forms dissimilar from traditional conceptions of warfare, but the end result remains to accomplish and continue policy objectives through other means.[33]

In his book, *Military Strategy: A General Theory of Power Control*, Rear Adm. J. C. Wylie proposed a compelling theory of strategy.[34] After examining the contemporary body of strategic knowledge, he determined that existing views on strategy were "superficial and inadequate" and sought to provide a better foundation for orderly strategic thought.[35] He

believed having control over an adversary enabled the strategist to dictate the terms of engagement as well as the pace of the conflict, and also forced the adversary to focus on denying the strategist's objectives instead of accomplishing his/her own.[36]

Wylie took issue with domain-centric theories—land, sea, air, and insurgency (a popular construct at that time)—and instead proposed classifying strategies as cumulative (attrition-based) or sequential (maneuver-based). Using the Pacific/Far East theaters of the Second World War as a model, he argued that the Allied powers essentially waged two different but interdependent wars against Japan; the first was a cumulative strategy aimed at disrupting Japan's economy through submarine and aerial interdiction, and the second a sequential strategy to defeat fielded Japanese land, naval, and air forces.[37] Both of these interdependent strategies controlled the tempo and conduct of the war in the Pacific, resulting in near-complete control of the conflict outcome by early 1945.

A more contemporary school of thought on control originated within the Russian Federation. Russia and its forebear, the Soviet Union, contributed a substantial quantity and depth of critical thought on the "reflexive control" concept over the past forty years. The concept's key aim was to control outcomes through information manipulation, or in the military arena by influencing an adversary's situational understanding to shape potential actions in a way that favored Russian interests.[38]

As reflexive control theory continued to evolve, its influence was readily apparent in the so-called "Gerasimov Doctrine," coined in 2014 after Russian actions in Ukraine.[39] Chief of the Russian General Staff General Valery Gerasimov wrote a 2013 article that highlighted a new warfare approach using traditionally non-military elements of national power in conjunction with military means to achieve policy objectives.[40] Gerasimov stated, "Wars are no longer declared and, having begun, proceed according to an unfamiliar template."[41] Framing Russian perceptions of recent American conflicts as a point of departure, Gerasimov argued that the traditional approach to warfare—where war is first declared and traditional indicators and warnings provide advance notice of action—may be outmoded. Instead, conflict would be preceded by information operations through media outlets and non-governmental organizations to shape opinions and justify—or create a pretext for—launching a military operation.[42] Gerasimov advocated adaptive use of force centered on using coercive low-intensity military measures with information operations and other non-military measures to avoid war, such as employment of economic sanctions and

diplomatic pressure (see Figure 6.2).[43] Information campaigns often took the form of Russian sponsored or directed disinformation campaigns that flooded the environment with false stories to sow doubt and confusion, creating paralysis when clear thinking and action was needed.[44] The 2017 National Security Strategy highlighted Russia's use of these "measures short of armed conflict" (commonly called grey zone conflict), enabling the Russian Federation to achieve its modest goals through a combination of means at low risk to its forces, while staying below the threshold of a US/North Atlantic Treaty Organization (NATO) response.[45]

In 2003, the People's Republic of China (PRC), developed a strategic theory of control in a Central Military Commission (CMC) People's Liberation Army (PLA) political work regulation that is roughly categorized as "political warfare." Many adherents of Western strategic viewed this Three Warfares theory as "operations other than war," or more specifically, strategic information operations.[46] Similar to the Russians, the Chinese studied contemporary conflicts and identified a long-term strategy of control to avoid direct (i.e., kinetic) conflict with the United States or provide an asymmetric advantage should conflict occur. Instead of a highly risky strategy to directly confront the United States, the PRC worked to change underlying conditions related to US power over time, such as denying access to bases in the region.

The commonly understood components of this theory are: 1) psychological warfare, 2) media (or public opinion) warfare, and 3) legal warfare (commonly known as lawfare).[47] China's Three Warfares approach seeks to influence both domestic and foreign audiences and thus alter the strategic environment so it would no longer be conducive to employing traditional military power, an American strength. Like contemporary Russian strategic thinking, China views war as "not simply a military struggle, but also a comprehensive engagement proceeding in the political, economic, diplomatic and legal dimension."[48] China continues to invest heavily in this concept as a method to "win without fighting."[49]

In the contemporary world, strategies of control are in active use by great powers of varied historical and cultural backgrounds to shape the environment to fit national aims, both in and out of conflict. Russian actions in the Ukraine, ongoing information operations targeting NATO member political elections and military operations, and the aggressive Chinese narrative supporting infrastructure development in the South China Sea and the isolation of Taiwan are examples of strategies of control employed through different ways.[50] These approaches seek to negate US conventional military power by creating conditions unfavorable for

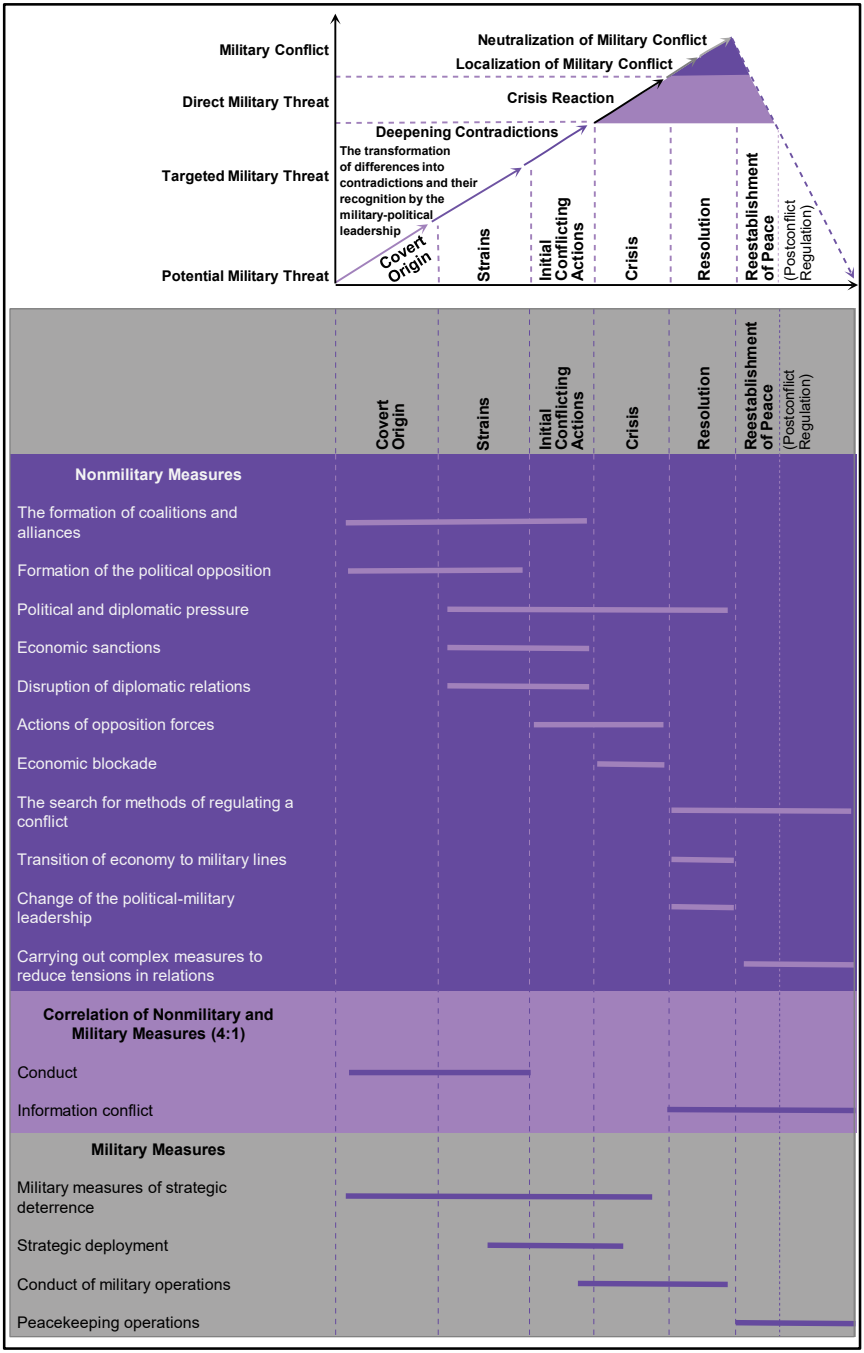

Figure 6.2. The Gerasimov Doctrine. Created by Army University Press based on Charles K. Bartles, "Getting Gerasimov Right," *Military Review* 96, no. 1 (January–February 2016): 36.

its use, or pose unacceptable risks to US forces and objectives. Understanding Wylie's theory of control as well as Russian and Chinese strategic control concepts will help strategists better grasp the way potential adversaries view the competitive space.

Nuclear Age Strategies: Deterrence

Certainly, one of the greatest scientific advances of the contemporary era was the fission of uranium atoms to power industry and cities as well as serve as the core of nuclear weapons. Starting in 1945, military forces began harnessing the destructive effect of nuclear weapons, creating the capability for the truly decisive aerial bombing campaign first envisioned in the 1920s by Italian airpower theorist Giuilo Douhet.[51] Atomic—and later thermonuclear—weapons provided powerful coercive tools for nations that possessed them.[52] As the Soviet Union, and later China, acquired nuclear weapons, American civilian strategists began to ponder strategic justifications and caveats for employing (or not employing) nuclear weapons. The ability of nuclear armed powers to inflict significant damage within the space of hours to days, not months to years as in previous conflicts, necessitated serious thought on the ideas of deterrence and potential nuclear employment.

The concepts of deterrence and mutually assured destruction are crucial to contemporary nuclear strategic theory.[53] Since the 1950s, uncertainty concerning battlefield usage of nuclear weapons was a powerful incentive for the great powers (the United States and the Soviet Union) to avoid direct military conflict; this likely kept the Cold War from going hot. The most important considerations in deterrence theory depended on how a competitor viewed potential gains and costs of launching a pre-emptive or disarming first strike, balanced against potential losses and risk in upsetting the status quo.[54]

Bernard Brodie and Thomas Schelling are two of the most prominent evangelists of the deterrence school of thought. Both, in their own ways, argued that nuclear weapons had their greatest potential value in non-use, or as a force to deter wars between major powers. In both *Strategy in the Missile Age* and *War and Politics*, Brodie built on Clausewitz's idea of uncertainty in war when discussing deterrence vis-à-vis the Soviets:

> We do not need to repeatedly threaten that we will use them [nuclear weapons] in case of attack. We do not need to threaten anything. Their being there is quite enough. *The Russians know that no one could really guarantee their nonuse in case of a major conflagration*. [italics in the original][55]

Brodie believed that nuclear weapons, particularly when employed with assured second strike capabilities and doctrine, were a stabilizing force in great power relations, as both sides knew that significant escalation could occur from an initially limited and localized conflict.[56] Never a believer in the notion of limited nuclear warfare, he argued such a conflict could be dangerously escalatory.[57] Brodie was also skeptical that major powers could engage in direct but limited conventional conflicts without eventually resorting to nuclear weapons if the value of interests at stake for both competitors was high.

Schelling's key contribution to deterrence theory was exploring the coercive ability of nuclear weapons to inflict unacceptable damage, or "hurt" an adversary.[58] Schelling believed this ability to inflict intolerable suffering—imposing costs—provided the ability to bargain diplomatically at the strategic level. Nuclear weapons inhibited escalation by giving an adversary pause before either starting or escalating a conflict. In *Arms and Influence*, he also articulated the concept of risk: nuclear-armed powers in a deterrence relationship must determine which risks are worth taking in the diplomatic and military sphere, with the intent of achieving maximal gains short of a self-destructive nuclear exchange.[59] He was especially concerned with "the dynamics of mutual alarm," whereby perceived vulnerability and the actions of another superpower could prod leaders to unleash a preemptive nuclear strike during a crisis. Stated simply, "Deterrence has to make it never appear conservative to elect, as the lesser danger, preemptive war."[60]

The Systems Theory of Strategy: Targeting Linkages and Centers of Gravity

With the increasing sophistication of military organizations and technology, especially after the Second World War, a general strategic theory emerged that stressed the value of applying systems theory to strategy planning and execution.[61] Whereas the indirect approach of attacking an adversary's weaknesses seeks to own the tempo and key dynamics of a conflict, a systemic view of strategy strikes at a system's targets or linkages and paralyzes the adversary into inaction, incapable of further effective resistance.

As aircraft became increasingly capable in the early twentieth century, their roles began to expand from an adjunct of armies fighting on the land domain toward achieving independent aims. A cadre of theorists began to develop new strategic concepts to employ airpower to expand the battle-

field both vertically and horizontally, adding depth to stretch back to any adversary's previously difficult-to-harass political and economic centers. John A. Warden III, a US Air Force officer during the Cold War, examined the sequencing and execution of a systemic strategy, particularly concerning an air campaign. Warden's seminal works were his book, *The Air Campaign*, and a 1995 article following the first Gulf War, "The Enemy as a System." His key proposition was to identify an adversary's center(s) of gravity then orchestrate a direct or indirect campaign to paralyze the adversary by achieving "political objectives as seen through the enemy's eyes, not one's own."[62]

Warden's theory involved five concentric rings, with leadership at the core then moving outward to organic essentials, infrastructure, population, and fielded military (see Figure 6.3).[63] He viewed an adversary's fielded military, often considered the primary target by US planners, as a means to enable the adversary's other, more important, rings to survive. Warden believed the real centers of gravity were the inner rings that the fielded military forces protected, primarily leadership and organic essentials such as electricity grids.[64] Using the five rings as a linkage diagram, Warden paired this concept with a form of parallel attack targeting multiple centers of gravity across the depth and breadth of the five rings in a short time period, thus impairing the system's ability to function as a whole. In theory, the direct and indirect effects of these concurrent lethal and non-lethal strikes multiplied the friction in the adversary's system, generating partial or total paralysis.[65] While Warden's theory had a scientific approach, he understood the psychological effects of the strategy produced the paralysis that "all actions are aimed against the mind of the enemy command or against the system as a whole."[66]

While Warden and other systemic theorists presented original and worthwhile ideas, the general field is no stranger to criticism.[67] An obvious criticism is that when taken to the extreme, systems theories—such as the now-maligned effects-based operations—can reduce warfare to a targeting exercise against a pliant adversary. This discounts the adversary's ability to think, adapt, and otherwise frustrate a carefully laid plan, pulling apart the centers of gravity and connective links.[68]

Theory in Practice: The Influence of Contemporary Strategic Theory on US Strategy and Joint Doctrine

No examination of contemporary strategic theory would be complete without exploring the current definition of strategy in Joint Publication

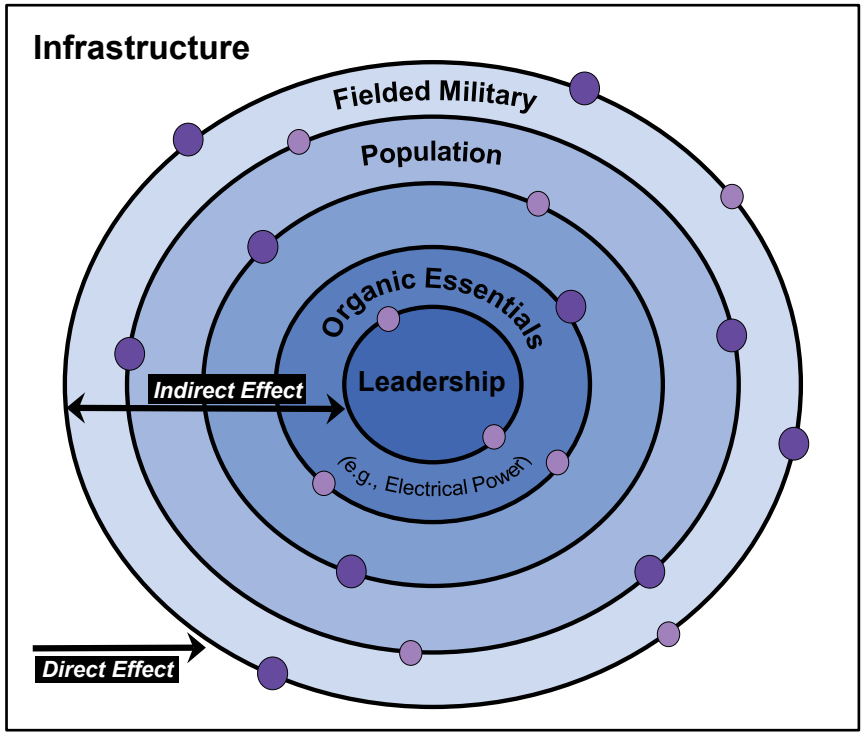

Figure 6.3. Warden's Five-Ring Model with Subsystems. Created by Army University Press based on Col. (US Air Force) John A. Warden III, "The Enemy as a System," *Airpower Journal* 9, no. 1 (Spring 1995): 48.

(JP) 5-0, *Joint Planning,* and Joint Doctrine Note (JDN) 2-19, *Strategy*. As mentioned in Chapter 1, these doctrinal references define strategy as "a prudent idea or set of ideas for employing the instruments of national power in a synchronized and integrated fashion to achieve theater, national, and/or multinational objectives."[69] *Joint Planning* also described strategy as "the art and science of determining a future state, conveying this to an audience, determining an operational approach, and identifying authorities and resources."[70] Beyond the broad definition, *Strategy* indicated military strategy is the "creation, employment, and articulation of the military instrument of national power to achieve policy objectives."[71] The US government articulates strategy through several documents, including the *National Security Strategy*, *National Defense Strategy*, *Contingency Planning Guidance*, *National Military Strategy*, and combatant command-level strategies. Additionally, the president, through the National Security

Council, provides additional guidance and direction to the nation's foreign policy establishment through the issuance of National Security Presidential Memoranda. All of these documents serve to identify core (or vital) national security interests, priority areas for focus, and available ways and means to achieve these aims.

Translating national-level strategic guidance into military strategies, contingency plans, and campaign plans is strategic art, which is defined as the "ability to understand the strategic variable and to conceptualize how the desired objectives set forth in strategic-level guidance can be reached through the employment of military capabilities."[72] Doctrine, therefore, is the common language and set of ideas that, through strategic art, translate strategic objectives into supporting military objectives and tasks. Joint Publication (JP) 1-0, *Doctrine for the Armed Forces of the United States,* defines joint doctrine as the "fundamental principles that guide the employment of US military forces in coordinated action toward a common objective" and "authoritative guidance from which joint operations are planned and executed."[73]

Using the theories explored in this chapter, we can draw some general inferences on how the United States prefers to wage conflict and the linkages from strategic guidance to doctrine. America's strategic preference is to first deter conflict and, should deterrence fail, win a conflict decisively through a strategy of annihilation.[74] At the operational level, the United States has the force structure and doctrine to rapidly control the pace of a conflict to win battles and campaigns through destruction of the adversary's force. Joint doctrine, however, maintains flexibility of thought; the ideas of Basil Liddell Hart and John Boyd on the indirect approach are recognizable in current US joint doctrine, specifically JP 5-0, *Joint Operations Planning*.[75] Boyd's thinking is also prevalent in Marine Corps doctrine, especially Marine Corps Doctrinal Publication (MCDP) 1, *Warfighting*.[76] Additionally, joint fires manuals such as Joint Publication (JP) 3-60, *Targeting,* draw heavily from Warden's ideas and systems theory to provide a methodology to both analyze and generate desired effects on an adversary's system. Joint doctrine also provides flexibility in describing the range of potential operations that may be required of the joint force. Joint Publication (JP) 3-0, *Joint Operations*, highlights that the joint force must remain capable of operating across a conflict continuum in contingencies that may be less lethal than large-scale conflicts, or even non-lethal, but still require military power to achieve strategic-level objectives.[77] What remains uncertain is how effectively US joint doctrine enables the achievement of

strategic objectives through the accomplishment of operational objectives. As Scott Kendrick, a US Army officer and strategic planner, wrote:

> Doctrine does not articulate meaningful differences between a campaign and a major operation . . . and provides a weak description of the differences between operational and strategic objectives.[78]

Kendrick added that joint doctrine "may not provide appropriate planning logic and language to inform and implement the campaigning efforts we need and the current national strategies demand."[79] Despite the US military's tactical and technical prowess over adversaries in Iraq and Afghanistan, America was unable to connect all operational level (or military) objectives with strategic objectives.[80] The United States successfully employed a joint strategy of annihilation and systematic targeting against the Iraqi military but was not able to translate this large-scale conflict victory into a lasting political settlement; it was ill-prepared to provide long-term, consistent security inside a foreign country with different cultural, religious, and governance traditions.[81] Additionally the ongoing interaction between goals and priorities laid out in guidance such as the *National Military Strategy*, and real-world changes to focus and priorities, often challenges America's ability to formulate a coherent long-term strategy.[82]

Conclusion

This chapter provides a brief overview of some of the most important contemporary strategy theorists and ideas and how they influence modern thinking on strategy and doctrine. The fact that this chapter could not cover every contemporary theorist of merit is a testament to the depth of strategic studies over the past century. While not exhaustive, this chapter ideally encourages readers to learn more and develop their own general theories of strategy. The aim of strategy is to achieve national aims in the most effective and cost-efficient manner—whether that end is achieved through attrition, annihilation, or exhaustion; an indirect approach; control through aggressive information operations; nuclear deterrence to prevent escalation to unlimited thermonuclear exchange; or viewing an adversary as a series of vulnerable points in a system to be exploited. Perhaps most importantly, strategy should—as John Boyd stated concisely and forcefully—enable a people to not just survive but "survive on our own terms, or improve our capacity for independent action" while diminishing an adversary's ability to do the same.[83]

Further Reading

• John Baylis, James J. Wirtz, and Colin S. Gray, eds., *Strategy in the Contemporary World,* 4th ed. (Oxford: Oxford University Press, 2013).

• Hans Delbrück, *The Dawn of Modern Warfare*, History of the Art of War, vol. 4, trans. Walter J. Renfroe Jr. (Lincoln, NE: University of Nebraska Press, 1990).

• Basil H. Liddell Hart, *Strategy: The Indirect Approach* (London: Faber and Faber, 1967).

• Thomas Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 2008).

• Joseph C. Wylie, *Military Strategy: A General Theory of Power Control* (Annapolis, MD: Naval Institute Press, 1989).

Notes

1. Joseph C. Wylie, *Military Strategy: A General Theory of Power Control* (Annapolis, MD: Naval Institute Press, 1989), 47.

2. Colin S. Gray, *Modern Strateg*y (London: Oxford University Press, 2012), 112.

3. Colin S. Gray and Jeannie Johnson, "The Practice of Strategy," *Strategy in the Contemporary World,* ed. John Baylis, James J. Wirtz, and Colin S. Gray, 4th ed. (London: Oxford University Press, 2013), 365. Gray asserted that a general strategy must "pertain to all periods, types of warfare, technologies, and belligerents."

4. For the purposes of this chapter, the contemporary era consists of the late nineteenth century to the present.

5. Hans Delbrück, *The Dawn of Modern Warfare*, History of the Art of War, vol. 4, trans. Walter J. Renfroe Jr. (Lincoln, NE: University of Nebraska Press, 1990), 109.

6. Delbrück, 108.

7. Delbrück, 302.

8. Delbrück, 294.

9. Delbrück, 302, 108–9.

10. Delbrück, 302.

11. Hans Delbrück, *Warfare in Antiquity*, History of the Art of War, vol. 1, trans. Walter J. Renfroe Jr. (Lincoln, NE: University of Nebraska Press, 1990), 136.

12. Russell Weigley, *The American Way of War: A History of the United States Military Strategy and Policy* (Bloomington, IN: Indiana University Press, 1973), xxii.

13. Weigley, 326. Weigley uses the Civil War, and specifically the campaigns of Ulysses Grant, as a framework to describe the type of campaign the United States and its allies executed in the European theater of World War II after the June 1944 forcible entry operations in Normandy, France.

14. Delbrück*, The Dawn of Modern Warfare*, 294. Delbrück mentions that both sides have to agree to the terms of the conflict to achieve a decisive result: "Even if one side should actually propose such a method of waging war, it still does not know whether the other side is thinking in the same way and will continue with such ideas."

15. Weigley, *The American Way of War*, 464–68.

16. Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (London: Oxford University Press, 1963), 101. The famous Sun Tzu quote encouraging the general to strike an adversary's weaknesses is found in the "Weaknesses and Strengths" section: "Now an army may be likened to water, for just as flowing water avoids the heights and hastens to the lowlands, so an army avoids strength and strikes weakness."

17. Basil H. Liddell Hart, *Strategy: The Indirect Approach* (New York: Barnes and Nobel Press), 170.

18. Lawrence Freedman, *Strategy: A History* (London: Oxford University Press, 2013), 135.

19. Liddell Hart*, Strategy,* 153.

20. Liddell Hart, 146.

21. Liddell Hart, 153.

22. Liddell Hart, 154.

23. John Boyd's influence was especially critical to US Army and US Marine Corps doctrine and concepts such as the AirLand Battle Doctrine; revised Field Manual (FM) 100-5, *Operations* (1982); and the US Marine Corps Doctrinal Publication (MCDP) 1, *Warfighting* (1989). His concepts influenced the famous "left hook" during the short ground war in Operation Desert Storm. For further details, see Frans P. B. Osinga, "John Boyd and Airpower in the Postmodern Era," in *Airpower Reborn: The Strategic Concepts of John Warden and John Boyd*, ed. John Andreas Olsen (Annapolis, MD: Naval Institute Press, 2015). Another way to experience John Boyd is to watch his early 1980s lectures: www.youtube.com/watch?v=9iiQlBaGJQA&list=PL4pmLxkc7CTcukIlp-D0UThT7Y_K09oxXe.

24. John R. Boyd, "Patterns of Conflict" (presentation, December 1986), http://www.ausairpower.net/JRB/poc.pdf, 185.

25. Boyd, 153.

26. Frans P. B. Osinga, "The Enemy as a Complex, Adaptive System: John Boyd and Airpower in the Postmodern era," in Olsen, *Airpower Reborn*, 99.

27. Gray, *Modern Strategy*, 91

28. Boyd, "Patterns of Conflict," 129, 135.

29. For an excellent explanation of British strategic culture as primarily maritime in focus, hence more amenable to adopting indirect approaches *despite* the role played by British land forces in both world wars, see Gray, *Modern Strategy*, 139.

30. Freedman, *Strategy*, 139.

31. Jason M. Brown. "Uploading Boyd," *The Strategy Bridge*, 10 March 2015, https://thestrategybridge.org/the-bridge/2015/11/16/uploading-john-boyd.

32. Gray and Johnson, "The Practice of Strategy," 358.

33. From The Joint Staff J7, Joint Doctrine Note (JDN) 1-19, *Competition Continuum* (Washington, DC: Government Printing Office, 3 June 2019), 2: "Rather than a world either at peace or at war, the competition continuum describes a world of enduring competition conducted through a mixture of cooperation, competition below armed conflict, and armed conflict."

34. Wylie, *Military Strategy*, 45. Wylie defined strategy as a "plan of action designed in order to achieve some end; a purpose together with a system of measures for its accomplishment."

35. Wylie, 35.

36. Gray and Johnson, "The Practice of Strategy," 360.

37. Freedman, *Strategy*, 195.

38. Timothy L. Thomas, "Russia's Reflexive Control Theory and the Military," *Journal of Slavic Military Studies* 14 (2004): 237–56.

39. Charles K. Bartles, "Getting Gerasimov Right," *Military Review* 96, no. 1 (January–February 2016), 31. Bartles argued convincingly that Gerasimov wrote "The Value of Science Is in the Foresight" in 2013 to simply describe the way he viewed war rather than advocating for a "doctrine" or as a foreshadowing of the Russian actions in Ukraine the following year.

40. Valery Gerasimov, "The Value of Science Is in the Foresight: New Challenges Demand Rethinking the Forms and Methods of Carrying out Combat Operations," *Military-Industrial Kurier* (27 February 2013), trans. Robert Coalson, 21 June 2014. Re-published in *Military Review* 96, no. 1 (January–February 2016), 25.

41. Gerasimov, 24.

42. Bartles, "Getting Gerasimov Right," 32.

43. Bartles, 34.

44. P. W. Singer and Emerson T. Brooking, *Like War: The Weaponization of Social Media* (Boston: Houghton Mifflin Harcourt Press, 2018), 106–7.

45. "National Security Strategy of the United States of America" (Washington, DC: President of the United States, December 2017), 27.

46. Michael Raska, "China and the Three Warfares," *The Diplomat*, 18 December 2015.

47. Stefan Halper, Laura Jackson, and Mariah Robinson, *China: The Three Warfares*: *White Paper for Andrew Marshall, Director of the Office of Net Assessment* (Cambridge: University of Cambridge, May 2013), 29–30. The term lawfare was originally coined by Charles Dunlap Jr., "Lawfare Today," *Yale Journal of International Affairs* (Winter 2008): 146.

48. Timothy Walton, "Treble Spyglass, Treble Spear: China's Three Warfares," *Defense Concepts* 4, no. 4 (2009): 51.

49. John Costello and Peter Mattis, "Electronic Warfare and the Renaissance of Chinese Information Operations," in *China's Evolving Military Strategy*, ed. Joe McReynolds (Washington, DC: The Jamestown Foundation, April 2016), 193.

50. For a contemporary example of, and analysis on, control from both of these nations, see "What Russia Wants: From Cold War to Hot War," *The Economist* (12 February 2015); and "At the Sharp End: How China's 'Sharp Power' Is Muting Criticism Abroad and Stealthily Trying to Shape Public Opinion in Its Favour," *The Economist* (14 December 2017).

51. Giulio Douhet was an Italian airpower theorist and a key proponent of strategic bombing in aerial warfare. His book *Command of the Air*, first published in 1921, envisioned a fleet of bombers that could win wars in a matter of days through a strategic bombing campaign. For an in-depth analysis of Douhet's influence on the nuclear age, see Bernard Brodie, *Strategy in the Missile Age* (Princeton, NJ: Princeton University Press, 1965), 71–106.

52. Robert Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 35–36. This book thoroughly explains the

concepts of deterrence, coercion, and compellence. Pape discusses how strategies focused on punishing a vulnerable and valuable target (often a civilian population) might be ineffective with conventional munitions, but would be significantly affected by a nuclear weapon attack.

53. In *Bombing to Win*, 4, Robert Pape indicated deterrence focuses on "influencing the adversary's calculus for decision-making" but "seeks to maintain the status quo by discouraging an opponent from changing its behavior."

54. Lawrence Freedman, "The First Two Generations of Nuclear Strategists," in *Makers of Modern Strategy*, ed. Peter Paret (Princeton, NJ: Princeton University Press. 1986), 750.

55. Bernard Brodie, *War and Politics* (New York: MacMillan Publishing, 1973), 404.

56. Brodie, 406.

57. For a counterpoint to this argument, see Herman Kahn, *On Thermonuclear War* (New Brunswick, NJ: Princeton University Press, 2007), 96–116; and Herman Kahn, *Thinking About the Unthinkable in the 1980s* (New York: Simon and Schuster, 1984), 123–51. While Brodie and Schelling largely viewed nuclear weapons as having a "negative aim," that is they are most effective in non-use, Herman Kahn began to question whether it was possible to "win" a conflict that involved the exchange of nuclear weapons. He argued that an "escalation ladder" could enable accomplishment of some wartime aim through rational control of events and discrimination short of mutual Armageddon.

58. Thomas Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 2008), 18. Schelling viewed weapons, and by extension nuclear weapons, as a means to coerce not just military, but also diplomatic engagements: "The power to hurt is bargaining power. To exploit it is diplomacy—vicious diplomacy." See also Freedman, "The First Two Generations of Nuclear Strategists," 766.

59. Schelling, 90.

60. Schelling, 196.

61. A definition for systems theory can be found in Ludwig Von Bertalanffy, *General System Theory: Foundations, Development, Applications*, 2nd ed. (New York: George Braziller, 1976).

62. John A. Warden III, *The Air Campaign* (Lincoln, NE: To Excel Press, 2000), 111–12.

63. John A. Warden III, "The Enemy as a System," *Airpower Journal* 9, no. 1 (Spring 1995): 42–45.

64. Warden explored his ideas in the abstract, as attacking a dual usage facility such as an electricity grid would potentially have significant impacts on the noncombatant population during the conflict and the following stability phase where the restoration of power would be an important concern.

65. John A. Warden III, "Smart Strategy, Smart Airpower," in Olsen, *Airpower Reborn* (Annapolis, MD: Naval Institute Press, 2015), 152.

66. Warden, "The Enemy as a System," 42–45.

67. For a scathing critique of systemic operational design and effects-based operations, see Milan Vego, "A Case Against Systemic Operational Design," *Joint Forces Quarterly* 53 (2nd quarter 2009): 69–75.

68. For a good summation of this line of reasoning, see Colin S. Gray, *Fighting Talk: Forty Maxims on War, Peace, and Strategy* (Washington, DC*:* Potomac Books, 2009), Maxim 16.

69. US Joint Staff J7, Joint Publication (JP) 5-0, *Joint Operations Planning* (Washington, DC: Government Printing Office, June 2017), xii.

70. JP 5-0, xii.

71. US Joint Staff J7, Joint Doctrine Note (JDN) 2-19, *Strategy* (Washington, DC: Government Printing Office, 10 December 2019), vi.

72. US Joint Staff J7, JP 5-0, xiii.

73. US Joint Staff J7, Joint Publication (JP) 1-0, *Doctrine of the American Armed Forces* (Washington, DC: 12 July 2017), xxv; see also Figure 1-2 (Strategy, Planning, and Resourcing Process) on page II-5 of Joint Publication 1-0 for a general overview of the taxonomy of national-level strategies and how they relate to strategic planning documents.

74. From *Summary of the National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge* (Washington, DC: Secretary of Defense, 2018), 1: "The Department of Defense's enduring mission is to provide combat-credible military forces needed to deter war and protect the security of our nation. Should deterrence fail, the Joint Force is prepared to win." Also from Weigley, *The American Way of War*, 312: "An army strong enough to choose the strategy of annihilation should always choose it, because the most certain and probably the most rapid route to victory lay through the destruction of the enemy's armed forces."

75. US Joint Staff J7, JP 5-0, IV-34 and IV-35. JP 5-0 described the indirect: "At the strategic level, indirect methods of defeating the adversary's COG [center of gravity] could include depriving the adversary of allies or friends, emplacing sanctions, weakening the national will to fight by undermining the public support for war, and breaking up cohesion of adversary alliances or coalitions."

76. Ian T. Brown, *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marine Corps University Press, 2018), 171.

77. For a description of the continuum conflict, see US Joint Staff J7, Joint Publication (JP) 3-0, *Joint Operations*, with Change 1 (Washington, DC: 22 October, 2018), V-I.

78. Scott Kendrick, "Vice Versa: An Artistic Appraisal of Joint Doctrine's Expression of Campaigns, Major Operations, and Objectives," *Modern War Institute* (blog), 11 July 2018.

79. Kendrick, 2.

80. Joel P. Rayburn and Frank K Sobchack, eds., *Surge and Withdrawal 2007–2011*, The U.S. Army in the Iraq War, vol. 2 (Carlisle, PA: Strategic Studies Institute and the Army War College Press, January 2019), 615–37.

81. Rayburn and Sobchack, 656–57. The end of *Surge and Withdrawal* highlights how the transition strategy failed to bring about the envisioned political end state in Iraq after the 2003 invasion.

82. A prominent example of this tension between strategic priorities as defined in the 2018 *National Military Strategy* and real world events was the increased resource demand to deter and compete with Iran starting in 2019. The 2018 *National Military Strategy* clearly articulated that the United States would give priority resourcing to deterring and competing with China and Russia; Aaron Mehta, Valerie Insinna, and David B. Larter, "What Soleimai's Death Means to the National Military Strategy," *Defense News* (3 January 2020).

83. Boyd, "Patterns of Conflict," 10.

Chapter 7
A Bridge Between Policy and Operations

Jeremy J. Gray

> *Strategy is the only bridge built and held to connect policy purposely with the military and the other instruments of power.*[1]
>
> —Colin S. Gray

Strategy is an elusive topic. Colin Gray compared defining strategy to defining other abstract concepts like happiness and love. In his book *The Strategy Bridge: Theory for Practice*, Gray articulates his argument for a general theory of strategy. In doing so, he has pulled from the strategic canon twenty-one dicta that describe the enduring aspects of strategy. These elements describe the inherent political nature of strategy and the challenge of implementing strategy and associated consequences. The twenty-one dicta also provide an educational baseline for would-be strategists. Gray derived the dicta from history, with a focus on war as a duel. "War," according to Carl von Clausewitz, "is an act of violence to compel our opponent to fulfil our will."[2] This chapter describes why Gray's arguments resonate and how his bridge metaphor illustrates the concept of strategy, while highlighting practical application by US national security strategists. The strategy function connects policy to action in a competitive environment to create a desired strategic effect by developing a narrative and determining the objectives within available resources. To do so, a strategist must understand the nature of politics and policy in relation to strategy, as well as how to bridge policy to action for strategic effect.

Nature of Politics and Policy in Relation to Strategy

Policy is the described purpose for action, or tactical effect, as described in Chapter 1; it is derived from a political process and, therefore, will remain an expression of political consensus. Policy evolves with each decision for action. Military planners often seek clear and enduring policy to provide firm guidance for establishing feasible military actions, though this rarely occurs due to the dynamic political foundation of policy. Gray defined politics as "a competition for power and influence among rivals . . . [resulting] in a distribution of power and influence."[3] Policy prescribes action to favorably change a complex adaptive environment—the political environment.

Understanding politics as it informs policy is critical to the practice of strategy development and execution. Politics may be so interdependent with strategy that it could be considered endemic. Gray committed two-

Nature and Character of Strategy

- Grand strategy is the direction and use made of any or all of the assets of a security community, including its military instrument, for the purpose of policy as decided by politics.
- Military strategy is the direction and use made of force and the threat of force for the purpose of policy decided by politics.
- Strategy is the only bridge built and held to connect policy purposefully with the military and other instruments of power and influence.
- Strategy serves politics instrumentally by generating net strategic effect.
- Strategy is adversarial; it functions in both peace and war, and it always seeks a measure of control over enemies (and often over allies and neutrals also).
- Strategy usually requires deception, is paradoxical, and frequently is ironic.
- Strategy is human.
- The meaning and character of strategies are driven, though not dictated and wholly determined, by their contexts, all of which are constantly in play and can realistically be understood to constitute just one compounded super context.
- Strategy has a permanent nature, while strategies (usually plans, formal or informal, expressing contingent operational intentions) have a variable character driven, but not mandated, by their unique and changing contexts, the needs of which are expressed in the decisions of unique individuals.

Making Strategy

- Strategy typically is made by process of dialogue and negotiation.
- Strategy is a value-charged zone of ideas and behavior.
- Historically specific strategies are driven, and always shaped, by culture and personality, while strategy in general theory is not.

Executing Strategy

- The strategy bridge must be held by competent strategists.
- Strategy is more difficult to devise and execute than are policy, operations, and tactics: friction of all kinds comprises phenomena inseparable from the making and conduct of strategies.
- Strategy can be expressed in strategies that are direct or indirect, sequential or cumulative, attritional or maneuverist-annihilating, persisting or raiding (more or less expeditionary), coercive or brute force, offensive or defensive, symmetrical or asymmetrical, or a complex combination of these nominal but often false alternatives.
- All strategies are shaped by their particular geographical contexts, but strategy itself is not.
- Strategy is an unchanging, indeed unchangeable, human activity in thought and behavior, set in a dynamic technological context.
- Unlike strategy, all strategies are temporal.
- Strategy is logistical.
- Strategic theory is the most fundamental source of military doctrine, while doctrine is a notable enabler of, and guide for, strategies.

Consequences of Strategy

- All military behavior is tactical in execution, but must have operational and strategic effect, intended or otherwise.

Figure 7.1. Colin Gray's Dicta of Strategy. Created by Army University Press based on Colin S. Gray, *The Strategy Bridge: Theory for Practice* (Oxford: Oxford University Press, 2010), 263.

thirds of his dicta to describing strategy in terms of politics, primarily the nature of strategy and making strategy. The final third describes strategy in execution and the consequences of strategy. To sum up the first nine dicta, grouped as the "Nature and Character of Strategy," strategy is driven by politics voiced through policy for the use of force to provide a strategic effect or change the political context. Gray put it all together in his seventh dicta: "Strategy is Human."[4] In dicta ten through twelve, "Making Strategy" describes the political process of developing strategy, whereby strategy is made through negotiation around value-charged ideas shaped by culture and personality.[5] Developing strategy to implement policy clearly requires political understanding and, to a certain extent, an ability to practice it on an interpersonal level.

Given that an action in an open system like politics changes the system, policy must adapt to the changes. As a result, policy decisions are often made at the last moment possible. Making the decision only when it must be made maximizes the political decision space and allows the political system to evolve, either more or less in favor of the decision before it must be made. Another result is usually an overarching policy that is broad enough to capture the desired political effect and yet have some endurance in an evolving system. There are smaller policy decisions made on a day-to-day basis that add granularity to the overarching policy and accommodate the political adaptations. These policy decisions build a mosaic that is the policy. Without the overarching policy to guide, however, smaller decisions will result in a focus on the more immediate effect without considering a bigger goal. The resultant policy will allow unmoored discrete policy decisions, with their implementing actions, to alter the system haphazardly. The overarching policy can assist in disciplining smaller decisions in order to achieve the overarching effect.

It may help to think of policy like the Constitution of the United States and case law. The Constitution frames law making, which is further refined by case precedent as laws are challenged through the court system. It is not linear, but more evolutionary and emergent in its development. It is a result of stimulus and response to the political system. The resultant mosaic is what we know as the law. The law without the construct of the Constitution to bind and discipline it could be capricious at the whims of political leaders. The key difference with policy is the chief executive's ability to alter policy faster than the legal and legislative processes allow. Even when it is well-structured, however, policy remains a moving target with changing clarity due to its political foundation.

There remains a significant part of the military that believes that policy decisions are made; then, ideally, the military simply executes actions to achieve the stated policy. This is wrongheaded and denies the political nature of war, let alone the need for the non-military aspects to achieve political objectives. National security policy informs military strategy, but a security community cannot execute a strictly military strategy regardless of the character of a conflict; instead, "there must still be political-diplomatic, social-cultural, and economic, inter alia, aspects to the war."[6] Policy defines the national purpose for the action, of which the military aspect carries a portion of the national effort. This is not, however, to ignore the tension inherent in the unequal dialogue between civil and military leaders, especially when either side assumes an expertise not endemic in their role. Generally, civilian leaders are not experts in conducting military operations, and military leaders are not experts in political considerations. Both need to be conversational in each other's expertise to facilitate useful dialogue.

While all war is political, the more politically nuanced the aims for military action, the more granular the policy decisions should become. The more nuanced the associated politics and rhetoric, the less clear the resultant policy. To amplify, consider the political aims of unconditional surrender of a state (unlimited aims, more martial than political in execution requiring less policy specificity) compared with counterinsurgency (a more limited and discrete use of force to influence and, therefore, more political than martial in execution, which requires greater policy specificity). Citing Antulio Echevarria's analysis in *Clausewitz and Contemporary War,* Gray stated that war is a political instrument, which is not quite synonymous with the claim that it is a policy instrument.[7] If war is a political instrument, its conduct is more than just the execution of operational plans. Similarly, if policy and politics were identical and military choices were not impregnated with political assumptions, hopes, guesses, and purposes, one could reasonably argue for clear policy then let the military execute.[8] Military action, therefore, cannot be separated from politics but requires a connector or binding agent to ensure that discrete actions contribute to the political objectives ensconced in policy. Strategy is the binding agent that connects policy to action like a bridge. Strategy as a bridge provides a useful metaphor that is a synthesis of most strategic theory, from Clausewitz to today.

Strategy: Bridging Policy to Action for Strategic Effect

Gray described strategy as a bridge between policy and action. While Gray's strategy "bridge" analogy is helpful, some interpret it as a linear

and hierarchical construct—policy to strategy to operations and actions. The causal linearity was not the intent, but rather an overarching construct to illustrate an elusive topic. In reality, strategy should not only be viewed in the depth of actions, but in breadth as well to enable synergistic action with the other instruments of national security. Effective strategy cannot be developed in a vacuum. It must be nested with a whole-of-government context to achieve national political goals as articulated through policy.

The function of strategy is the purposeful pursuit of desired effects articulated by policy using available assets. According to Gray, security communities, in their actions and inaction, provide effects whether purposely pursued or not.[9] Strategy animates policy by providing a narrative to unify action toward the desired effect—a strategic effect. The narrative provides innumerable bridges to enable individuals and organizations to identify their role then adjust their actions, as part of the whole, to realize the desired strategic effect.

The product of strategy is strategic effect.[10] A strategic effect is the purpose of action. It is not synonymous with an objective or even a political objective. An objective is an aim-point for action; the result of the action to achieve an objective is an effect. The action to achieve an objective can be direct in nature, but no actions in an open system remain isolated. The ripples from an associated action within the system—the first-, second-, and third-order results—are the effects. An action to achieve an objective creates ripples. Strategy seeks to harmonize multiple actions to achieve multiple objectives so the resultant effects provide a more desirable political situation. As Gray summarized, the concept of strategic effect claims "that what we do, including what the enemy fears we may do, generates a composite compounded strategic performance that can shift the course of events, outcomes, hopefully in our favor."[11]

Objectives are used to guide action. Here is where the final third of Gray's dicta emerge: "Executing Strategy" (dicta 13–20) and the "Consequences of Strategy" (dicta 21).[12] The final third of his dicta still overlap with the first two-thirds. In executing strategy, the strategist must understand how actions affect the political system then assess and adjust as needed. Because there are multiple actors simultaneously and perpetually seeking to alter the system in their favor, the context for strategy execution alters. Through a continuous dialogue with both policymakers and implementers, the strategist must constantly synchronize policy and action to provide desired effects as the implications of actions of all the actors play out. There is no perfect knowledge on causation, especially in an open

system. Strategy is difficult. Thankfully, all actors are in the same predicament. Extrapolating from Gray, strategic performance does not need to be perfect, just better than the other competitors.[13]

Simply put regarding strategy development, one evaluates the strategic environment as it pertains to espoused policy or political goals (ends), develops a theory on how to transition from the current environment to the desired political environment (ways), and identifies resources to accomplish the strategy (means). Ultimately the strategist must assess and articulate the risks to the mission and the force to inform decisions regarding political acceptability of a proposed strategy. The transition thesis is translated into action through the development of objectives. Objectives provide the aimpoint for planners as they devise synchronized actions to achieve them. Developing and orchestrating objectives to achieve the desired strategic effect is how a strategist bridges policy to action.

Once objectives are identified, the strategist's work is just beginning. As described above, a system changes with action. The strategist must identify whether a system is favorably changing and how to adjust the objectives, if necessary, to inform the ongoing discussion with policymakers on the feasibility that military objectives will deliver the desired strategic effect. The effective strategist develops and implements strategy by maintaining an active conversation with both policymakers and implementers to synchronize action with policy. For example, a 2013 memorandum from then-Chairman of the Joint Chiefs of Staff, General Martin Dempsey, to the chairman of the Senate Armed Service Committees discussed options and costs for actions in Syria based on discussions within the Department of Defense and with the White House.[14] An enemy or competitor creates effects of their own. A continuous dialogue is necessary to adjust one's aims to reflect available assets and the changing environment—political and physical.

Strategic assessment is a continuous process. It is essential to develop indicators as well as a methodology to discipline the assessment and account for the heuristics of human thought—both internal and for competitors. Indicators may not directly measure effects but, if taken in as a mosaic, can provide an understanding of environmental changes. Development of indicators requires a methodical approach.

Regularly assessing a strategy is essential to the effectiveness of the strategy over time. Rigorous assessment informs the unequal dialogue needed to adjust policy and the strategy to achieve the strategic effect. The challenge in developing the indicators is to not just assessing the accura-

cy of a strategist's theory for changing the system, but increasing understanding about the system and thereby better shaping the competitor's action. According to Nobel Laureates Daniel Kahneman and Amos Tversky, humans trying to understand complex and abstract things, like an open system, will develop intellectual shortcuts, or heuristics that reinforce experience and success.[15] To help identify biases, strategists should develop indicators that show efforts to change the system that are not effective. Working to build support for an antithesis helps highlight evidence in the system from a different perspective, perhaps in an unflattering way. Being aware of personal shortcuts is important; since a strategist is seeking to alter the political through the physical, understanding a competitor's heuristic shortcuts is invaluable.

Gray argues that contextual awareness and a broad strategic education help prepare strategies to understand the potential implications of action to orchestrate strategic effects. For the military strategist, this means exposure beyond the traditional study of military history focused on battle. Instead, the strategist needs to learn how a battle came about or political ramifications of a battle beyond the military context—intellectual curiosity to better understand the world and why things happen the way they do. More than just the physics to understand the realm of the physically possible, strategists need to understand psycho-social, cultural, and political aspects as well. Better understanding the human context can help the strategist develop a sense of strategic empathy—placing oneself in the position of a competitor in order to see the system through their eyes then shape their decisions through your actions.

Conclusion

Strategy bridges politics to action. The strategist provides narrative and concrete objectives to enable operational planning to synchronize tactical actions to orchestrate a strategic effect. The strategist maintains a dialogue with both the policymaker and those executing the strategy. In the midst of this, the strategist assesses that the action's effects on both friend and enemy are favorable. Based on this determination, the strategist must be prepared to adjust objectives, identify the effect that military action is having on the system as it pertains to achieving the policy, and determine whether to continue current action. Strategists need to constantly look to expand their understanding of context and develop strategic empathy. In the end, strategy is difficult. However, the strategist only has to be better than competitors to be successful.[16]

Further Reading

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6. Gray, 28.

7. Gray, 107.

8. Gray, 107.

9. Gray, 128.

10. Gray, 168.

11. Gray, 169.

12. Gray, 262.

13. Gray, 156, 146, 224, and 256. Gray described the relative nature of strategic performance throughout the book. Not only does the strategist need to deal with the complexity and challenges of developing and implementing strategy, but so does the enemy strategist: "We just need to outperform the enemy in the production of net positive strategic effect."

14. For a discussion of this memo and its role in the development of policy and strategy, see Anthony H. Cordesman, "US Options in Syria: The Dempsey Letter" (commentary, Center for Strategic and International Studies, 26 July 2013), https://www.csis.org/analysis/us-options-syria-dempsey-letter.

15. Kahneman and Tversky, who received the Nobel Prize in Economics in 2002, transformed the basis of heuristic study or mental shortcuts associated with human decision-making for decades. Kahneman's *Thinking, Fast and Slow* is a must-read to better understand the cognitive underpinnings of decision-making and how to avoid natural pitfalls. There is a wider set of work that has grown over the decades after their work to up-end the rational actor basis of economics. Simple searches for heuristics and biases will bring up several sources, most of which build on Kahneman and Tversky's work. The heuristics commonly employed in judgments during uncertain events were identified by Kahneman and Tversky in a 1973 paper for the Office of Naval Research and the Advanced Research Project Agency are: representativeness, availability, and adjustment and anchoring. Amos Tversky and Daniel Kahneman, "Judgment Under Uncertainty: Heuristics and Biases," AD-767426 (report, Office of Naval Research, August 1973).

16. Gray, *The Strategy Bridge*, 148, 156, 224, and 256.

Chapter 8
Institutional Strategy

Daniel P. Sukman

The activities characteristic of war may be split into two main categories: those that are merely preparations for war, and war proper.[1]
—Carl von Clausewitz

Strategists love to discuss and theorize on warfighting strategy. Indeed, the mental picture of a staff gathered around a map planning a campaign often comes to mind when discussing military strategy. However, just as, if not more important to warfare, is the institutional strategy of the military. It is one thing to fight an army, and another thing to build the right one. To better understand institutional strategy, one must first come to recognize an institutional level of war.

Currently, the United States military recognizes three distinct levels of war (see Figure 8.1). At the lowest rung is the tactical level, followed by the operational level, and culminating with the strategic level of war on top. Each of these levels of war focuses on the current and immediate future of war and determines success in war based on actions on the battlefield. The "snowman" diagram depicted in Figure 8.1 is a time-tested way to introduce young officers to strategy using an easy to understand mental model and serves its purpose well.

Joint Publication (JP) 3-0, *Joint Operations*, defines the tactical, operational, and strategic levels of war. The strategic level is the level of war at which a nation, individually or as a group of nations, determines national or multinational strategic security objectives and guidance, then develops and uses national resources to achieve those objectives. The operational level of war is the level of war at which militaries plan, conduct, and sustain campaigns and major operations over time to achieve strategic objectives within theaters or other operational areas. The tactical level of war is the level of war at which militaries plan and execute battles and engagements to achieve military objectives assigned to tactical units or task forces.[2]

The fatal flaw of this mental model is that it does not consider the hours of training it takes to create a ready force, the industrial might of a nation required to develop innovative weapons, or the years it takes to cultivate strategic leadership. The critical component of a nation's ability

to generate military power resides in the institutions dedicated to developing the doctrine, capabilities, organization, and training of its forces. The institutional level of war is where a nation's military services develop material and non-material capabilities, to include technology and people, to execute actions at the tactical, operational, and strategic levels of war.

Generally, within the accepted framework of the levels of war, the strategic level drives the operational level, which in turn drives the tactical. The relationship between the institutional level of war and the tactical, operational, and strategic is a two-way, multi-tiered dialogue. Commanders in the field should understand the capabilities they have in their respective organizations, to include human capital. Conversely, those working within the institutional level should understand the strategies field commanders look to employ. There is however, a balance. Field commanders tend to focus on the present and immediate future, while institutional strategists must contemplate both the needs of the current fight, and the requirements of the next ten to twenty years. A striking example of this ongoing dialogue occurred in the midst of the Iraq and Afghanistan wars. Institutional organizations shifted their priority to the current fight, enabling the rapid fielding of mine resistant ambush protected vehicles at the expense of future material capabilities.

The overarching mission of the United States military services is to organize, train, and equip forces for combatant commanders to employ in contingency operations. This is the heart of the institutional level of war. These Title 10 responsibilities run the gamut from major combat operations to counterinsurgency to humanitarian assistance operations. Indeed, to conduct these types of operations, Title 10 directs the services to develop concepts, doctrine, tactics, techniques and procedures. This is an institutional responsibility.

Actions at the institutional level of war establish the foundation for the success or failure of operational forces who fight America's wars. Specific responsibilities include the development of warfighting concepts, doctrine, weapons systems, and combat platforms. Further, in terms of education, training, and leader development of service members, the institutional level of war encompasses professional development reaching from initial basic training to the service war colleges. Other aspects include recruiting, and the underlying policies behind the manning of the all-volunteer force, which account for more than a brigade combat team of personnel, and a budget in the hundreds of millions of dollars per year.[3]

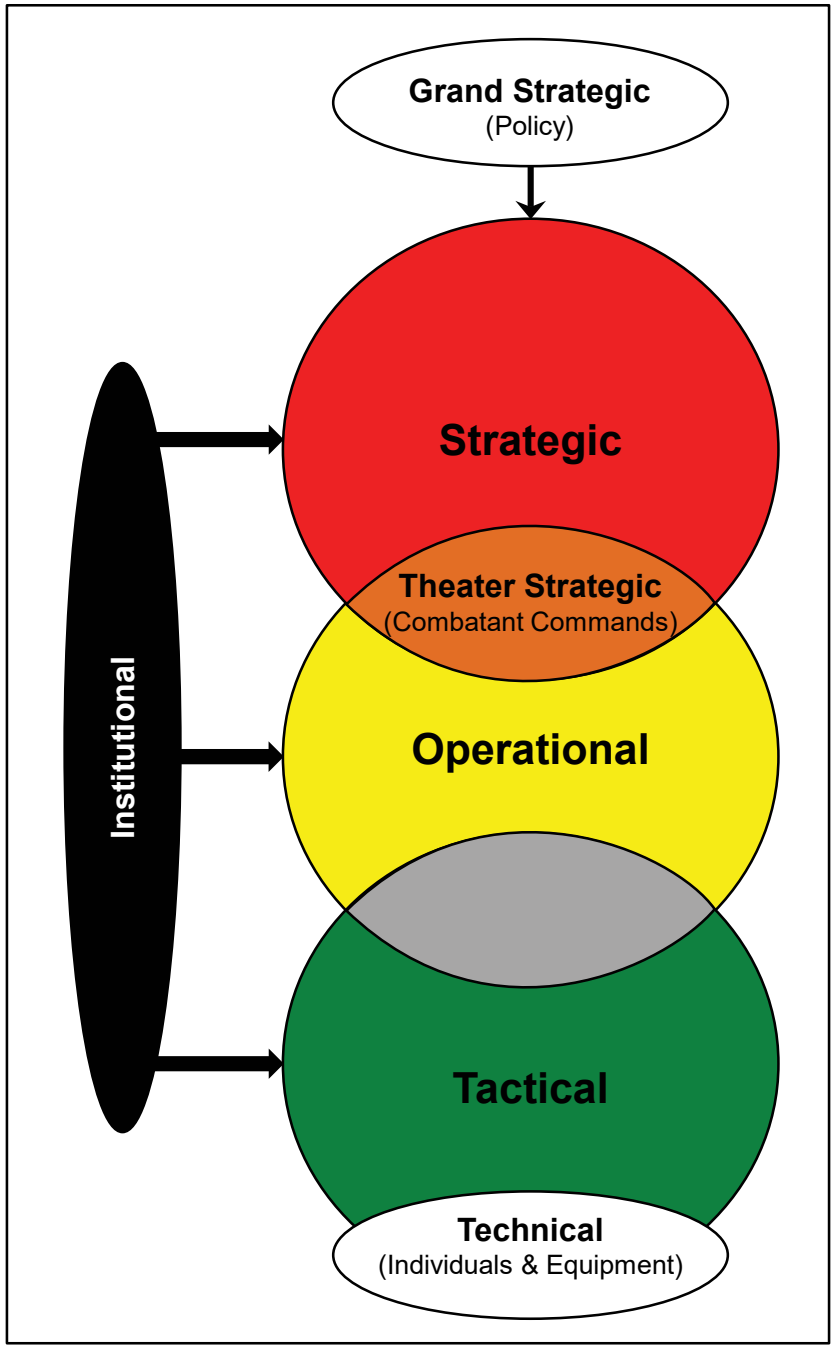

Figure 8.1. The Levels of War, Including an Institutional Level. Source: Created by Army University Press based on Author's Drawing.

Strategic Level of War

The Level of War at which a nation, often as a member or a group of nations, determines national or multinational (alliance or coalition) strategic security objectives and guidance, then develops and uses national resources to achieve those objectives.

Operational Level of War

The Level of War at which campaigns and major operations are planned, conducted, and sustained to achieve strategic objectives within theaters or other operational areas.

Tactical Level of War

The Level of War at which battles and engagements are planned and executed to achieve military objectives assigned to tactical units or task forces.

Institutional Level of War

The Level of War at which a nation's military services develop material and nonmaterial capabilities, to include technology and people to execute the tactical, operational, and strategic level of warfare.

Institutional Art

The creative thinking used to design force capabilities and structure for employment in global operations.

Figure 8.2. Definitions for the Levels of War, Including an Institutional Level. Source: Created by Army University Press based on Author's Drawing.

Historical Examples

In 1991, the United States military led a coalition of allies and partners in the liberation of Kuwait from Iraqi occupation. Much of the credit for the success of this operation has been given to generals such as Norman Schwarzkopf, his staff that included joint planners, and the component echelons who developed the complementary campaign plans, maneuvers, and feints that ultimately fixed, isolated, enveloped, and destroyed the Iraqi Army units inside Kuwait and in southern Iraq and led to the negotiated removal of the remainder. Certainly, the credit given to these individuals is well deserved. However, if we think deeper, the true success behind Desert Storm lies in how the military performed at the institutional level of war leading up to the operation. During conflict, overcoming the enemy equals success. Absent conflict, the ability of military institutions to change determines success. Each service modernized and integrated as a joint force in line with the mandates of Goldwater-Nichols, creating a nearly unstoppable force in the deserts of Iraq.

America's battlefield victory in 1991 reminds us that institutional activities which occur in the years preceding an operation are a necessary precursor to operational success. It reminds us that a focus on future readiness is essential to combat effectiveness in wartime. When the nation gets the institutional level of war right, this creates the conditions for tactical, operational, and strategic success. Credit for military success should belong to those who developed the doctrine like Field Manual (FM) 100-5, *Operations*; Air Force Manual 1-1, *Basic Aerospace Doctrine of the United States Air Force* (1971 and 1975); and the AirLand Battle Concept as much as it does to those who executed it in the deserts of Iraq and Kuwait. Indeed, Maj. Gen. (Retired) Robert Scales credited the AirLand Battle Doctrine as "underpinning the way the Desert Storm campaign was planned and fought."[4] But even that is misleading, in a sense. In fact, the success of AirLand Battle rests with neither the writers of the initial concept, nor with those who executed it, but rather with the institutions that continued to refine and inculcate the concept following its initial publication and evolution, which stressed the necessity of the application of operational art.[5]

At a higher level, the institutional changes forced upon the services to increase jointness by Goldwater-Nichols enabled decisive victory in the Gulf War as well as effective responses to multiple contingencies throughout the past thirty years.[6] Even the planners that developed the "left hook" operational plan for Desert Storm were able to do what they did because of the foresight needed to create the Advanced Military Studies Program at Fort Leavenworth. Arguably, the institutional level of war carried the day.

Strategic leaders have a moral responsibility to ensure men and women have the proper equipment and are adequately trained for warfare. In this aspect service leadership between the end of the Vietnam and the beginning of the 1991 Gulf War fulfilled their moral obligations. Leadership at the strategic and institutional levels is difficult. Indeed, said leaders must recognize a moral responsibility not only to fight the war they are in, but to ensure the nation can fight the next war. These decisions do not come easy, as budgets are limited, and failure to fight the current war in a proper manner is a moral failure. However, strategic and institutional leaders have a moral imperative to balance this risk for the long-term success of society.

Other examples of institutional strategy driving operational success include the three offsets. Offsets one and two countered the numerical advantages of the Soviet Union throughout the Cold War. In the 1950s, the United States developed the first offset strategy, which centered on nuclear weapons. The second offset is defined by Secretary of Defense Harold Brown and Under Secretary William Perry's direction for the Department of Defense to develop stealth, precision strike weapons, and improved command and control and intelligence, surveillance, and reconnaissance capabilities in the 1970s.[7] The latter came to fruition during the wars in Iraq, Kosovo, Libya, and Afghanistan.[8] The third offset, unveiled in 2014, focuses on robotics, unmanned, and autonomous systems. The fruitions of the third offset remain to be seen.

Just as there are examples of institutional success, there are multiple examples of institutional failure. Leading up to the American entrance into World War I, the United States Army failed to update service doctrine to reflect the realities on the battlefields of Europe. Indeed, training camps tended to focus on drill and ceremony and other close order type discipline.[9] Closer to modern times, the US military found itself completely unprepared to fight at its entrance into the Korean War. More recently, in 2003, the US military invaded Iraq with outdated counterinsurgency doctrine, and having not trained for counterinsurgency warfare in decades. It took blood, treasure, and time to reverse these losses as such operations appeared following the fall of the Baathist Regime in Baghdad.

The institutional failures not only serve as a national failure, but an example of a moral failure too. T. R. Fehrenbach put it best when he wrote: "A people that does not prepare to fight should then be morally prepared to surrender. To fail to prepare soldiers and citizens for limited, bloody ground action, and then to engage in it, is folly verging on the criminal."[10] Just as there is a moral and ethical standard for going to war, and a stan-

dard for conduct while fighting a war, there is a moral responsibility to properly prepare and equip men and women who will fight a war.

Speed and Institutional Strategy

To be successful, a strategist must recognize that it takes time to develop and implement institutional strategies. While decision-making in the tactical, operational, and strategic level of war are command driven, institutional decision-making involves the building of consensus amongst military and civilian leadership. Moreover, institutional decision-making occurs across both the executive and legislative branches of government. Creating a concept, identifying the capabilities required to implement the concept, testing the concept, and convincing key leaders within the military, Department of Defense, and Congress to adopt the ideas, appropriate funding, and change the force structure is complex and measured in years if not decades.

With this in mind, it is useful to consider speed in relation to strategy at the institutional level. Institutional speed is the rate at which military services move from concepts to capabilities; in other words, how fast do the services conceive of an idea and put that idea into practice. Institutional speed involves the production of material capabilities such as aircraft, tanks, and other weapons platforms. Moreover, how fast a service can develop or change doctrine or personnel policies is reflective of institutional speed.

Institutional speed is not measurable in days, weeks, or even months. Senior military leaders continually try to advance the pace of institutional change such as acquisitions or doctrine. However, decisions within the institutional level of war require thoughtful decision-making, as the impacts can last for generations. Combat platforms such as the M-1 main battle tank and the B-52 bomber will have a lifespan of nearly a century when the US Army and Air Force finally move to replace them. Of course, there are times when necessity increases the pace of institutional changes.

Decision-making at the institutional level of war can range from months to years. Indeed, the first-, second-, and third-order effects of institutional decisions can last for decades. The decision to develop and field weapons systems from the Army's so-called "Big 5" systems still influence how the joint force fights today.[11] Indeed, platforms such as the M-1 tank and the Blackhawk helicopter began development in the early 1970s, began fielding of the platforms in the early 1980s, and continue to perform on the battlefields of today.[12] Similarly, the Air Force still operates B-52s over fifty years after their first appearance on the battlefield, and aircraft

carriers have a lifespan of over thirty years. Institutional decision-making occurs throughout the lifetime of concept development, experiments, testing, fielding, and eventual retirement of solutions across the range of doctrine, organization, training, materiel, leadership, personnel, and facilities, a range of options when considering capabilities and change within the Department of Defense.[13]

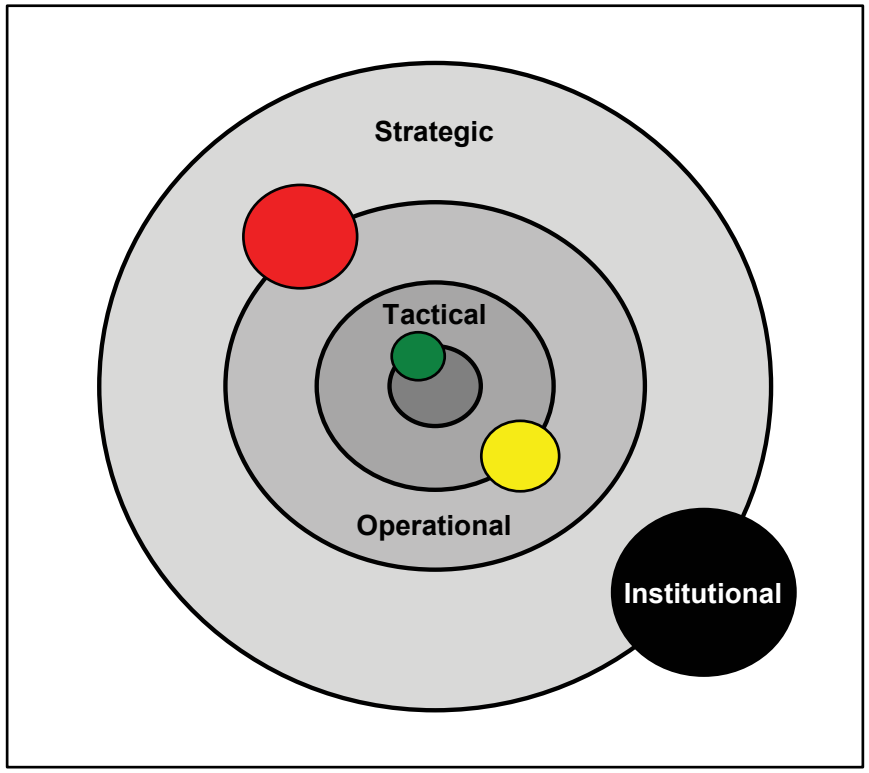

Figure 8.3. The Speed of Decisions Based on the Levels of War, Including an Institutional Level. Source: Created by Army University Press based on Author's Drawing.

Just about anything related to the military moves faster at the outset of conflict. This includes institutional decisions of the services that must adapt based on conflict circumstances. An example of institutional change in the maritime domain is the development of the Combat Information Center and the tactical manual known as PAC 10, which revolutionized naval warfare and was decisive in American victories in the Pacific War.[14] A more recent example of institutional speed during times of war is the rapid development of Field Manual (FM) 3-24, *Counterinsurgency*. This

pace of institutional speed during times of conflict is not unique to recent history. One can look back to the First and Second World War and observe advancements in military aviation, armored vehicles, rockets, and even the harnessing of nuclear power.

While there are many similarities between planning processes at the institutional and operational levels, there are also clear differences. Most notable, there is a significant difference in timelines. Fighting the current fight in the air, land, maritime, cyberspace, and space domains is the purview of the operational art, while an institutional strategy looks at timelines that could last well over fifty years. Examples of this include the development and continued improvement of the material items such as HMMWVs (high-mobility multipurpose wheeled vehicles) and Bradley Fighting Vehicles for the Army and C-130 and B-52 bombers for the Air Force. When all is said and done, the life cycle of these systems may reach out over six decades.

Institutional capabilities advance beyond material items. Indeed, FM 3-24, written for the current fights in Iraq and Afghanistan, will survive in U.S. Army doctrine for decades to come with appropriate revisions. Other institutional solutions that have lasted for decades include personnel actions within the Defense Officer Personnel Management Act, a law passed in 1980, and the Goldwater-Nichols Act of 1986. Thinking this deep into the future is imperative as combatant commands and other theater strategic and operational commands do investigate the future, but typically within either the two-year adaptive plans and execution cycle, theater campaign plan timelines, or the five-year timeline of the program objective memorandum.[15]

Further extending the timelines of institutional strategy is the relationship between military leaders and elected representatives. The dialogue between policymakers and the military is inherently more complicated in institutional matters than operational concerns. While wartime policy ends are typically provided by the commander in chief, peacetime policy ends derive from multiple branches of government. Not only must military institutions factor the policy ends provided in strategic documents such as the *National Security Strategy*, we must give due consideration to legislative documents and agendas. These agendas cover a range of actors from Congress to state legislatures who have a stake in the force structure of their state's National Guard. Navigating these nuances to design, develop, and maintain service institutions is an art that stands alone, separate from strategic, operational, and tactical warfighting.

Institutional Intelligence

Just as intelligence drives operations, intelligence should drive institutional strategy.[16] Institutional intelligence is a combination of how the services develop planning scenarios that enable capability development for the mid- to long-range future, and how the services understand the domestic environment to enable the manning, equipping, and training of the joint force.[17]

Institutional intelligence relies on assumptions more than any other level of war. In the development of scenarios, services must consider the future combat capabilities of foreign adversaries as well as the potential capabilities of our own, and allied nations. This could include advancements in weapons technology such as artillery that can shoot further, or rotary wing aviation that can fly greater distances on less fuel.

More than assuming future technologies, institutional intelligence must look at possible enemies and adversaries in the distant future. While it can be safe to assume that some competitors in today's world will be the same three decades from now, it is also possible for friendly nations to turn based on their domestic politics, as in the case of Iran in 1979. Moreover, enemies and adversaries can quickly turn into allies, as in the case of Eastern European Warsaw Pact nations following the demise of the Soviet Union. This feature should drive the necessity of capabilities-based planning, which allows greater flexibility for the future rather than the threat-based planning paradigm, which tends to focus on the present. Simply put, strategic leaders must strike the right balance.

Strategists should understand the full suite of documents and information available to them. When it comes to building a military, much of the institutional intelligence occurs in the unclassified domain. Documents such as the National Intelligence Council's Global Trends Report emphasize this need.[18] Indeed, developing a picture of the future involves various research agencies, businesses, and other organizations outside of government. A whole of government or comprehensive approach applies to the institutional level of war as much as it applies to operational warfighting.

One of the best examples of institutional intelligence is the development and execution of the various war games conducted by the Army and Navy in the inter-war period. Students attending the Army War College at Carlisle Barracks, Pennsylvania, planned against potential conflicts against a variety of nations. These scenarios led to the development of War Plan Orange, the plan to defeat Japan, which was conceptualized prior the bombing of Pearl Harbor. The US Navy in the period between World War

I and World War II used the outcomes of their institutional wargames to develop sufficient pilot capacity, and to focus the industrial base on carrier production.[19] Indeed, war gaming at the war colleges built the foundation for both the intellectual and material capabilities that helped win the war. Today, modern institutional war games such as the US Army's Unified Quest, and the US Navy War College games are particularly useful in identifying what future capabilities the joint force requires.

Tactical, operational, and strategic intelligence tend to focus on the operational environment overseas. Any intelligence organization of value to a commander visualizes aspects of the terrain, the population, and enemy forces. Institutional intelligence is paramount in how the military prepares for the next war. Operational and strategic leaders must also know and understand the domestic environment as a way of understanding the capabilities of their own force.

Therefore, institutional intelligence should focus on applicable domestic conditions. This does not mean that the US military should collect intelligence on citizens within the United States, but rather that leaders responsible for manning, equipping, and training the force must understand domestic demographics, politics, and trends. This aids in decisions such as where and how to focus recruitment efforts, and how to encourage career service members to stay in the force. Similarly, they should focus on technological developments in civilian sectors, and understanding how said developments can change the battlefield.

Strategists, and those responsible for raising and maintaining a military, should understand the domestic economy and its impact on the development, acquisition, and fielding of a combat-credible force. Unlike intelligence focused on the enemy, institutional intelligence should provide leaders with an understanding of high-tech corporations as a competitor for human capital. When China or Russia implements a new military or economic policy, hordes of analysts study the impacts it may have in the event of a conflict. The US military should do the same as domestic policy is in constant flux.

It has long been wise advice to understand oneself. This is true of organizations, as well. The Oracle at Delphi, Sun Tzu, and Army doctrine on leadership have all advocated for understanding yourself before fighting an adversary. Nations across the globe spend an enormous amount of resources on understanding foreign nations and the likelihood of future conflict. The United States invests in the study of nations like Iran, Iraq, Afghanistan, China, and Russia to gain an understanding on how they may

conduct warfare in the future. Indeed, the US Army has an entire functional area of foreign affairs officers who serve commanders and US embassies as experts on various nations and regions across the globe. However, the nation that has the most impact on the nature of a conflict is our own. The enemy does get a vote, but our vote still counts. Understanding our own nation's demographics and culture to build a military around it is equally, if not more important, for success in future conflict. The consequences of institutional-level intelligence failure can damage the nation. The effects of preparing for the wrong war, or entering the next war with the wrong capabilities can lead to strategic or national level defeat.

Conclusion

While the specific social, cultural, political, and institutional factors vary from nation to nation, institutional strategies are not unique to the United States. Other nations—allies, partners, and adversaries alike—publish service documents and national security strategies focused on modernizing their respective militaries based on their perceived threats and internal political and budgetary priorities. For example, both Russia and China recently made public their national security strategies, which called for the modernization of their respective militaries along with investments in technology, education, and science.[20] Allies such as Great Britain are reducing the size of their land forces in response to fiscal constraints, a reduction that began with an institutional review formalized with the publication of their *Strategic Defense and Security Review*.[21] Whether the United States and other nations recognize it, they are fighting at the institutional level of war all the time, through tactics, operations, and strategy planned and executed by professionals through the institutional art.

Militaries will always need leaders who can inspire troops, plan multi-domain operations on a battlefield, and draw the requisite arrows on a map. However, the ability to lead service institutions fighting current wars while simultaneously preparing for future warfare is a rare skill. The development and advancement of knowledge necessary to improve the force should never be regarded as a distraction from ongoing operations. Nations must invest in and deliver future force capabilities to maintain a competitive advantage against increasingly capable and determined adversaries. Leaders practicing institutional art and science must anticipate not only who our future adversaries may be, but what capabilities they may employ.

The best way to fight a war is to set the conditions for victory before the bomber takes off, before the first ship sets sail, and before first shot is fired in anger. It is imperative for strategists to understand how to fight

and how to build a military force. Failing to develop men and women who can think at the institutional level can be disastrous for the nation. When America's men and women march, sail, or fly off to war, they should have the confidence that they are prepared and properly organized under the right doctrine to defeat the enemy they will face. Strategists must balance their ability to draw arrows and icons on a map with their ability to ensure that the men and women at the pointy end of the arrows are manned, equipped, and trained to defeat the red arrows pointing in the opposite direction. Behind every George Patton and Dwight Eisenhower is a George Marshal, behind every Norman Schwarzkopf and Colin Powell is a William DuPuy and a Donn Starry, and behind every strategic success is the institutional level of war.

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20. Olga Oliker, "Unpacking Russia's New National Security Strategy," *Center for Strategic and International Studies*, 7 January 2016.

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Part II:
The Strategist

Chapter 9
Practical Strategists: The Perspective and Craft of the General Staff Officer

J. P. Clark and Francis J. H. Park

Strategists are not pursuing some idealized level of proficiency in any one competency or ability; their central requirement is to achieve sufficiency in multiple areas. In other words, Army strategists are specialty officers who concentrate in the general application of strategy.[1]

—Charles P. Moore

Following the disastrous war with France in 1806, Prussian military reformers imagined that, if properly educated and organized, the collective talent of a corps of general staff officers could best even an individual genius like Napoleon Bonaparte. Contrary to what some might expect, the general staff was far more than just a central headquarters in Berlin. Though there was a Great General Staff (*Großer Generalstab*), many general staff officer positions were "with troops" (*Truppengeneralstab*) as chiefs of staff or other key positions in armies, corps, or divisions.[2] At the individual level, the combination of schooling and rotation through command, *Großer Generalstab* and *Truppengeneralstab* assignments created highly proficient, practical staff officers who thoroughly understood the tactical, operational, and strategic aspects—as well as the mobilization and logistics—of any likely war. At the organizational level, the dispersion of general staff officers across echelons created a deep shared understanding that enabled intelligent initiative and effective decentralized execution.[3]

The US military might lack a formal general staff corps, but it would nonetheless benefit from the presence of individuals with general staff officer-like qualities.[4] The Department of Defense is a sprawling conglomeration of organizations and processes mainly devoted to accomplishing sets of tactical or functional tasks. The problem is not in getting the Department of Defense to take action—it tends to do that well—but in getting all of that tactical action to lead to a strategic outcome that serves the needs of national policy. This is where the qualities of the general staff officer are needed. General staff officers have both the perspective to conceptually tie their function into the larger effort and the craft skills to do so effectively. Officers in the US Army's strategy career field or graduates of its School of Advanced Military Studies and its sister service or joint equivalents are expected to possess the perspective and skills of the general staff officer.

One advantage of the lack of a formal general staff corps, however, is that all national security professionals, regardless of formal designation, can develop those traits.

The Perspective of the General Staff Officer

General staff officers must necessarily retain the ability to maintain a strategic mindset, even when their duties are largely tactical-operational or functional. Military educator Harry Yarger associates the strategic mindset with the willingness to embrace a fluid form of "fuzzy thinking."[5] A junior field grade officer or mid-career national security professional desiring to develop a strategic mindset might consider Yarger's description itself frustratingly fuzzy. It is easier to describe the strategic mindset in opposition to what it is not: the complacent sense that following prescribed processes, achieving a set of quantitative objectives, or many tactical actions that seem appropriate will yield strategic or institutional objectives. The strategic mindset accepts ambiguity and non-linearity. Individuals with the strategic mindset understand that something more—imagination, savvy, openness—is necessary to bridge the gap between operations and strategy, between set process and the demands of the world as it is beyond the institutional bubble.

The strategic mindset, however, is not a supernatural power possessed by only a fortunate few. Aside from the incurably dogmatic, anyone with the desire to cultivate the perspective of a general staff officer can do so. See, for instance, the mixing board of characteristics in Jacqueline Whitt's chapter on developing strategists. Instant mastery of these characteristics is not possible, but neither is it expected. In practical terms, a junior general staff officer should focus on developing a working knowledge of the official strategic documents relevant to their duties and a familiarity with the academic and think-tank literature that informs policy.[6] These sources are the policy equivalent of doctrine; general staff officers are expected to know the fundamental ideas and expressions animating the national security enterprise. Conceptually, the aspiring general staff officer should be aware of the basic manner by which strategy interacts with operations. Equally important, the aspiring general staff officer must be able to distinguish the strategic mindset from a far more pervasive tactical-functional way of thinking.

Thus armed with knowledge of the main ideas driving the institution and an awareness of some of the complexities associated with their implementation, the beginning general staff officer is ready to cultivate the strategic mindset even while maintaining a grounding in the tactical-func-

tional. This balance cuts a path between the extremes of floating off into esoteric theory or becoming mired in activity or process for its own sake. General staff officers employ their perspective and knowledge to translate imprecise, general, and uncertain strategic guidance into meaningfully precise, specific, and certain direction to enable execution by subordinate organizations without sacrificing flexibility or falling prey to dangerous oversimplification. The other chapters in this volume provide an excellent overview of both the theory and application of strategy, so the remainder of this essay will offer observations on the human and organizational challenges associated with devising and implementing strategy.

The Craft of the General Staff Officer

The perspective of the general staff officer is of little use if it is ignored, dismissed, or misunderstood by peers, superiors, and subordinate organizations. To be realized, brilliant concepts must be translated into shared understanding across the organization. The craft of the general staff officer begins with a thorough understanding of doctrine, processes, and organizational relationships. These are not, however, sufficient to guarantee success. There are additional informal skills that serve as the lubricant to allow the machinery of formal processes to function. As with the strategic mindset, junior general staff officers are not expected to have a perfect, intuitive grasp of all that is required to make large military organizations achieve difficult tasks. A mastery of these skills requires a career-long commitment to understanding human and organizational dynamics. The best teacher is experience, filtered through an attentive and curious intellect, aided by perceptive mentors and colleagues. The insights and observations offered here, therefore, are only an initial reconnaissance to guide the attention of a junior- or mid-grade leader serving in a large headquarters for the first time.

First, general staff officers naturally attract responsibility. General staff officers must be ready to lead not only the development of conceptual thought, but also staff process under a wide range of circumstances. Within operational planning teams, their knowledge of policy and strategy—as well as its underlying foundations and nuances—often provides the conceptual framework that coherently integrates other team members' tactical and functional expertise. Teams often require frequent reminders of how the project relates to national and theater strategies, other campaigns, and relevant operational plans. In the absence of the general staff officer's perspective, planning teams often default to the method of bottom-up cataloguing of tactical and functional tasks in the expectation that

they will somehow aggregate into a favorable strategic outcome. This approach rarely succeeds.

With the role of conceptual and process leader, there naturally comes some measure of group leadership. It is not unusual to be the leader of a planning team that includes higher ranking officers or non-military members. Even if not formally tasked with a leadership role, general staff officers typically become members of the core group and informal leaders. Whether formal or informal leaders, general staff officers often bear the burden of overcoming common challenges such as contributing organizations sending a rotating cast of representatives to meetings or offering only the hopelessly inexperienced or overburdened. Planning team leaders navigate the tensions of building a constructive group dynamic, maintain long-term relationships with other sections or organizations, while also producing rigorous, coherent products on schedule. Aside from the general principles of leadership, the general staff officer should strive for self-awareness to help guide him or her through these difficult tasks.

Second, formal processes have an informal component, and the general staff officer must know both. Christopher Elliott begins his book *High Command* with an account of one of his early mistakes as a newly arrived major general within the British Ministry of Defence. Elliott's mistake was to endorse unilaterally an analytically sound staff recommendation that fell within his authorities. Judged solely by formal procedures, the decision was entirely proper. But as an experienced civil servant explained to the general, the informal process within the ministry was to socialize such decisions with other offices. Failure to adhere to the informal norms could lead to later problems from lack of cooperation to reversal of the decision.[7]

The lesson for general staff officers is that it is necessary to understand both the formal and informal aspects of critical processes, such as policy formulation, authority delegation, and resource allocation. What are the relevant milestones, standards, and products? Which individuals and organizations determine what will be considered, what is required, and ultimately what will be done? The conceptually perfect plan produced a month after a resourcing conference or that was not shared ahead of time with an influential figure might suffer or even fail in execution. Formal and informal processes comprise the organizational battlefield upon which the fight to implement an idea unfolds. The metaphor suggests the need for a deliberate plan to seize key terrain (e.g., ensure agreement from key stakeholders), mitigate chokepoints (avoid delays by meeting deadlines), and extend control over the entire area of operations (conducting

outreach to other directorates and organizations removed from the planning process, when appropriate).

Third, bureaucratic tactics are a method, not the objective. Navigating organizational shoals—formal and informal—is sometimes so consuming that action officers can lose sight of the ultimate goal. By necessity, quarterly resourcing conferences, annual budgets, and unit or commander rotations sometimes drive the pace of planning, but strategist-planners should always remember these events are driven by timelines unrelated to that of the operational environment. Thus, they must understand the terrain over which they might fight, whether procedural or temporal, when planning. One sign of impending trouble is when the operational timelines envisioned within a plan are suspiciously convenient for the organization, typically favoring faster development of the situation than is reasonable. These artificially short timelines are especially dangerous for those projects deemed too big to fail.

Fourth, informal networks are pervasive, so the general staff officer should employ them creatively. Even in large organizations, personal relationships matter; indeed, sometimes more than they should in matters of national importance. Many organizations have informal power brokers who wield influence far greater than their nominal titles would suggest. By making deliberate, good faith efforts to develop constructive relationships grounded in genuine commitment to mission accomplishment, hard-working and conscientious action officers will quickly develop a valuable personal network. Savvy general staff officers employ these informal connections to share drafts and insights, help and be helped by others, and when necessary ghostwrite directives for higher headquarters.

Fifth, relations with senior leaders are critical but often difficult, so a key task for the general staff officer must be to build and maintain trust. Scholars Christopher Lam and Megan Franco claimed that during the critical years of the wars in Iraq and Afghanistan, senior civilian and military leaders found formal strategy documents produced by their own staffs were of so little value that actual strategy formulation took place "in the heads" of a small group of high ranking official officials.[8] It is disconcerting the degree to which strategic and operational leaders can be conceptually estranged from their staffs. That disconnect is even more likely if the commanders have not served in staff assignments in an action officer capacity.[9] The result is "audio not matching video," in which direction and guidance given personally by senior leaders differs in tone, emphasis, or spirit than staff products. Such a situation never produces good results.

Planning doctrine—particularly design—works best when a commander readily confides his or her views and is open to being informed by staff analysis in iterative, candid, small-group dialogue. This happens sometimes. More commonly, demands on commanders' time and intellectual energies combine with the reserve of many senior officers to limit the frequency and openness of interactions. It is also likely that, while general staff officers may have been trained in strategic art and are focused on process and end state, their senior leaders may be tacticians in demeanor, focused on short-term successes to indicate their effectiveness, and may not be interested in general staff officers trying to "build the watch."

Slipshod products and analysis can lead to a death spiral toward a condition like that described by Lam and Franco, in which the commander concludes the staff is so inept and unaware of strategic and policy concerns that they are relegated to purely executive function. Alternatively, early demonstrations of the staff's ability to add value lead to a virtuous cycle in which increased interactions that provide greater insight into the commander's thinking and concern in turn better enable the staff to add value.

Aside from the general qualities of competence, expertise, and tactful assertiveness, staff should not waste the commander's time, never betray sensitive information given in confidence, and remain attentive to unstated considerations and factors without getting lost in too clever attempts to psychoanalyze superiors.

Sixth, large staffs are not monolithic, requiring the general staff officer to create a plan for dissemination and acceptance. It might seem incredible to readers without experience in a large headquarters that the commander's approval of a plan or order would not automatically lead to full-throated acceptance across the organization. Nonetheless, this is the case. The last step in the *Marine Corps Planning Process* is transition, meaning handover of a plan to those charged with its execution.[10] For a large headquarters, the staff is also responsible for executing a plan. A planner should always anticipate having to conduct that handover. General staff officers educate (or, perhaps more nefariously, co-opt) other sections, partner organizations, and key individuals in superior or subordinate headquarters. Moreover, transition is an enduring task in a general staff, as personnel and organizational turnover require deliberate effort to bring up to speed new arrivals to the planning team, staff, and command group.

Seventh, the general staff officer must study, appreciate, and accommodate other organizational cultures. Large headquarters offer increased opportunities to work with different organizational cultures, whether func-

tional, service, joint, interagency, or multinational. These organizations work, think, and act differently than the military, often for quite sound reasons related to their organizational mission or function. Knowledge of those different entities' cultures can offer valuable insights to how those organizations or their people will think and act.

Empathetic, intellectually curious general staff officers willing to learn how and why other organizations function as they do can gain valuable knowledge. They avoid the common military fault of attributing a moral superiority to the bureaucratic structures, processes, and culture of one's own organization. Chauvinism kills curiosity. Yet even when the military method might be objectively more effective or efficient, a degree of flexible accommodation can go a long way toward overall mission success. Imposing one's will for the sake of misguided expediency can have long-term costs that are rarely worthwhile.

Eighth, strategy formulation and implementation is a long game. At the strategic level, the stakeholders are too varied, the competing demands too enduring, the process too convoluted for it to be reasonable to expect perfect conceptual coherence. In short, big institutional effort invariably contains inconsistencies, contradictions, and even some absurdities.

Acknowledging that there is no perfect plan or document, general staff officers must therefore balance intellectual, bureaucratic, professional, and emotional tensions to determine what is good enough for the organization and themselves. For instance, it is not uncommon during the late stages of product development for an influential leader or external agency to push for the inclusion of some pet rock that is fundamentally at odds with the logic of the larger whole. When faced with distasteful compromise, it is necessary to avoid the extremes of cynical "I'll do whatever they tell me" on one hand and unbending conceptual purity on the other. The emotionally and intellectually difficult middle ground is to pursue rigor and cohesiveness to the greatest extent possible before yielding when necessary, but then to seek constructive subsequent opportunities to resolve or at least mitigate conceptual dissonance in the plan.

This pragmatism makes use of what is otherwise a frustrating aspect of large organizations: the final word is never final. Strategy implementation is a long game; there will be opportunities to rectify shortcomings within a plan after publication, but a strategy that does not see transition will never be realized. Just as a perfect plan can still be ruined in execution, an imperfect plan can be improved upon during the continued dialogue with

commanders, other staff elements, higher and lower echelons, and partner organizations that occurs during execution.

Finally, the general staff officer must devote effort to packaging. The emphasis on ambiguity and complexity inherent within the strategic mindset cannot be allowed to lead to endless admiration of the problem. General staff officers remember that in execution it is what is impressed upon the minds of those who will execute, rather than whatever lurks in the minds of planners, that matters. Thus, a critical determinant of success is the quality, appeal, and clarity of products. This has two main implications.

First, packaging must be given due attention early in the process. Otherwise, the team might run afoul of the law of complex tasks coined by computer scientist Douglas Hofstadter: "It always takes longer than you expect, even when you take into account Hofstadter's Law."[11] In allocating time, it is important to acknowledge that some products are more influential in impressing their content upon the minds of those that have to implement the strategy and plans developed by the staff. Products must not only be clear and attractive, but also given with sufficient time remaining to those who must execute.

Second, larger organizations require ideas to be expressed in an array of forms to serve the needs of different users. General staff officers are often avid readers who enjoy intellectually rich texts. Their customers may not share that inclination, and even if they do, they will not likely have the time. As one of the US Army's senior strategists succinctly, if indelicately, observed: "Nobody reads shit." Though it does not seem unreasonable to expect military professionals to carefully read an important order, many will nonetheless rely instead upon briefing slides or a cursory information paper. The general staff officer might easily become disillusioned as the planning team's complex strategic understanding is distilled into a linear order, which then is in turn further distilled into a slide deck or a two-page information paper.

Yet the clarity and simplicity demanded by effective presentations, when embraced, is a useful prod to develop several layers of strategic narrative. The larger the group, the simpler the basic common denominator must be to maintain coherence. The more organizational boundaries a product will cross, the more plainly it must be written and communicated. Planners must give the remainder of the staff and other organizations a fundamentally accurate, if simplified, strategic narrative to impart cohesion. This is particularly important amid the churn of personnel rotations in deployed headquarters. Even among the core planning team, it is difficult

to maintain track of all the messy aspects of non-linearity, evolving facts and assumptions, and the elastic and imprecise divisions among various phases or lines of effort. It is high art to craft a narrative clear enough to be useful, but that still remains sufficiently true to the underlying complexity.

Final Thoughts for General Staff Officers

General staff officers must master two skill sets that are individually demanding and often in tension when taken together. Strategic thinking favors flexibility, nuance, and the need to constantly qualify and re-look not just assumptions, but even facts. Institutional action requires nailing down details on a schedule, simplicity that everyone can easily grasp, and setting forth stable direction that removes ambiguity for subordinate units. The general staff officer seeks to preserve the conceptual essence of the former, even as ideas are jammed into the proverbial wood-chipper of institutional process.

No one is ever fully educated, trained, or ready to do this. The job just falls to them. Luckily, this insufficiency when measured against the task helps maintain humility, which is an essential trait. Humility underpins two other essential qualities of the general staff officer: an insatiable curiosity about how large organizations work and the conscious effort to mitigate one's natural tendencies. Curiosity is essential because military education and training will never provide all necessary knowledge about even the formal processes much less all the informal aspects that come into play. Learning the ropes comes through broad study (particularly military history, but also social sciences, management, and literature) and the active questioning of mentors, superiors, peers, and subordinates. Experience is an excellent teacher, but even it requires the reflection of a curious mind to gain maximum benefit.

The knowledge gained by curiosity must then be put to use. The breadth of general staff officer duties virtually ensures that individuals will find some aspects of the job easier and more enjoyable than others. Those attracted to the conceptual aspects of strategy must diligently understand detail and process. Moreover, they must be willing to sacrifice conceptual purity and the comfort of abstraction to get something down on paper. For those naturally inclined to the satisfaction of productivity, they should be on guard for what Dietrich Dörner calls "repair service behavior," a lock-step execution of process that substitutes action for actual progress.[12] In the face of uncertainty, the false comfort of activity seemingly sanctified as purposeful by process will yield a product, but it might

not be what is required. Part of knowing the process is knowing when and how to go outside of it. In sum, general staff officers are skillful players who are ready and able to perform other tasks because they can apply a mixture of strategic perspective and creativity with a knowledge of the organizational fundamentals.

Further Reading

• Norman F. Dixon, *On the Psychology of Military Incompetence* (London: Jonathan Cape, 1976).

• Stephen J. Gerras and Leonard Wong, *Changing Minds in the Army: Why It Is So Difficult and What to Do About It* (Carlisle, PA: US Army Strategic Studies Institute, 2013).

• Richard E. Neustadt and Ernest R. May, *Thinking in Time: The Uses of History for Decision-Makers* (New York: Free Press, 1986).

• Linda Robinson et al., *Improving Strategic Competence: Lessons from 13 Years of War* (Santa Monica, CA: RAND Corporation, 2014).

• Barry D. Watts, *U.S. Combat Training, Operational Art, and Strategic Competence, Problems and Opportunities* (Washington, DC: Center for Strategic and Budgetary Assessments, 2008).

Notes

1. Charles P. Moore, "What's the Matter with Being a Strategist (Now)?," *Parameters* 39 (Winter 2009–10): 11.

2. For the evolution of the Prussian General Staff, see Charles Edward White, *The Enlightened Soldier: Scharnhorst and the Militärische Gesellschaft in Berlin, 1801–1805* (New York: Praeger, 1989); and Dennis E. Showalter, *Railroads and Rifles: Soldiers, Technology, and the Unification of Germany* (Hamden, CT: Archon Books, 1975).

3. Michael Howard, *The Franco-Prussian War: The German Invasion of France, 1870–1870* (London: Rupert Hart-Davis, 1961), 23–29.

4. The need for shared consciousness at the tactical and operational levels is a major theme in Stanley McChrystal et al., *Team of Teams: New Rules of Engagement for a Complex World* (New York: Portfolio/Penguin, 2015).

5. Harry R. Yarger, *Strategic Theory for the 21st Century: The Little Book on Big Strategy* (Carlisle, PA: US Army Strategic Studies Institute, 2006), 40–47.

6. The canonical policy and strategy documents vary over time. They might be official publications (e.g., the 2018 *National Defense Strategy*, the 2012 *Defense Strategic Guidance*), speeches (e.g., Barack Obama's 2014 West Point commencement remarks, Leon Panetta's 2012 Shangri-La Dialogue remarks, and Robert Zoellick's 2005 China as "responsible stakeholder" speech at the National Committee Gala), or articles (Hillary Clinton's "America's Pacific Century" in the 2011 *Foreign Policy*). With such variation among official statements, there is naturally even greater diversity among informal influences. General staff officers read widely and carefully (paying attention to notes and bibliographies) in order to build an understanding of the different schools of thought, particularly those with which they disagree.

7. Christopher Elliott, *High Command: British Military Leadership in the Iraq and Afghanistan Wars* (London: Hurst & Co., 2015), 3–6.

8. Christopher Lam and Megan Franco, "National-Level Coordination and Implementation: How System Attributes Trumped Leadership," in *Lessons Encountered: Learning from the Long War,* ed. Richard D. Hooker and Joseph J. Collins (Washington, DC: National Defense University Press, 2015), 168–69.

9. It is critical to differentiate between staff officers who have been action officers actually charged with doing the work at the grassroots level, versus those who serve in a directive role, especially at senior levels. Action officers must be prepared to apprise their directors of the extent of work required; those directors will likely not be aware of it otherwise.

10. Headquarters US Marine Corps, Marine Corps Warfighting Publication (MCWP) 5-10, *Marine Corps Planning Process* (Washington, DC: 2016), 7-1.

11. Douglas R. Hofstadter, *Gödel, Escher, Bach: An Eternal Golden Braid* (New York: Basic Books, 1979), 152.

12. Dietrich Dörner, *The Logic of Failure: Recognizing and Avoiding Error in Complex Situations* (New York: Basic Books, 1996), 58–61.

Chapter 10

The Strategists' Mixing Board: Characteristics of a Strategist

Jacqueline E. Whitt

> *The greatest thing in our favor was growing up in a family where there was always much encouragement to intellectual curiosity.*[1]
>
> —Orville Wright

What makes a great strategist? What characteristics might define the strategists' mental world, temperament, orientation, and approach? Are there characteristics that military organizations might select for (to identify potential strategists early on) or develop (as a strategist gains experience and wisdom) to enhance the quality of strategic thinking? Are there certain people who are born and destined for strategic genius—they just need to be placed in the right place at the right time for their talents to emerge? Or can strategic greatness be developed over time?

Competing definitions and explorations of strategy abound, and those definitions have consequences for both policy discussions and academic ones. Ultimately, though, strategy is fundamentally about problem-solving and about making choices, particularly in complex and constrained environments. I argue that most of the characteristics that will help strategists execute sound judgement and make wise choices exist along a spectrum and can be developed, but that all require a core attribute of openness or curiosity to be fully expressed.

Who Is a Strategist?

Strategists are people who seek to solve problems and make choices related to a desired future. For most of recorded history, as discussed in Chapter 3, strategists were commanders and political rulers. Strategy would be formulated, executed, and evaluated by those in the field and by those with the power to make relevant political calculations and decisions. Strategy required experience, wisdom, vision, and the personal assumption of risk and reward, but it was also facilitated as political ends, military ways, and collective means were all controlled (or at least significantly influenced by) a singular mind. As warfare has become more complex, the number of people involved in making strategy at all levels has expanded; in most modern states or militaries to talk of *a* strategist would be folly.

As the concept of strategy has expanded, so too has our understanding of who is a strategist. Corporations and businesses employ strategists, as do political or fundraising campaigns. In the national security and military

realm, commanders and policymakers may be rightfully considered strategists, but so too might a cadre of others. The US Army designates strategist as a functional-area career field (FA59) and a skill identifier for officers (6Z).[2] The Naval Strategy Subspecialty (code 2300) specifies officers who can "develop and coordinate national, military, and naval strategy and policies to evolve concepts and strategy to employ military forces from the national through tactical levels."[3] Strategists, in this contemporary context, may be commanders, but they are also likely to be advisors—helping commanders and policymakers understand problems, choices, and the causal logics that link actions to effects.

Strategy is a game of choosing to act (or to not act), choosing to allocate resources (or not), and choosing to prioritize certain ends over others. Conceiving strategy as choice is particularly prevalent in business literature, which has adopted some of the military's lexicon. In *Playing to Win: How Strategy Really Works* A. G. Lafley and Roger L. Martin wrote, "In short, strategy is choice. More specifically, *strategy is an integrated set of choices that uniquely positions the firm in its industry so as to create sustainable advantage and superior value relative to the competition*" [italics in the original].[4] Translated back to a national context, the definition works equally well. The state must make an integrated set of choices to situate itself favorably in a competitive global environment.

Choices are at the center of John Lewis Gaddis's *On Strategy*, which is a wide-ranging meditation on its titular subject. Gaddis's organizational scheme, though, is telling. He explored the topic primarily through the examination of *strategists*; to write in any meaningful sense about strategy, we are forced to look carefully at the people who are imagining and executing it. Gaddis's introductory chapter took the reader on an intellectual journey from Herodotus to Leo Tolstoy to Isaiah Berlin and Philip Tetlock, and he used each of their works to explore how strategists navigate complexity and uncertainty. Neither the archetypal fox nor hedgehog is perfectly suited to the task.

To illustrate this central point, Gaddis recounted Herodotus's rendering of a conversation between Artabanus and Xerxes before crossing the Hellespont—contrasting Artabanus's caution with Xerxes's impatience and bias toward bold action. Artabanus commented that a wise leader "dreads and reflects on everything that can happen to him but is bold when he is in the thick of action."[5] Artabanus, Gaddis argued, understood that "commanders must distinguish where they can act from what they must accept."[6] But Artabanus's approach carries risks as well: focus too much on uncertainty and danger, and inaction may seem prudent. Gaddis warned

"leaders can't let uncertainties paralyze them. They must appear to know what they are doing, even when they don't." Gaddis concluded, "the tragedy of Xerxes and Artabanus is that each lacked the other's proficiency."[7] Strategists must navigate these competing demands in a high-stakes environment, and the characteristics required to do so are as varied as the circumstances requiring strategic thinking.

Strategists Contain Multitudes

There's a joke, perhaps not a particularly funny one but apt and insightful nonetheless, that the standard War College answer is, "It depends." And so it is with this question about the characteristics of a strategist. What are the essential features of a strategist? Coming up with a single checklist seems both impossible—too difficult to capture the variations—and of limited utility in either identifying or developing strategists.

Instead, the characteristics essential for strategists are best imagined as a mixing board or digital photography editing suite that enables an editor to mix levels and either emphasize or moderate certain characteristics within a sound recording or photograph to achieve optimal results. At a mixing board, a host of options are available to the sound editor. Turn up the bass. Amplify the vocals. Compile different recording tracks. Blend sounds to create a final piece. When editing a digital image, a photographer can adjust color, contrast, saturation, light, and a host of other attributes to create the desired image—there is no single setting that will yield perfect results every time. Choosing the right mix is critical, and using one tool to bring a certain feature into sharp relief while obscuring others may produce a more compelling, artistically valuable image.

In practice, nearly every attribute of the strategist lies along a spectrum, and the strategist must finely tune the mix to achieve a desired result, and the strategist's peers, superiors, and subordinates must also aid in that tuning. That tuning may depend on the level of strategy being considered, the environmental context in which strategy is being made and executed, and the strategist's assessment of the problem and the potential solutions. Strategists must learn to operate along a variety of spectrums and to constantly refine their approach to strategic problems.

The characteristics suggested here are not exhaustive, rather they are suggestive of the tensions that strategists must navigate. Strategists must contain multitudes and carefully balance a host of considerations as they make or advise on strategic choices. Each of the attributes that follows is presented as a scale, each end of which is vitally important for the strategist to develop as part of her repertoire. A strategist will ignore one

side of the scale at her peril. At the same time, this warning should not suggest that balance or alignment—perfectly in the middle of the scale—is optimal either.

The first characteristic is that a strategist should be historically minded, but future oriented. As mentioned in other chapters in this book, including Chad Pillai's treatment of strategy and geostrategic factors, strategists must be well grounded in history. That is, they must be historically minded. Strategists can call on historical cases to understand context and the environment and to form sensible analogies and compelling strategic narratives. History tells strategists how they arrived at a certain moment, and historical cases are an important dataset for understanding strategic decisions, execution, and consequences. For theorist Carl von Clausewitz, theoretical work was fundamentally the work of historical analysis, which he called "critical analysis proper" and defined as "the application of theoretical truths to actual events."[8] Critical analysis involves the creation of rich narratives and linking effects to their causes. Over time, the strategic mind is habituated to both theoretical and historical thinking. Eliot Cohen, an academic and practitioner, commented that historical mindedness is among the most important qualities for a strategist to develop. He wrote that "history shapes our debates and decisions." For Cohen, developing a historical mind can help the strategist avoid dangerous pitfalls: sloppy analogizing, overestimating historical permanence, finding comfort in familiar but flawed narratives, and approaching any problem with too high a degree of certainty. But the development of a historical mind also bolsters the strategist's mental acuity by teaching her to ask good questions and by insisting on careful, factual analysis.[9]

At the same time, the strategic endeavor is fundamentally oriented toward the future.[10] Strategy is about imagining a different future, then making choices to achieve it. At a national level, this futurism is reflected in documents such as the National Intelligence Council's Global Trends reports, the *National Security Strategy*, and other documents such as the posture statements from US combatant commands. All of these offer strategists' best assessment as to future threats, vulnerabilities, and opportunities.[11] In 2018, the US Army stood up Futures Command, focused on modernizing the Army and preparing it for future conflict.[12]

The debate in the mid-to-late 2010s about how the Army should be organized, trained, and equipped—oriented toward non-state insurgent adversaries or toward near-peer threats—illustrates this tension for strategists, and both sides employed historical thinking and futurist thinking to

make their case.[13] Operating most efficiently means that strategists must learn to balance historical and futuristic thinking.

A second characteristic addresses practice versus theory. Both historical thinking and futuristic thinking require a certain level of abstraction—that is, they demand the strategist make assumptions and interpretive claims about how the world works and about causal mechanisms. Strategy, therefore, is a cerebral task. But strategists must also act. Strategy that stays in the realm of the abstract or theoretical is irrelevant. Thus, strategists must span another divide: that between practice and theory. Strategists occupy space between the speculative and observable, between *thinking* and *doing*.

For military and national security professionals, strategy is a high-stakes, real-world endeavor. It involves actual governments, military forces, leaders, equipment, treaties, economies, allies, and bodies. Strategy is enacted. The best strategists learn from their past experiences, both successes and failures. Great strategists from Ulysses S. Grant to Dwight D. Eisenhower experienced significant professional failure, yet learned from these experiences to craft better strategy and exercise better judgement as they achieved higher levels of command.[14] Strategists can be an essential component of learning organizations, even though this learning may be insufficient to ensure strategic success.[15] In 2008, H. R. McMaster (then working as director, concept development and experimentation for the US Army's Training and Doctrine Command) wrote that the United States "must develop new joint and service operational concepts or idealized visions of future war that are consistent with what post-9/11 conflicts have revealed as the enduring uncertainty and complexity of war. We must make these concepts 'fighting-centric' rather than 'knowledge-centric.'"[16]

So, while strategy must be inherently practical, it must also be the subject of study. The real-world governments, military forces, leaders, and so on exist in social, cultural, and mental worlds that are constructed and change over time. While leaders and advisors at every level can think strategically, strategists may have the opportunity to exercise their craft at a particular level only once or twice in a career. Experience alone cannot be the strategists' guide. Intellectually, strategic thinking requires mastery of (or at least continuous engagement with) complex theories from a variety of disciplines and perspectives. Strategists encounter theory in a number of canonical texts, including Thucydides, *History of the Peloponnesian War*; Sun Tzu, *The Art of War*; Carl von Clausewitz, *On War*; Alfred Thayer Mahan, *The Influence of Seapower upon History*; Thomas Schelling,

Arms and Influence; and John Warden, "The Enemy as a System," among many others. Political scientists continue to theorize about the causes, conduct, and consequences of war, and strategists may also gain theoretical insight from disciplines such as economics, sociology, and psychology.

In Clausewitz's preface to *On War,* the nineteenth century Prussian soldier and theorist wrote, "Analysis and observation, theory and experience must never disdain or exclude each other; on the contrary, they support each other."[17] Further, US Army colonel and professor Celestino Perez commented that to bridge the gap between experience and theory, students should "conduct research on a given problem, posit hypotheses about the problem's dynamics, proposed desired outcomes, and posit recommended interventions," allowing them to *do* strategy.[18]

A third characteristic that a strategist should develop is the balance of analytical and creative thinking. Along with navigating the tension between theoretical and experiential knowledge and historical and futuristic thinking, strategists must also work along the spectrum of analytical and creative thinking. Often this dichotomy is characterized as a distinction between understanding war and strategy as a science or art, in which science is imagined as analytical and art as creative.[19]

Strategy—making choices in constrained environments and seeking to solve urgent problems—must be careful, deliberative, and analytical. For developed, democratic states with well-developed norms for civil-military relations, pursuing strategy based on rational consideration is of paramount importance. Rational, deliberative thinking should mitigate risk and seek to maximize the utility of a given strategy.[20] As an analytical endeavor, strategy is instrumental; it seeks to link actions to effects (preferably through transparent causal mechanisms: if we do *x*, *y* will happen because *z*). Strategists seek to reduce uncertainty and unpredictability by gaining advantages in technology, intelligence, mass, logistics, and other aspects of warfighting.

Creative thinking for military strategists may require fighting against entrenched organizational cultures, rigid hierarchies, and bureaucratic strictures. Creative strategic thinking may assume significant risk and trade on uncertainty or surprise. It may be about confounding expectations or employing resources in new ways.[21] Strategic innovation may come especially under times of challenge and duress, and it may be more likely to originate from the bottom up than from the top down. Creativity may also link tactical, operational, and strategic problems.[22]

But, of course, strategy is neither science nor art (and the categories of science and art are not nearly as discrete as we might first imagine. Both science and art, after all, involve skill, genius, theory, practice, inspiration, education—and, yes, both analysis and creativity). Strategists must embrace both the analytical and the creative to arrive at sound strategic thinking. In thinking about how to approach emerging and future threats, both rigorous analysis and creative innovation will be required. Analytical thinking about capabilities, adversary aims, and economic trends may help inform creative thinking within the military but also within the private sector.[23] Disruption, surprise, and advantage may result from relying on both analytical and creative approaches.

Other desirable attributes for strategists might be imagined as existing along a spectrum as well. Strategists must be both politically savvy and apolitical. At the national level, in particular, strategists' work is done in deeply political environments, yet the normative expectations (in the United States, at least) are that officers will not act in political and partisan ways. Strategists must navigate the tension between relying on their intuition and employing a more systematic research-oriented approach to problem-solving and decision-making. They must understand the difference between, and when to rely on, the two systems of thinking described by Daniel Kahneman in *Thinking, Fast and Slow* (the first fast, instinctive, and emotional, and the second deliberative, careful and rational).[24] Strategic thinking may be deliberate or emergent. Strategists must embrace both patience and decisive, bold action. They must demonstrate both confidence and humility, as well as have high regard for both self-interest and empathy. Strategists must display dogged persistence as well as flexibility and adaptability.

Conclusion: The Heart of the Strategist

In short, the strategist must be both hedgehog—operating on and directing action toward a single-minded vision—and fox—constantly juggling multiple possibilities and navigating through obstacles.[25] Cultivating the best qualities of both hedgehog and fox, undoubtedly, requires significant self-awareness and a commitment to personal and professional development. Natural-born hedgehogs must learn to adapt and see other possibilities, while natural-born foxes must learn focus and persistence.

If strategists are to exhibit the mental flexibility required to contain multitudes and to think and act within these tensions without being stunned into paralysis or throttled into overdrive, one quality is at the heart of the strategist: curiosity. According to Todd Kashdan, a psychologist, curiosity

is "the recognition, pursuit, and desire to explore novel, uncertain, complex, and ambiguous events." Curiosity can, in the longer-term, "expand knowledge, build competencies, strengthen social relationships, and increase intellectual and creative capacities." Kashdan and his team further identified "problem solvers" as a specific subset of people with curious minds. They seek information and strive to find solutions.[26]

Curiosity and openness may allow strategists to accept and work in and thrive in the tensions presented above. They will be fixated on neither the past nor the future but looking at both. They will understand and pursue the significance of intellectual inquiry and abstraction while also looking to solve specific problems in pragmatic ways. They will approach things analytically and by using evidence and logic, while also allowing themselves room to explore to ask new questions and to consider creative approaches to a problem.

Strategists are problem solvers, and problems are identified and solved by the curious. Curiosity compels the strategists to seek answers. To understand why and how. To link causes to effects. To envision a different future *and* to see a path for getting there. To take risks informed by sound analysis and judgement. Openness is essential for these processes. Competent strategic thinking requires sitting down at the mixing board and working diligently to find the right combination of characteristics to meet the challenge.

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Chapter 11
Strategic Thinking Models

Aaron A. Bazin and Lianne de Vries

> *The most important six inches on the battlefield is between your ears*.[1]
>
> —James Mattis

Every person thinks differently based on who they are, where they come from, and the choices they make. Early on, the military teaches an officer how to think at the tactical level. Likewise, civilian institutions teach strategists *a priori* theories grounded in research. The issue is that strategic problems are elusive; they are always complex and unique. Just when you think you have them figured out, they change. To be a strategist, it is important to think like a strategist. But what does that mean?

As discussed in the previous chapters, fog, friction, and chance affect strategic and tactical problems alike. Strategic-level problems are different. These problems are not just complicated; they are usually of a grander scale. These problems change in ways we can only understand after the fact. Strategic-level questions are rarely binary and can involve ethical dilemmas and novel circumstances. Moreover, it can take years, if not decades, to see results. To better arm the strategist to think well in the face of uncertainty, this chapter defines strategic thinking, surveys the major models, and discusses strategic mindset.

What Is Strategic Thinking (and What Is It Not)?

Words mean things. They have significant power and clear definitions essential to effective communication. Lt. Gen. (Retired) Paul Van Riper, who led service members in combat from Vietnam to Desert Storm and is regarded by many as an expert on the topic, offered this definition of strategic thinking:

> Strategic thinking employs a leader's wisdom gained through experience and education to assist in selecting the ways and means needed to support the achievement of national policy goals (ends); select the military strategy, that is, the ways and means required to accomplish the goals (ends) of national security strategy; plan for and execute campaigns and operations that advance that strategy; and uncover or discern the logic that holds together seemingly intractable and ill-defined problems and develop a counter-logic that resolves them.[2]

This definition provides insight into the methods required to become a strategic thinker, the purpose behind strategic thinking, and the nature of the activity itself. The first part of the definition explains how to obtain the wisdom required for strategic thinking, that being experience and education. The second part outlines the purpose of strategic thinking in terms of ends, ways, and means, a model repeated in many previous chapters of this book. The final part describes the nature of strategic thinking as appreciating intractable and ill-defined problems. Arguably, this is a valid definition of what strategic thinking is, but the question remains, "what is it not?"

It is important for us to draw a line between the activity as it is done by leaders in the civilian world, versus strategic thinking related to the use of military force.[3] While arguably there are aspects of strategic thinking in the private sector that could be similar at times, war and armed conflict are unique social phenomenon. While business is competition for financial gain, armed conflict uses violence to change the will of one's adversary. Similar in some respects, but as anyone who has experienced both can tell you, they are not the same.

As discussed earlier by Finney and Park in "A Brief Introduction to Strategy," strategic thinking is different than just tactical thinking on a larger scale. For example, focusing on minute details at the tactical level may help ensure a job is done right. But if we focus too much on detail at the strategic level, we miss the forest for the trees. The goal of the strategic thinker is to create the conditions where tactical thinkers can exercise initiative. They are interrelated activities but differ in scale, scope, and context.

If we think only about the here and now, we may miss thinking about what to do next. Perhaps the easiest way to describe the difference between tactical thinking and strategic thinking is to put it in tactical terms. The tactical thinker asks, "How do we take this hill?" In contrast, the strategic thinker considers, "How will taking this hill further our policy goals?" or "What happens in twenty years after we take this hill?" The point is that strategic thinking is different, so it is important for the aspiring strategist to explore strategic thinking models.

Seven Competencies Model

The seven competencies model describes the traits that strategic leaders should have. These competencies are taught to officers as abilities that they can develop to improve their ability to think strategically:

- Critical Thinking–Thinking about how you think.

• Creative Thinking–Developing innovative solutions.

• Contextual Thinking–Understanding the broad situation and its impacts.

• Conceptual Thinking–Developing theoretical frameworks of underlying.

• Cultural Thinking–Understanding societal factors.

• Collaborative Thinking–Thinking productively with others.

• Communicative Thinking–Accurately understanding perceptions.[4]

Overall, this model is comprehensive, and easy to understand. This is also a very efficient model; because each competency begins with the same letter, it is easy to remember. Notably when dealing with many strategic problems, context matters. In addition, it is important to highlight that this model discusses collaborative thinking. More often than not, strategy is a team sport, and ideas are continually judged by others. Finally, it highlights that if a strategic idea is too difficult to understand, the strategist will find it hard to communicate the idea to others.

For these reasons, this model is a prudent baseline to help new strategists push themselves out of their comfort zone. On the other hand, although this model covers much cognitive ground, its potential weakness is also just that. As we have deduced, strategic thinking requires a combination of the theoretical and the practical. Experience will help develop a certain sensitivity to the surrounding: how elements interrelate and influence each other (from policy domains influencing military operations, military expertise to human motivation and development) but also politics and international relations. Knowledge is, therefore, a good place to start; but to gain true understanding (of external factors but also of oneself), practical experience and personal development is crucial. More models provide a deeper understanding of the other important aspects.

Strategic Thinking Skills and Activities

The Strategic Thinking Skills and Activities model is intended to help the Army assess, develop, and retain strategic thinkers. Researchers took expert input from different areas, both in and outside the military, with a goal of enhancing the Army's ability to think strategically. They identified the following skills and activities that are important to strategic thinking:

• Systems Orientation–Understanding connections and interdependencies and developing narratives.

• Qualitative Thinking–Sensemaking, interpretation, and recognition of contextual change.

• Metacognitive Ability–Reflecting on one's own thinking.

• Cognitive Flexibility–Thinking both linearly and nonlinearly.

• Openness to Diverse Perspectives–Considering the input of others.

• Critical Thinking–Questioning, testing assumptions, and thinking divergently.

• Ability to Visualize–Ability to depict ideas in relation to location and time.

• A Historical Mind–Ability to use past lessons to solve current problems.[5]

This model adds some important factors that the previous model did not address. There are added dimension of systems thinking, where many interrelated factors are at play and unintended consequences are always possible. Qualitative thinking highlights that strategic issues are difficult to understand by using hard statistics such as body counts, or rounds expended. Second, this strategy model mentions the ability to visualize, or what Baron de Jomini called "the art of making war on a map."[6] This model also introduces the importance of applying history under new circumstances.

Overall, this model adds value because it covers the domains of knowledge, skills, and mindset. An open, curious, analytical, and holistic mindset lies at the heart of qualitative thinking, metacognitive ability, and an openness to diverse perspectives. It is an exploratory process that is often ongoing. This model is more detailed than the last and adds many important dimensions. While this is another valid model for us to consider, the question remains, how can we determine if our thinking is good or not?

Strategic Thinking Competencies and Enablers; Good and Bad Strategic Thinking

Researchers extensively interviewed strategic thinkers of various ranks across the Army to develop this model. They formulated a rich description of the knowledge, skills, and abilities that constitute strategic thinking, including strategic thinking competencies:

• Comprehensive Information Gathering–Continually seeking new information.

• Learning–Becoming a lifelong learner who continually seeks knowledge.

• Critical Thinking–Questioning assumptions by asking relevant questions.

• Innovative Thinking–Generating creative and novel ideas.

• Thinking in Time–Understanding the past, present, and future.

• Systems Thinking–Understanding relationships and complexity.[7]

As well as strategic thinking enablers:

• Knowledge–A general knowledge of many disciplines.

• Collaboration–Leveraging teams and informal networks.

• Communication–Ability to communicate candidly and effectively.

• Emotional Regulation–Humility and the ability to control oneself.[8]

The researchers who developed this model then identified characteristics of good strategic thinkers:

• Try to understand the big picture.

• Always operate within a strategic framework.

• Perceive connections that others miss.

• Communicate persuasively from a point of view.

• Get to the heart of the matter without being distracted by extraneous information.

• Have a proven track record of dealing with complex issues.

• Perform well throughout difficult assignments.

• Have some exposure to strategic thinking and strategic planning.

• Have experienced a broad range of assignments.

• Have relevant experience in more than one assignment.

• Have some degree of military education that goes above the tactical level.[9]

They also listed these characteristics of bad strategic thinkers:

• Won't recognize historical examples.

• Come up with something that doesn't "marry its time."

• Lack broader appreciation and integration of all factors.

• Focus too much on tactical details because it's comfortable and familiar.[10]

This model arguably offers the most nuanced description so far. There are elements we can identify from the previous models such as collaboration and learning and history, but there are also many new aspects. This model emphasizes the need to stay focused. Good strategy should clearly guide national defense planning and remain flexible. This highlights the strategist's need for humility, flexibility, and emotional self-control. A strategist who has the ability to take change in stride is more likely to overcome setbacks. Perhaps one of the most valuable aspects of this model is the unique list of factors for judging strategic thinking. Of course, any good or bad list comes with some degree of bias, but this one represents informed opinions and provides a valuable guide for any aspiring strategic thinker.

Eight Questions to Guide Strategic Thinking

The previous models are largely trait-based, in that they seek to describe the characteristics. This next model seeks to explore the act. Asking and answering (follow-up) questions is key to thinking well; the same goes for strategic thinking. Strategic thinkers often find themselves in dialogue with others to help come up with solutions to difficult problems. In any such situation, strategic thinkers should encourage others to think deeply by asking difficult questions such as:

• What are the facts, assumptions, and limitations?

• What is the strategic problem, and what opportunities does it present?

• What enduring interests are at play?

• In the past, which strategies worked, which didn't, and why?

• What are the options (and which is the least worst)?

• How does this all end?

• Is this working?

• What's next?[11]

These questions were designed to help cue the strategic thinker to look at different facets. Arguably most importantly is problematization, where the thinker is forced to exactly describe what the problem is. This is almost always difficult, but also arguably, most important. One must describe an issue, manage it, then apply both a deductive approach and an inductive approach to gain a deeper awareness of the issue and appropriate strategy.

Strategy that does not solve an identifiable problem is a strategy created for its own sake and will be unsuccessful in achieving any national aims. This model also reminds the strategist of the criticality of the lenses of the past, the options of the present, and unintended consequences of what may come. Of course, these questions just provide a point of departure—to help move thinking in the right direction. In strategy, there are no set lists of questions or checklists to follow.

A Strategic Mindset

Simply, a strategic mindset is an inclination or attitude that helps meet challenges at the strategic level. Strategic problems often last decades or more, involve stakeholders other than just friendly and enemy forces, and cover all domains. The overall premise of this model is different in that it does not advise how to think; rather, it provides guidance on how to approach the act of strategic thinking itself with the right attitude, and right frame of mind:

• Growth–Includes being future-oriented, comfortable with the intangible, seeking feedback, taking risk, and embracing challenges.

• Character–Includes being brave, honest, reflective, flexible, ethical, humble, and enthusiastic.

• Attitude–Includes being resilient and open, exciting others, learning, playing, and expanding the comfort zone.

• Wisdom–Includes being holistic, mindful, and multidisciplinary; able to find linkages and unification; capable of inductive thinking; and seeking truth and knowledge.[12]

One of the strengths of this model is that it represents an open and balanced approach and ventures beyond knowledge and skills. Moreover, it puts the responsibility on the shoulders of the individual thinker. Also, the openness of the model should make it resilient to complex and novel circumstances that are so common in strategic circumstances. Where this model falls short is that it may be too open, and too unstructured. In addition, each strategic thinker has a different background, meaning that no two people will apply it exactly the same.

Conclusion

Put all this together and it means that if strategic thinking is not hard, you are probably not doing it right. Keep in mind that there is no textbook way to think strategically. If there were, it would be easier and more

people would do it well. Much like anything else, strategic thinking takes time and effort. At the end of the day, thinking is a big part of what people working at the strategic level get paid to do. Having different models at your disposal provides different tools for your tool bag. The choice of which tool to use when is up to you. If you are not thinking strategically about the big issues and potential long-term effects, who will?

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Part III:
Advanced Concepts

Chapter 12
Geopolitics and Strategy

Chad M. Pillai

> *To know the country thoroughly; to be able to conduct a reconnaissance with skill; to superintend the transmission or orders promptly; to lay down the most complicated movements intelligibly, but in a few words and with simplicity: these are the leading qualifications which should distinguish an officer selected for the head of the staff.*[1]
>
> —Napoleon Bonaparte

In today's complex, competitive, and interdependent world, strategists will be challenged to provide civilian and military leaders a firm grasp of the evolving security environment and provide options to accomplish objectives. As Napoleon's above quote implies, a strategist requires an understanding of the causes and consequences of war that were shaped by the influence of geography, the lessons of history, the economic rationale or financial constraints imposed, and the evolving role technology played. Doing so will allow a strategist to accurately define the context of a nation's vital national interest and threats to those interests. Therefore, to fully appreciate the causes and consequences of conflict, a strategist must learn to understand the geopolitical context in which nations and their leaders must consider. As a result, it is necessary to define geopolitics. Jakub J. Grygiel, in his book *Great Powers and Geopolitical Change*, articulated geopolitics as the human element associated within the boundaries of geography, its relationship to sources of resources, the lines of communications connecting them, and their relative strategic importance to a nation or their rulers. The resulting situation, as Grygiel stated, is created by "the interaction of technology broadly defined and geography, which alters the economic, political, and strategic importance of locations."[2]

A clear understanding of geopolitics allows a strategist to understand and devise a strategy, or more accurately a geostrategy, to address the geopolitical problem at hand. Jakub Grygiel defined geostrategy as "the geographical direction of a state's foreign policy. More precisely, geostrategy describes where a state concentrates its efforts by projecting military power and directing diplomatic activity."[3] Carl von Clausewitz emphasized the importance of studying geostrategy because the consequences to the nation, especially in the conduct of war, can be catastrophic. Likewise, Sun Tzu wrote in the *Art of War* that "war is a matter of vital importance

to the state; the province of life and death; the road to survival or ruin. It is mandatory that it be thoroughly studied."[4] It is therefore critical that the strategist thoroughly studies the geopolitical problem to determine what are the vital interests of the nation, what are the threats to those interests, and then develop options to address the interests-threat gap. As a start, a good strategist first looks at the map and gains an understanding of how geography impacts strategy.

Geography

Strategy cannot wish away geography.[5]

—Chris Kolenda

At the tactical level when conducting mission analysis, a leader applies the concept of mission, enemy, terrain, troops available, time, and civilian considerations. Similarly, at the strategic level, a strategist studies geography to conduct terrain analysis. Therefore, geography to the strategist, like key terrain to the tactician, is vital in understanding the basic battlefield geometry of a conflict; geography shapes and constrains policymakers, creates perceptions of vulnerabilities or opportunities, and reflects the influence of the history of nations and leaders in the conduct of international relations. Geography's influence on geopolitics is acutely linked. George Friedman and Jacob Shapiro made this link when they defined "geopolitics is the supposition that all international relationships are based on the interaction between geography and power."[6] Tim Marshall, in his book *Prisoners of Geography: Ten Maps that Explain Everything About the World,* articulated that geography represents the physical reality and that the laws of physics limit leader options more than they would appreciate.[7]

As a military planner analyzes the impact of key terrain on a map for tactical advantage, a strategist must examine the role geography plays in determining how it must control, or at a minimum, be denied to a competitive actor. The knowledge of geography helps inform the strategist of the relative position of power each side has. Grygiel explained: "Dramatic changes in the geographic distribution of power require a geographic framework that offers tools to understand them. In order a redraw a map of power, one needs to know geography."[8] One need not look any further than seeing the strategic importance the Middle East represents to the United States, Europe, and critical nations in Asia such as China, Japan, and South Korea. The US State Department recognized the geographic importance of the region in a 1945 memorandum: "The oil resources [of the Middle East] constitute a stupendous source of strategic power and one of the greatest Material prizes in world history."[9] The strategic importance

of the energy resources of the Middle East informed the Carter Doctrine, named after President Carter, after the Soviet Invasion of 1979 and remained one of America's core interests for the region as specified in the National Security Strategy of 2018.

Adm. (Retired) James Stavridis, in his book *Sea Power: The History and Geopolitics of the World's Oceans,* stated that "some observers may not be interested in the geopolitics of the oceans, but they will haunt our policy and our choices in the turbulent twenty-first century. The oceans will matter deeply to every aspect of human endeavor."[10] Therefore, equally important to the strategic resources on land are the maritime trade routes that flow between critical regions of the world and the key maritime chokepoints that allow actors to control or deny access to others in pursuit of their strategic interests.

While the United States can be said to be blessed by geography with two oceans, friendly neighbors, and an abundance of natural resources, the influence of geography on its two near-peer competitors has been different. Russia is the world's largest nation with no physical borders and no easy access to warm water ports; geography has shaped its perception of vulnerability and its strategic approach in the world.[11] Recent Russian military operations in Crimea, Ukraine, and Syria to protect its warm water port access on the Mediterranean Sea point to Russia's desire to regain historical spheres of influence and buffers from threats to the West. At the same time, Russia remains wary while friendly with China in the East as it recognizes its vulnerabilities there due to China's increased political, economic, and military capabilities. Benn Steil provided the best summation of this reality in his book *The Marshall Plan: Dawn of the Cold War.* He noted that for Russia, the presumption that "Cold War had been driven by Marx, and not Mackinder. . . . Ideology and not geography."[12] It turned out to be the exact opposite.

Likewise, Chinese leaders—who read Alfred Thayer Mahan's *Influence of Sea Power Upon History* and re-evaluated the voyages of Zheng He—shaped their current strategic thinking by reversing the past adverse decision to close China off from the world. The subsequent period, which Chinese leaders refer to as the Century of Humiliation, informs their appreciation of geography and the need to have the military power to protect their interests at home and abroad. China's growing military capabilities, especially in the maritime domain, and its desire to build commercial and military facilities around the globe to support their navy is driving that nation's foreign policy. This "string of pearls" approach, part of China's broader One Belt,

One Road initiative, seeks to link China to critical resources in the Middle East and Africa through the Indian Ocean. This initiative represents China's geostrategy to offset the strategic vulnerabilities it faces from the constraints placed by geographic realities such as the Straits of Malacca and US naval domination in the Indian and Pacific oceans.

At the same time, Tim Marshall warned us that those who "see geography as a decisive factor during human history can be construed as [possessing] a bleak view of the world, which is why it is disliked in some intellectual circles."[13] Robert Kaplan, in his book *Revenge of Geography,* cautioned against seeing geography as fatalistic and that instead, "geography informs, rather than determines."[14] It is for this reason that a strategist must study history.

History

> *The study of history is the best medicine for a sick mind; for in history you have a record of the infinite variety of human experience plainly set out for all to see; and in that record you can find for yourself and your country both examples and warnings; fine things to take as models, base things, rotten through and through, to avoid.*[15]
>
> —Titus Livius (Livy)

Livy's words are just as relevant today as they were in his time. A strategist without a foundation or appreciation for history would be as useful to a commander or policymaker as a noncommissioned officer who does not know the basics of the weapon systems they are responsible for employing in battle. Likewise, a careful use of history is an invaluable tool that informs decision-making. According to Michael Howard, in his essay "The Use and Abuse of Military History," the study of military history must be done in width, depth, and context. First, Howard described that an officer must acquire intellectual width by observing "the way in which warfare has developed over a long historical period." Secondly, an officer should "take a single campaign and explore it thoroughly" to discover depth. Finally, an officer must understand context in that "campaigns and battles are not like games of chess or football matches, conducted in total detachment from their environment."[16] Therefore, it is important to note that in-depth study of military history alone, without the political, economic, social, and geographical elements, will deprive the strategist of the full context needed to understand the causes leading to war, and the consequences of war's aftermath.

Mark Twain is quoted as saying "history doesn't repeat itself, but it often rhymes," a poetic way to articulate that history has a way of showing clues to what will occur next based on the human experience. It is critically important to understand the motivations of leaders and nations that either seek war or seek to avoid war in the achievement of their political objectives. Studying the history of nations helps a strategist better comprehend the motivations or grievances a nation and its leaders seek to aspire to or amend. For example, while many view Iran's current actions as ideological-driven to regain its historical regional hegemony and become the leader of the Islamic world, many miss the fact that Iran's actions are also within the context of "anti-colonial and anti-imperialist movements all around the world" and that according to Iran, "anti-imperialism is an ideological constant, opposing U.S. hegemony."[17] As a result, historical understanding is essential as strategists and planners determine ways to counter Iranian actions. Strategists and planners must be aware that failed attempts to undermine the issue of suicide bombers and drug use results from a failure to understand that the Iranian regime, as part of its anti-imperialist resistance, has conditioned the people to accept such as a means to justify the ends.

The study of nations also illuminates why they may be opposed to war. A case study by George Friedman on modern Europe observed that "between 1914 and 1945 roughly 100 million Europeans died from political causes: war, genocide, purges, planned starvation, and all the rest."[18] This has shaped their modern views of war and peace. Equally important in studying the history of nations is studying the history of leaders. As Richard A. Clarke and R. P. Eddy wrote: "The late Harvard historian Samuel Huntington proposed that, in analyzing leaders, it is always good to know what world events and personal experience shaped them while they were young, and their world view was being formed."[19] An example of a leader's experience shaping their views is that of Vladimir Putin as a KGB officer in East Germany when the wall fell. This experience informed his opinions on color revolutions in Eastern Europe decades later, and his subsequent decisions regarding Ukraine and Crimea.

Another element of history that a strategist must understand is when leaders use and misuse history. One of the dangers of bad history is its use for the creation of myth-making, which Michael Howard said was "the creation of an image of the past, through careful selection and interpretation, to create or sustain certain emotions or beliefs."[20] The most obvious example is Hitler and the Nazi Regime's misuse of history to justify their genocidal conquest of Europe.

The importance of history cannot be understated. A strategist should heed the words of Robert Crowcroft: "A historical cast of mind opens up, and fertilizes one's imagination. It raises awareness of the primacy of contingency and possibility of human affairs."[21] He also pointed out that famous statesman such as Winston Churchill and Henry Kissinger relied on history as a tool because it "stimulated thinking and weighing options." Like geography, history informs strategists on the various motivations for nations choosing to go to war. For example, one reason that Hitler, after weighing his options, made his infamous strategic miscalculation to invade Russia was because of economic considerations summarized by his statement, "My generals know nothing about the economic aspects of war."[22] Therefore, like history, a strategist must gain appreciation for the role economics plays in strategy.

Economics

> *Nervos belli, pecuniam infinitam (The sinews of war are unlimited money).*[23]
>
> —Marcus Tullius Cicero

Too often in strategic discussions, economics is listed as one of the elements of national power known as the diplomatic, information, military, and economics (DIME) construct and is relegated to something done by non-military aspects of government. However, its direct application to military strategy can be broken down into two familiar concepts: ends-ways-means and fear-honor-interest. DIME is important because it allows a strategist to understand the economic constraints in determining the ability to produce, finance, and prosecute a war. It also may inform the motivations of nations and leaders to engage in conflict to protect their interests.

For operational and tactical planners, the means usually implies the forces and resources at hand to conduct military operations. For an armor brigade, this means how many functional tanks, ammunition, and fuel are on hand for a military operation. At the strategic level, this analysis is more about the raw capacity of a nation to produce weapons, armaments, and other material goods along with the other critical factor—how will it all be financed. Niall Ferguson, the economic historian, wrote about this phenomenon in his books *Empire: How Britain Made the Modern World* and more recently in *The Ascent of Money: A Financial History of the World*: "This fighting is possible only if you can raise the money to pay for it."[24] During World War II, this became evident as the United States engaged in a global war against Germany, Italy, and Japan while supplying and financing the needs of its allies. Jim Lacey in his book *Keep From*

All Thoughtful Men: How U.S. Economists Won World War II noted that the American economist developed the concept of Gross National Product during World War II to determine how much debt the government could afford to supply not only its forces, but that of crucial allies such as the United Kingdom, Russia, and China.[25] Using economics to build and defeat an opponent rapidly is one thing, using the relative advantage in economic strength to beat an opponent without fighting is another.

Examining the historical record near the end of the Cold War is instructive. Many claimed that the massive build up during the Reagan era caused the collapse of the Soviet Union; however, internal decay had already set in earlier and was only exacerbated during that period. David Stockman, President Reagan's former budget director, in his book *The Great Deformation: The Corruption of Capitalism in America* pointed out that the massive investment in conventional weapons such as the Army's "Big 5" would have been of little use in a nuclear war. Soviet Russia increased defense spending due to an increase in US strategic weapons investments such as "Star Wars."[26] Instead, what the $1.46 trillion bought post-Cold War was "wars of occupation and imperial pretension that were possible only because of the immense conventional war machine the Gipper left behind."[27] China learned this lesson and in some ways capitalized on this historical record in shaping its global outlook.

The second reason for a strategist to have an appreciation for economics is to better understand the motivations for nations and leaders to go to war. Economics, when viewed through the central Thucydidian concept of fear, honor, and interest, is tied closely to interest. In the geopolitical sense, economic power shapes perceptions of soft and hard power. Disruptions or threats to economic power can reorganize global power dynamics. The 2008 US financial crash followed by 2010 economic shocks in Europe elevated China's standing in the world. Economic shocks rose to represent a threat equal to a weapon of mass destruction. Warren Buffet called these financial instruments and others like them "financial weapons of mass destruction carrying dangers that while latent, are potentially lethal."[28] Former Secretary of the Treasury Timothy Geithner commented that governments have few authorities and mechanisms like a National Security Council to address financial crises.[29] According to Adam Tooze in his book *Crashed: How a Decade of Financial Crisis Changed the World*, as a result of the financial crash, China's geopolitical position changed where it was able to project its economic muscle globally.[30] China's One Belt, One Road initiative, the elevation of the Asia Infrastructure Development Bank, and more importantly, its increased investment in its military

capability sets China up as increasingly capable of challenging US domination in the Asia-Pacific region.

At the same time, the impact of a financial crisis can have long-term domestic effects, especially its consequences on the middle class and as George Friedman in his book *Flashpoints: The Emerging Crisis in Europe* said, "When the poor lose everything, their life changes little. When the middle class lose everything, their lives are transformed."[31] The populist wave hitting Europe and the United States is a consequence of the 2008 economic crash. However, this is not a new phenomenon since similar economic depressions led to the rise of brutal regimes in World War II and previously reshaped the character of the Middle East as Europeans discovered new sea routes to India and China that displaced the economic vitality of the Islamic World.[32]

The financial crash had an immediate impact on the military as well. Due to the consequences of the crash that required financial bailouts, the US Congress made a political compromise—known as sequestration—that severely cut the budget of the Department of Defense, impacting its ability to invest in modernization. Today, as the US faces increased competition from Russia and China, it faces an erosion of capability in critical areas as China and Russia have invested in crucial systems known as A2/AD to negate essential capabilities such as joint force power projection into theaters in dispute. Additionally, the neglect of European allies to invest in their militaries and their own economic weakness exposed another dilemma when facing a resurgent Russia. As Friedman wrote, "the most dangerous thing in the world is to be rich and weak. Wealth can only be protected by strength, and unlike the poor, the wealthy are envied and have things others want, and unlike the strong, they are subject to power."[33] Therefore, failing to recognize the importance of economics to underpin the foundation of military power can lead one to be coerced or even compelled into an unfavorable position by a hostile power. At the same time, it is essential for a strategist to recognize that economics, like geography, is not deterministic. For example, some assume that because of China and US economic interdependence—referred to as "Chimerica" by Niall Ferguson—the probability of conflict is slim. However, as history has shown with the United Kingdom and Germany, economic interdependence does not mean conflict is impossible.

Finally, a strategist must gain an appreciation that a strong economy ensures a nation is capable of investing in the cutting-edge technologies needed to maintain its competitive advantage. Since 2008, China, and to a lesser extent Russia, has been investing in cutting edge technologies such

as hypersonic weapons, artificial intelligence, and cyber weapons to challenge the US global position.

Technology

> *The real problem of humanity . . . we have Paleolithic emotions, medieval institutions, and godlike technology.*[34]
>
> —E. O. Wilson

Technology has and will continue to be a significant element of war. Military technological adaptations from the Stone Age to the Nuclear Age have shaped the course of history. There have been periods when technological advances leaped ahead and earn the nomenclature of a revolution in military affairs (RMA). According to Williamson Murray and MacGregor Knox, "the term 'revolution in military affairs' (RMA) became decidedly fashionable in the course of the 1990s. It lies at the heart of debates within the Pentagon over the future strategy and has gained increasing prominence in Washington's byzantine budgetary and procurement struggles."[35] Despite RMA's importance to the Pentagon and its budgetary battles, some have criticized it because some see it as a holy grail to solving war; a solution to the problem rather than being an instrument to solve a problem. These critics include former National Security Advisor Lt. Gen. H. R. McMaster, who labels RMA as the vampire fallacy among his four fallacies of war; he believes technology is continuously and wrongly viewed as the panacea to the next conflict, especially as information technology improves and thereby provides a level of omnipotence like never seen before.[36]

McMaster's critique stemmed from his experience in Iraq and Afghanistan, where technology played an important, but not a decisive role. Afghanistan and Iraq, from the perspective of small or irregular wars, did not and would not require the same level of technology investment to compete and possibly defeat a peer competitor such as China and Russia. When competing against peer competitors, RMAs represent an existential or cataclysmic event if the outcome of the war reshaped the world order. As Murray and Knox pointed out, "If military revolutions are cataclysmic events that military institutions aspire to merely survive, revolutions in military affairs are periods of innovation in which armed forces develop concepts involving changes in doctrine, tactics, procedures, and technology. These concepts require time to work out."[37] While the US was engaged in small or irregular wars in the Middle East, competitors such as Russia, China, North Korea, and Iran were developing asymmetrical means to counter US conventional superiority in several warfighting domains such as weapons of mass destruction (primarily nuclear), nanotechnology, hy-

personic, unmanned systems and artificial intelligence, and cyber. As a result, the US faces the reality of competing with near-peer and regional competitors who increasingly possess the capabilities to disrupt, deny, or even defeat US forces in a limited campaign, and depending on the employment of systems, the means to deny or defeat US force projection capabilities before they get off homeland.[38]

The final aspect for a strategist to consider is not to fixate on the actual technologies themselves but find the imaginative employment of new technologies. Before World War II, the British and French had better tanks than the Germans. They had superior aircraft, and they all operated the radio. The German victory at the beginning of World War II had more to do with their development of warfighting concepts to integrate the technologies associated with the tank, radio, and aircraft known as Blitzkrieg. Likewise, German failure at the end of World War II was impacted by their late development and employment of potential game-changing technologies such as their V-1/V-2 Rockets and jet fighters. The lesson for strategists today is that the rapid proliferation of technology and concepts of use can alter the conduct of war by decreasing the decision-making cycle, negating previous warfighting concepts, or even creating new opportunities to exploit. Therefore, it is essential for a strategist to be aware of all technological developments and assess their impact on both current and future warfare.

Conclusion

Strategists are responsible for studying, comprehending, and framing the complex international environment to develop strategic and operational plans for senior military and civilian leaders. Understanding the geostrategic factors of a given region or country requires knowledge of the geography, history, economics, and technology that will shape the friendly, adversary, and neutral response during a conflict. A strategist can avoid strategic and operational surprise, or at least provide the analytical rigor for defining better key geopolitical issues facing national decisionmakers. To support this, strategists can use geography, history, economics, and technology to frame the geostrategic considerations during operational design.

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Chapter 13
The Strategy of "Small Wars"

Brett A. Friedman

> *Military records prove that in different small wars the hostile mode of conducting hostilities varies to a surprising extent. Strategy and tactics assume all manner of forms.*[1]
>
> —Charles E. Callwell

At the height of the insurgency against the American-led coalition in Iraq after 2004, the US military tried reading. Forgotten works on counterinsurgency, mostly ignored since Vietnam, reappeared on reading lists and in the supply rooms of schoolhouses and war colleges. Counterinsurgency is different, the thinking went—the graduate level of war. Memoirs and manuals from colonial wars and conflicts against communist insurgencies were dredged up and gleaned for insights. They yielded advice like the population is the center of gravity, buzzwords like COIN, and tortured metaphors about silverware. A new manual was written and promulgated to drive a new strategy.

Counterinsurgency was not new, of course. Nor was its strategy. But the resulting doctrinal reorientation was needed and may have contributed to the reduction of violence in Iraq in late 2006, although the fortunate timing of the Sunni Awakening probably contributed more. In the end, tactics were— perhaps predictably—not enough. The tactics of revolutionary war and counterinsurgency are part of their character. It is in their nature, however, where the difference lies. Understanding the strategic nature of the conflict is necessary.

In *Infinity Journal*, I argued that differences between regular and irregular, conventional and unconventional warfare, and guerrilla warfare at the tactical level were meaningless.[2] There are, however, meaningful differences when it comes to strategy, differences that are concealed by a myopic focus on the means and the attractive romanticism of the guerrilla. At the time, I left those strategic differences out of the scope of that article.

This chapter will take on those strategic differences directly. War as a phenomenon has an unchanging nature and constantly changing character. Individual wars also have a nature—one characterized by the political aims of the belligerents—and a character. Whether the warfare of a particular war is regular or irregular, conventional or unconventional, big or small is part of its character. Focusing solely on the character of the war

misses the point and prevents the formulation of an effective strategy and its execution through tactics. It violates Clausewitz's dictum that one must "understand in this respect the war in which he engages, not to take it for something, or to wish to make of it something, which by the nature of its relations it is impossible for it to be."[3] Understanding the nature of small wars is vital, but unlikely given the inordinate focus on their character.

Although the term "small wars" is problematic, I use it here only as an umbrella term to include revolutionary war, insurgency, counterinsurgency, irregular war, people's war, and other similar terms under the umbrella of unconventional war, another problematic term. I use guerrilla warfare to refer to the tactics that are generally, but not exclusively, adopted by one side or another in such wars.

I argue that excessive focus on irregular and guerrilla tactics—the character of these wars—hides the nature of small wars from both theorists and practitioners, preventing the effective design of strategies to wage them. The antidote requires contextualizing small wars and guerrilla warfare as the use of organized violence for political goals, just like any other war. In other words, applying a Clausewitzian framework. I briefly survey the most common and accessible works on small wars and guerrilla warfare after which I will review and contrast that with Carl von Clausewitz's works on small wars. Finally, I will illuminate the connections between Clausewitzian thinking and Mao Tse-Tung's works, especially *On Guerrilla Warfare*. The strength of Mao's conception of guerrilla warfare, both in terms of influence and effectiveness in practice, is its grounding in a Clausewitzian framework.

The Theory of Small Wars

The theoretical literature on small wars overwhelmingly treats its subject as categorically different from normal war, usually juxtaposing it against conventional war conducted by nation-states against other nation-states with professional, standing armies. In the words of Sir Lawrence Freedman, "Counterinsurgency theory, like nuclear strategy, developed as a special body of expertise geared to discussing special sorts of military relationships as if they were special types of war."[4] This is a function of both author and audience: the major, influential works on small wars are by practitioners for practitioners, works by military thinkers in colonizing countries such as Britain and France. As a result, these works are overwhelmingly focused on means.

The first influential thinker to treat small wars as a unitary subject was a Brit, C. E. Calwell. His *Small Wars: Their Principles and Practice*, pub-

lished in 1896, became a British Army textbook. It was written as such; composed of short, digestible aphorisms, its aim was articulating ways to defeat insurgents. T. E. Lawrence took on the subject from the perspective of the insurgents. Lawrence was and remains an influential thinker as his memoir is not just a theoretical triumph, but also a literary one. *The Seven Pillars of Wisdom* described how Lawrence built a guerrilla warfare force and employed it. Later in the twentieth century, Robert Thompson compiled lessons from the Malaya Conflict and Vietnam, both of which he participated in. Thompson's focus was specifically on defeating communist insurgencies.

French theorists wrote on the topic in parallel to the aforementioned British, as both countries had independence movements and resistance in their colonies. Hubert Lyautey, a French general and colonial administrator, participated in counterinsurgency campaigns in Indochina, Madagascar, and Morocco. He was one of the original practitioners of the *tache d'huile* (oil stain) method of counterinsurgency which paired pacification with development of local infrastructure and institutions within pacified areas. However, he also advocated torture. These methods were equally the innovation of his commander, Joseph Gallieni; Lyautey codified the method. Another French officer, David Galula, covered strategic level differences, but the subject slid away from him; the second half of his *Counterinsurgency Warfare* is all tactics. Like Thompson, his work was focused on communist insurgencies. Galula's work is probably the most valuable due to his solid understanding of the thinking of Mao Tse-Tung.

When counterinsurgency came back into fashion with the wars in Afghanistan and Iraq in the twenty-first century, many of these books were simply revived and reprinted. One original theorist who emerged, however, was David Kilcullen. A former Australian Army officer, Kilcullen looked on modern insurgency with a sociologist's eye by focusing on the social causes of insurgent recruitment.[5] Still, his recommendations center on means. His "Twenty-Eight Articles for Company-Level Leadership" is fundamentally a tactical approach.[6] Works by insurgent practitioners themselves are no different. Che Guevara's book *Guerrilla Warfare* goes so far as to describe basic ambush techniques.

The overriding concern of these disparate works is concern with the tactics of small wars—generally irregular, non-conventional, asymmetric, or any number of other adjectives. These common tactics such as hit-and-run ambushing, small-unit actions, and a heavy focus on misdirection, information warfare, and propaganda among others—hereafter guerrilla

warfare—are components of the character of a given conflict, not indicative of a unique nature. Counterinsurgent tactics are no different. Their nature, like all types of war, lies in the strategic context which gives rise to the specific tactics.

The result is strategically shallow. The focus on types of means leaves ends and ways uncovered. This creates three problems:

• *A Fallacy of Difference*–The means of small wars often look different but despite a difference in means, they are not necessarily immune from the dynamics of war and strategy.

• *A Fallacy of Focus*–The focus on means in the literature leads practitioners to similarly focus on the character of the war they are fighting, instead of the nature of it; this is in violation of Clausewitz's dictum that one must first and foremost understand the nature of the war at hand.[7]

• *A Fallacy of Novelty*–The focus on the particular expression of tactics in a specific war (usually the most recent from the author's perspective) creates the impression of novelty, as if the latest guerrilla trick is the new rule for all wars going forward rather than an expression of that particular strategic context and situation. In fact, guerrilla warfare is at least as old as Sun Tzu.

This is not to say that these works are not useful. However, they are almost all aimed at an audience of practitioners—those who must employ the tactics. The focus on means is a function of the intended audience, but practitioners must be wary of decontextualized advice. In most cases, these works lack both the historical and theoretical context necessary to properly evaluate them. Practitioners should not just focus on what guerrilla tactics are, but more importantly why guerrilla tactics are used. One way to see beyond the character of guerrilla warfare is to study the works of one small wars theorist who is the exception to the above trend: Mao Tse-Tung.

Mao Tse-Tung's works were not just a comprehensive strategy for defeating Imperial Japan and the Kuomintang in China, but they were rooted, first and foremost, in strategic theory. Mao's focus on extending and applying strategic theory, rather than claiming to be addressing something new or different, kept him sufficiently grounded such that when he addressed tactics, Mao did not lose focus on strategy. Why did Mao succeed in producing what has been described as "the basic text for ideas about revolutionary war"?[8] He was working within a Clausewitzian framework.

Clausewitz on War, Limited Wars, and Small Wars

The central point Mao Tse-Tung took from Clausewitz's work is, perhaps unsurprisingly, Clausewitz's central point: that war is the continuation of politics with the addition of violent means. Mao's adherence to this central conception of war organized the issue for him, allowing him to place guerilla warfare in its proper context, aiming it toward a political goal. In other words, Mao was able to move beyond the guerilla tactics he was obliged to adopt and still developed an effective and directed strategy.

This can be seen in Mao's most famous aphorism: "Political power grows out of the barrel of a gun." But, importantly, Mao continues in the next sentence: "The Party Commands the gun, and the gun must never be allowed to command the Party."[9] The Party is the political leadership; the gun, the violent means. It's a clever turn of phrase with a Clausewitzian core.

While Clausewitz did not view small wars as a different type of war, he did develop a typology of two different kinds of wars determined by their political aim, specifically whether that aim was limited or unlimited. Clausewitz did not fully develop this idea before his death; it appears in a note appended to the work. In the note he stated: "The two kinds of war are, first those in which the object is the overthrow of the enemy, whether it be that we aim at his destruction, politically, or merely at disarming him and forcing him to conclude peace on our terms; and next, those in which our object is merely to make some conquests on the frontiers of his country, either for the purpose of retaining them permanently, or of turning them to account as matter of exchange in the settlement of a peace."[10] Despite the fact that he would not live to develop the idea further, his intention was clear. The aim of any particular conflict is part of its nature; the ways and means more its character. The means, of course, depend on the aims.

Beyond war as a whole, and contrary to popular belief, Clausewitz thought and wrote a great deal about small wars. In Clausewitz's war college lectures on the topic, he explicitly stated that small war (the actions of irregulars and partisans) is a subset of *tactics*, not of strategy.[11] These lectures focused on the tactical level and revolved around how irregular forces can work in concert with and in support of more conventional forces during a war. Today, this is usually referred to as hybrid war, although that term has ballooned to encompass a great many things.

In a work titled *Bekenntnisdenkschrift* (roughly "political confession") written in 1812, Clausewitz contextualized small war within his greater framework. In essence, he described how small war tactics could serve strategic and political purposes.[12] He did so for a specific reason: he was recommending the development of a Prussian irregular force to augment the main Prussian Army which, at that time, was neither large enough nor skilled enough to confront Napoleon's *Grande Armée*. Although he was ignored, Clausewitz was vindicated. It would be the Russian Army augmented by Cossack irregulars that destroyed the *Grande Armée* in 1812.

Nor did he ignore small wars in his magnum opus, *On War*. The culmination of Clausewitz's conception of small wars, and the one Mao may have read, was captured in Book 6, Chapter 16 titled "Arming the Nation." His views that small wars are a subset of war, not a wholly different category, were explicit: "We look upon a people's war as merely a means of fighting."[13] Clausewitz reflected on the major small wars of his day, namely the Spanish insurgency against Napoleon, saw it as a defensive form of war. He noted that as a subset, small wars have unique tactical requirements: "It follows from the very nature of the thing that defensive means thus widely dispersed, are not suited to great blows requiring concentration action in time and space. Its operation, like the process of evaporation in physical nature, is according to the surface. The greater the surface and the greater the contact with the enemy's Army, consequently the more that Army spreads itself out, so much the greater will be the effects of arming the Nation."[14] The dispersed, small-scale character of these wars is a result of "the very nature of the thing."

Clausewitz's conditions for a successful small war are familiar to anyone with experience in small wars:

- Carried on in the heart of the country.
- Cannot be decided by a single catastrophe.
- The theatre of war embraces a considerable extent of country.
- The national character is favorable to the measure.
- The terrain is of a broken and difficult nature, either from being mountainous, or by reason of woods and marshes, or from the peculiar mode of cultivation in use.
- National levies and armed peasantry cannot and should not be employed against the main body of the enemy's Army, or even against any considerable detachment of the same. . . . They should rise in the provinces situated at one of the sides of the theatre of war, and in which the

assailant does not appear in force, in order to withdraw these provinces entirely from his influence.[15]

Lastly, Clausewitz discussed the ways of guerrilla warfare, counseling the avoidance of major battles and the combined use of regular and irregular forces in a hybrid manner: "According to our idea of a people's War, it should, like a kind of nebulous vapoury essence, never condense into a solid body; otherwise the enemy sends an adequate force against this core, crushes it, and makes a great many prisoners; their courage sinks; everyone thinks the main question is decided, any further effort useless, and the arms fall from the hands of the people."[16] This is essentially Mao Tse-Tung's first phase where guerrilla forces only strike where they can while building their forces and support, followed by a second phase where they combine with regular forces to push the war further: "The easiest way for a general to produce this more effective form of a national armament, is to support the movement by small detachments sent from the army."[17]

That Clausewitz is normally associated with conventional war is a function of the fact that his "Arming the Nation" chapter is a small part of *On War*; his other more extensive works on the subject are not as readily available in English. A wider view of his works on the subject, though, reveals that small wars was not a blind spot, but rather a well-conceived part of his framework.

Mao's Clausewitzian Insurgency Strategy

Karl Marx believed that war was always anti-populist—a tool of imperialists, not revolutionaries.[18] Lenin's thought revolved around an industrialized society and the revolutionary potential of urban workers. Mao didn't need utopian idealism, and China was far from an industrialized society. He needed a plan that would work in the Chinese rural context. Clausewitz's guiding principle of war as politics with the addition of violence would also be Mao's as he built his own system.

To be fair, both Lenin and Trotsky shared Mao's belief that guerrilla warfare should be used in conjunction with conventional forces and under the direction of politics.[19] Mao derived this idea, perhaps indirectly, through Lenin's *Socialism and War*, which discusses Clausewitz's vision of war as politics and which Mao cited in his own writings. There is some controversy over whether Mao ever read *On War*, although he did cite it.[20] Some contend that Mao did, in fact, read Clausewitz but that Chinese scholars purposely hid this fact so Mao would not be seen to have been in-

fluenced by non-Marxist-Leninist works.[21] Beyond Mao's Clausewitzian view of war, his ideas on guerrilla warfare are also found in *On War*.[22]

Mao's central problem was how to bring Clausewitz's recommendation to China, where the only professional armies were those of his opponents. He simultaneously recognized the need for guerrilla forces to work in concert with regular forces and understood that initially no regular forces were available. This is a problem Clausewitz never had to wrestle with; Clausewitz recommended building the capability for both regular and guerrilla forces ahead of time. Mao had no such luxury.

Clausewitz viewed small wars as defensive, a way to defeat an invading force. Mao's strategy vis-à-vis the Imperial Japanese was defensive, but he also had to contend with a domestic opponent, the Nationalists. The defense had a negative goal, in the case of guerrilla warfare, to keep the counterinsurgents from winning; but because Mao also had to contend with both Imperial Japan and the Kuomintang, the nature of the war had to shift toward a positive goal at some point. This led Mao to extend guerrilla warfare and integrate it with a more offensive plan. That extension became a core of his method, to reach a point where both guerrilla forces and regular forces united against the opponent. Mao understood that a negative aim was necessary but also that it could become a positive aim when the insurgents, now conventional in the sense that they could generate a superior level of combat power vis-à-vis the counterinsurgents, were capable enough for a positive strategy. A positive strategy was necessary to produce a decision. Small wars that devolve into decades-long stalemates occur because neither side can generate the capability to decide the conflict.

Mao's understanding of war as politics enabled him to follow Clausewitz's lead in keeping guerilla tactics in the right conceptual box—tactics—preventing them from consuming strategy. Although the Chinese Civil War was long, it did not devolve into a stalemate so familiar to both sides in the current conflict in Afghanistan. The Communists' guerrilla tactics allowed them to survive and continue the conflict, like the Taliban today. Mao's strategy then enabled them to move beyond the limitations of small war tactics and push the war to a conclusion. The Taliban show no ability or even hope of doing so.

Mao's tactical choices flowed from a Clausewitzian understanding of the war. Mao knew he was engaged in a limited war. He urged the avoidance of major, large-scale battles—at least at first—against the Japanese because he knew the Communists didn't need them; their aim was limited (get the Imperial Japanese out of China) not unlimited (conquer Imperial

Japan).[23] The latter phases of the Chinese Civil War, however, did feature large-scale battles because the Communists were now engaged in an unlimited war against the Nationalists vying for control of China. Mao's ability to choose the right tactics, at the right place and time was based on his understanding of the nature of the wars he fought.

Mao makes these ideas explicit in *On Guerrilla Warfare* (sometimes translated as *On Protracted Warfare*). There is no dense Clausewitzian prose since Mao had a vastly different audience: "These guerilla operations must not be considered as an independent form of warfare."[24] He continues: "While we must promote guerrilla warfare as a necessary strategical auxiliary to orthodox operations, we must neither assign it the primary position in our war strategy nor substitute it for mobile and positional warfare as conducted by orthodox forces."[25] Mao went so far as to say that victory with guerrilla warfare alone was impossible.[26] As for the subordination of military action to policy, Mao stressed that guerrilla units must have political, as well as military, direction.[27] Also like Clausewitz, he believed guerrillas were best suited for those areas where the enemy was not, i.e., rear areas.[28] Mao's method was, in short, to use guerrilla warfare to create the space and opportunity to transition to a more direct strategy once the time was right. While that opportunity never came against the Japanese, it came in 1948 against the Kuomintang when the forces of the Chinese Communist Party began to look, act, and fight more like a conventional military: seizing and holding territory, defending instead of retreating, and building more professionalized units.[29]

This is not to say that Mao Tse-Tung was not an original thinker. He certainly was. It is clear that Mao moved well beyond mere application of Clausewitz. Mao's three stages of revolutionary war bear only some similarity, for example, to Clausewitz's thoughts on small wars. Aspects of the first and second phase appear in *On War*, but Mao's last stage—a positive strategy that produces a decision—does not.

Contemporary Relevance

Why should a modern practitioner care that Mao Tse-Tung viewed war and strategy through a Clausewitzian lens? Because Mao was a practitioner. Clausewitz's ideas were a compilation of a lifetime of practice, but no theory is worthwhile unless it passes the test of war. In China, it did. Mao Tse-Tung was successful at designing tactics for the Chinese Civil War because he understood their proper place—as servants of the strategy that flowed from the nature of the war. His solid grasp of war—all war—as political in nature was the key concept that he shared with Clausewitz.

The modern tactical practitioner, unlike Mao, has no say in the strategy of the war in which they are engaged. Like Mao, however, a basic understanding of the nature of war upon which one embarks and its strategic context—including the strategy of both one's opponent and one's own side—enables the tactician to select and plan appropriate tactical actions and make decisions in support of the strategy.

Studying the means-focused theoretical literature on small wars then becomes a way to examine what tactics worked in the past in similar strategic circumstances and can then be applied to the strategic circumstances at hand.

Whether Mao came to a Clausewitzian framework independently, through study of *On War*, or just fell in with the Leninist *zeitgeist* is interesting, but not overly important for practitioners. What practitioners can take away is that his solid understanding of war as a political phenomenon, the need for strategy to be based on the nature of the war at hand, and the consequent role of tactics in facilitating successful strategies allowed him to effectively design not just an effective campaign, but a guerrilla force suited to carry it to fruition.

Conclusion

It's time for small wars—revolutionary war, insurgency, counterinsurgency, irregular, unconventional war, among others—to return to their rightful place in strategic studies: as a suite of tactics employed in certain strategic contexts rather than a separate and disconnected phenomenon from war.

War was not, for Clausewitz, just inter-state war or just actions by standing, professional military organizations, even if that was his background and focus. Clausewitz's framework for war as a phenomenon applies equally to small wars. Mao's recognition that small wars were simply war carried out through a specific strategy suited to specific situations gives his ideas a strength not found in other thinkers on the subject.

Mao Tse-Tung never fell for the trap of excessive focus on the character of small wars. Mao's understanding of small war, rooted as it was in solid understanding of war and strategy, partially explains his success—and the failure of his many imitators. Strategic actors that employ irregular tactics absent Mao's understanding of strategy routinely fall short. For all the chaos they cause, terrorist groups like al Qaeda and the Islamic State, and even nation-states that employ irregular proxies, such as Russia, have largely failed to achieve much of anything else besides. Even China's efforts to assert control over the South China Sea through irregular means

may have just alerted the region to the threat without assuring success. Danger lies, however, where such irregular tactics are combined with regular organized military force: Mao's second stage. We briefly saw the Islamic State accomplish this feat; employing both irregular and quasi-regular forces including armor and artillery. Without an effective strategy, however, all tactical forms are doomed to defeat.

Recognizing that small war is simply a subset of war, dependent on the strategic situation, leads us to the conclusion that it is suited for strategic situations where the ends are unlimited and (at least temporarily) negative and the means are limited. Both Clausewitz and Mao Tse-Tung identified small wars as such. The counterinsurgents, generally, have a limited aim (maintain their position) and resource constraints. This is the nature of the conflict that Clausewitz stressed must be understood. The strategy of small wars, for both insurgent and counterinsurgent, flows from that nature rather than its character.

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Chapter 14
Deterrence and Strategy

Jenna E. Higgins

> *To solve these problems one needs as much an understanding of politics as an understanding of man—and the one cannot be derived from the other*.[1]
>
> —Kenneth Waltz

In an uncertain world, the notion of being able to deter possible threats is self-evidently appealing.[2] Why risk having to fight a war when our defense policy and force structure are sufficiently robust to discourage potential aggressors before a shot is fired? Deterrence, however, is a complex business, existing ultimately in the perceptions of protagonists. The intricacies and nuances of how deterrence achieves its objectives have been researched by some of the finest minds within the realm of defense strategy and security. This essay breaks deterrence down into its foundational blocks to give new strategists an understanding of key concepts and practical considerations for employing or supporting a deterrence strategy.

As a generic definition, to deter is to discourage an action or event by instilling doubt or creating fear of the consequences. Credible deterrence can be distilled down, ultimately, into having the will and resources to act. While this may seem simple, it is often difficult to make threats credible in the eyes of a protagonist. A deterrence strategy is seldom cheap and rarely convenient.[3] Consequently, traditional deterrence has been described as a sometimes thing because often it does not work. Deterrence, at times, makes preventing wars more difficult; it provokes resentment instead of acquiescence and opponents design their approaches around it.[4]

While many initially associate deterrence strategy with nuclear or mutually assured destruction (MAD), they are not the same. Significant shifts in the strategic environment (asymmetric and urban warfare for instance) call into question the appropriateness of a solely nuclear-based deterrence posture. The formulation of a deterrence strategy must always, therefore, consider a conventional force. The developed world is reluctant to initiate lethal action against diffused adversaries that will lead to unintended casualties and collateral damage; as a result, deterrence strategy will and must continue to factor in the minds of our leaders and defense planners. Furthermore, the unquestioned capability to carry the war to the adversary and inflict unacceptably heavy damage is also central to pursuing deterrence as

a viable security strategy; strategists may have to take this planning aspect into account, particularly if they are developing the national-level strategy mentioned in Chapter 1.[5]

Balancing Perceptions, Resources, and Credibility

Before a nation can be viewed as a credible force—one worthy of being avoided by the adversary—the national posture or willingness to commit military action must be known. This includes political willingness to bear the costs and risks involved in asserting its will to deter; the attrition tolerance or the financial capacity, for instance. Resorting to force will always involve costs of one kind or another. A government must be willing, however, to convince external agencies and the domestic population that the benefits of force outweigh the costs. This idea is developed by Henry Kissinger in his 1957 book *Nuclear Weapons and Foreign Policy*:

> Deterrence is greatest when military strength is coupled with the willingness to employ it. It is achieved when one side's readiness to run risks in relation to the other is high; it is least effective when the willingness to run risks is low, however powerful the military capability.[6]

As an example, defending a direct attack against the homeland may be easier to support than involvement in a conflict for a long-term strategic outcome. Likewise, it is not just the cost of military lives which needs to be considered, but also "costs associated with killing non-combatants . . . when set against political objectives framed in terms of the defense of human rights or the elimination of terrorism."[7] This becomes especially pertinent when dealing with rogue states in which the threat is the leadership rather than the people. In making a case to the constituencies for the deployment of military force, the intent to target specific threat systems and leadership, as opposed to the local population centers, must be clear to ensure domestic support and willingness for such an action.

In developing a national posture and willingness to act, communication is key. There is no scope for the adversary to perceive that a nation may act; it must be clearly communicated that a nation will act. Political will is only as good as the communication by which it is received. There are many ways that this may be signalled, including by formal statement, force deployments, or forward positioning of troops as a trip wire to force military response.[8] Selecting the correct form of communication requires an understanding of what the adversary perceives as its vulnerabilities to target and message the threat appropriately.

The concept of messaging and assessing vulnerabilities is explained well by Thomas Schelling in his book *Arms and Influence*. He discussed the psychological nature of deterrence and that focusing on an enemy's intentions is even more important than concentrating on its capabilities.[9]

Capability and resources must be matched to a nation's intent to implement its political will, less the entire premise be regarded as a bluff. There is little use in clearly articulating that you will complete an action if there are no funds or insufficient personnel or equipment to support said action. Schelling expanded on the concept of the bluff:

> Nations have been known to bluff; they have also been known to make threats sincerely and change their minds when the chips were down. Many territories are just not worth a war, especially a war that can get out of hand. A persuasive threat of war may deter an aggressor; the problem is to make it persuasive, to keep it from sounding like a bluff.[10]

While it may be possible to bluff an adversary with the threat of consequence (through a clear grasp of its vulnerabilities), ideally, "logistics support, serviceability, quality of command and control systems, and ability to operate and resupply in the area of operations must also be taken into account."[11] In all cases, however, communication must remain key; this may be signalled through military exercises, show of force, or involvement in peacetime activities so that presence and abilities are observed.

Credibility, as an outcome of will and capability, is a product as opposed to a sum calculation. Each factor weighs heavily on the outcome, but likewise, there is undoubtedly an x-factor. The final product will be valid in some cases, but not in others. Perhaps the product of political will, and acquiescence to high risk along with capability, will be successful in defensive deterrence, but not so for offensive deterrence. Put simply, a protagonist will not risk its forces to attack an adversary's homeland, but will attack with home ground advantage.

Credibility is determined by perception. The effectiveness of a particular capability against the adversary is reliant on the adversary's "perception of that capability or action vis-à-vis their own contemplated or proposed course of action."[12] The adversary must be convinced that the enemy has the capability and will enact significant punishment if adverse action is taken.[13]

No conversation on deterrence theory would be complete without contemplating a nuclear option. As Patrick Morgan noted in his 2012 *Contemporary Security Policy* article:

> We bet our lives, our societies, our civilization (and those of everyone else) on it. The ensuing absence of outright wars among great powers strongly suggested it was working, even though deterrence to prevent lesser conflicts or nasty provocations and challenges was much less successful.[14]

The nuclear revolution that occurred during the Cold War made traditional assumptions regarding deterrence problematic. Where there is mutually assured destruction through nuclear weapons, defending against a nuclear launch becomes impossible. In contemplating this dilemma, coercive pressure raises the risk that the situation will escalate out of control.

Nuclear deterrence, unlike conventional deterrence, has a sole focus on punitive action which may well be so devastating that it makes the political ends irrelevant. In a scenario in which vital interests are at stake, nuclear deterrence may be a valid tactic. In other cases, an opponent may accept great risks against a punitive threat, but denying that opponent a practicable vision of success may deter.

Employing Deterrence: Practical Considerations for the Military Strategist

There is no clear formula to understand the complexities of deterrence theory, nor is there one clear method to effectively employ a deterrence strategy. Noting this, there are a few practical considerations for the contemporary military strategist. Employing deterrence as strategy must be led from the very top down; it must be a national strategy. Deterrence is a not a military puzzle alone; the military is but one means toward the national ends. Pure military deterrence relies on a scale that few states can afford. A clear statement of intention must be offered for a whole-of-government approach to be employed.

A military strategist first must understand how military capability and action shapes perceptions. Specifically, military action is a practical means for employing deterrence strategy that contributes to the ends by affecting the adversary's decision calculus. As just part of a larger picture, military leaders must identify how an adversary's decision-making can be decisively influenced by credibly threatening to deny benefits and impose costs.[15] The decision to deter must be a conscious one. While deterrence

may be achieved as a consequence of other actions (i.e., forward posturing to ensure strategic basing options, or the purchase of a specific fighter platform), it is optimally achieved through dedicated design.

In creating a dedicated deterrence strategy, all components of national military power must work together. A military strategist must design a robust joint structure using all domains. Where possible, joint doctrine should be reviewed and a concept of operation produced—one that relates directly to a specific adversary. Implementing a clear statement of intent regarding deterrence as an objective will help commanders develop tactical objectives and tasks, as well as support the subsequent formulation of effectiveness and performance measures. There are two key practical considerations borne out of a fundamental understanding of deterrence strategy: 1) define the adversary and understand its intent and 2) identify your own risks and assumptions so they can be considered as the adversary evolves.

The statement "know your enemy" is foundational to military operations. However, that assumes there is a well-defined enemy. Given the current geopolitical environment, defining *who* the adversary is can be a challenge. With such a wide array of potential adversaries—each requiring its own nuanced approach—developing an appropriate deterrence strategy can be challenging. Schelling emphasizes that it is more important to understand the enemy's intent than its capability: "Deterrence is about intentions—not just estimating enemy intentions but influencing them."[16] Consequently, there is rarely a one-size-fits-all approach to deterrence, and this must be in the forefront of mind.

Accordingly, strategists and leaders must divorce themselves from viewing the problem set with a Western lens. Each adversary, and indeed each situation, may have a different set of values and objectives influencing the desired end state. Likewise, when developing a concept of operation, strategists should attempt to understand second- and third-order effects such as how their actions will influence other third-party nations, or other military objectives. For instance, employing a certain approach may give away to a third-party nation tactics, techniques, or procedures which will in turn influence how they fight.

In planning and implementing a chosen approach to a specific adversary, strategists should attempt to predict the adversary's risk calculations. For instance, if the adversary has a low risk tolerance, creating uncertainty may achieve the required deterrent effect. However, other adversaries may thrive on uncertainty and seek to exploit such an effect. Ultimately, the de-

cision calculus is bound to change and, as such, any plan must account for this and consider the risk. This is not just true for the adversary, but also an important consideration in friendly decision calculus.

Where a specific adversary has been identified, and the situation defined, the strategist must appreciate key assumptions and possible risks so they can be reflected on as the adversary evolves. Outlining these considerations from inception is crucial to developing a robust course of action, and enabling clear decision points if the situation changes and assumptions are no longer valid. It is likely that success will be defined not through the achievements of friendly, but rather adversary, action (or lack thereof); and, therefore, analysts and planners must state explicit assumptions and logic to define said success. This must also include the expected foreseeable outcome; this is why defining deterrence as a specific outcome is so important rather than just letting it occur by chance or as a second-order effect. If these steps are taken and miscalculation and/or a negative or unanticipated reaction does take place, coalition forces likely will be able to protect national interests.

In addition to clearly outlining any assumptions, analysts and planners need to articulate specific risks so that mitigation strategies can be developed. For instance, they might identify that a significant risk is the lack of critical military capability or infrastructure. Without specific capabilities, the military may not have sufficient capability or scale to deter an aggressor. In this case, mitigation may outline the requirement to involve coalition partners, as mentioned in Chapter 16 on coalition strategy making, or highlight the issue to government.

Another risk to achieving deterrence objectives within military operations is the inability to control the actions of other government departments or external agencies which may shape adversary perceptions. Strategists must be aware of actions outside the remit of the military that affect the ability to deter an adversary, such as their perception of national will or political resolve. To help understand operational intent, mitigation may consider how senior decision-makers communicate with other government departments.

Conclusion

Deterrence as a successful concept is ambiguous and relies purely on perceptions. Will all protagonists share similar perceptions? Deterrence is aimed at "the cognitive domain of a human being and it is extremely difficult to measure its effectiveness."[17] The absence of a measurable effect

makes assessment difficult but not unachievable. It is generally agreed that nuclear deterrence between the Soviet Union and the United States was successful during the Cold War, in that there was no nuclear exchange and the two countries never came into direct conventional conflict. Will this always be the case? The absence of action may suggest effective employment of the strategy, but equally, success may simply have been achieved through inadequacies on the part of the adversary.

Deterrence is even more complex when separating conventional and nuclear theories. A nation which can successfully deter will have considered the protagonist's perceptions, clearly communicated its political will, demonstrated a willingness to accept risk, and signalled capability. These are core concepts that must be understood, not just in the realm of strategic theory, but in practical military actions, if a strategist is to develop plans and policies to deter an adversary. If successful in achieving this, that nation has become a credible force.

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Chapter 15
Nuclear Strategy

Jasmin J. Diab

> *Decisive results come sooner from sudden shocks than from long-drawn out pressure. Shocks throw the opponent off his balance. Pressure allows him time to adjust himself to it.*[1]
>
> —Basil H. Liddell Hart

In its simplest form, nuclear strategy was born from conventional strategic bombardment.[2] Not grasped well by the military in World War I, strategic bombardment was an approach that evolved to provide a decisive advantage to those who would dare to stray from classic military targets during World War II. Strategic bombing focused on the military using its aircraft to break the will and morale of its enemy. It achieved this by destroying (through bombing on mass) the social, economic, and/or industrial center of the enemy. However, airpower, through bombing, did not deliver the decisive shock and bring about decisive victory on its own.[3] Herein enters J. Robert Oppenheimer's Manhattan Project and its development of the atomic bomb.[4] The instant destructive power and the long-term economic, social, and psychological effects of a nuclear weapon would prove to be the decisive shock that would achieve the desired impact of strategic bombing in one go. Statesmen and strategists knew this weapon—and the fear it incited—would provide superiority within international politics; therefore providing nuclear states with a powerful lever.[5] This lever pulled diplomatic strings demanding the expertise in nuclear strategy lie with civilians and not the military.[6] This chapter seeks to describe how strategists conceptualized a nuclear strategy in a bipolar nuclear arms race, drawing upon the utility of these concepts in a multipolar nuclear world, where reliance on alliances and a rules-based global order do not offer the assurance and security that nuclear strategy relies upon.

Does the Type of Nuclear Weapon Matter?

To understand the escalation of nuclear arsenals, one must have a basic understanding of nuclear weapons. In simple terms, there are two parts of a nuclear weapon; first, the nuclear warhead; and second, its delivery system. Possessing a nuclear weapon is enough of a "statement of intent" to cause catastrophic harm to your enemy. This is most effectively covered by the father of the atomic age, when he said "The pattern of the use of

atomic weapons was set at Hiroshima. They are weapons of aggression, of surprise and of terror."[7]

How a nuclear weapon is delivered (for example gravity bombs or missile system) determines its capacity to threaten. Nuclear warheads are categorized broadly into the atomic bomb and the hydrogen bomb. The atomic bomb is a fission weapon where the reaction of a neutron colliding with an atom in a nucleus, splits the atom releasing significant amounts of energy causing further fission reactions; a chain reaction. Hydrogen bombs, or thermonuclear weapons, use nuclear fusion. This occurs when deuterium and tritium are fused, releasing energy and a highly-energized neutron. Both reaction types rely on weapons-grade (highly enriched) uranium or plutonium to cause the nuclear reaction. Atomic bombs are delivered primarily by airdrop (gravity bombs), while thermonuclear weapons can be made small enough to fit in the warheads of long-range missile systems. If a state possesses thermonuclear capabilities, can make the thermonuclear payload small enough to fit in a warhead, and has access to missile technologies, then they are capable of delivering catastrophic destruction at significant range.[8]

However, at least in the West, the use of these weapons is not considered in the same way conventional weapons are employed. Nuclear weapons, while maintained and executed by the military, are not considered military weapons. The United States employs nuclear weapons as a last resort, for example.[9] Nuclear weapons require significant resources to develop and maintain. Therefore, they are held by states and difficult for non-state actors to access; thus, they are a powerful and persuasive diplomatic tool.

Cold War Strategies: Do You Strike First? Second?

The First Cold War nuclear strategy centered on the idea to strike your enemy's socioeconomic center and nuclear arsenal by a surprise attack, which would render them incapacitated to respond. This theory was based off the belief that a surprise attack was the "opening shot in any war."[10] Strategists like Bernard Brodie believed this would result in a war that lasted only days, with catastrophic numbers of casualties therefore not requiring much in the way of a military strategy.[11] This first strike, or preemptive nuclear strike, was seen as an aggressive posture as it would only be successful if retaliation was impossible; "Superiority in numbers of bombs is not in itself a guarantee of strategic superiority in atomic bomb warfare."[12] Due to the perceived aggressive posture of first-strike nuclear strategy in 1964, China pledged a no-first-use nuclear policy, the first

recognized nuclear power to do so. China still to this day abides by this policy. Therefore, to reduce the threat of a first strike, the concept of a second-strike capability as a deterrent was developed.

The ability for a state to be able to endure a first strike and maintain a nuclear capability to retaliate and respond was described as a second-strike nuclear strategy. This was seen as a less aggressive strategy as it was defensive in nature. It did, however, result in large and diverse nuclear arsenals being developed and stockpiled. What resulted from this concept was that a state needed to produce significant nuclear forces, dispersed and capable of providing rapid retaliation against a first strike. The United States achieved this through a nuclear triad. The nuclear triad is the ability to launch nuclear weapons from air, land, and sea through a combination of bombs and missile delivery systems.[13] Countries who did not possess nuclear weapons and feared being caught in the crossfire of a nuclear war were forced into alliances with nuclear states, while also encouraging nuclear powers to develop arms control policies to ensure an unstoppable escalation did not occur. The premise of arms control asked the question, how many nuclear weapons were enough for a state to possess and still maintain a second-strike capability? This led to the idea of mutual assured destruction.

The rapid advancements in missile technologies enabled nuclear warheads to be delivered at range. It also enabled nuclear weapons to be fired from the air, land, or sea resulting in a nuclear force that not only had the ability to carry out a second strike, but also had the ability to completely destroy the adversary. Complete destruction would mean destroying 20 to 33 percent of the adversary's population and at least 50 to 75 percent of its industrial complex.[14] This is where the concept of mutual assured destruction, or MAD, was developed; knowing and understanding that you can completely destroy your adversary, but they too can do the same to you—no matter how well you do. In turn this meant that you were less likely to strike. The fear of retaliation with catastrophic consequences was the best deterrent to aggression.[15] MAD strategy is often referred to as the nuclear strategy that led to a long peace that kept the world stable throughout the Cold War. Unfortunately, it also had a flaw; it didn't provide any guidelines on how to employ strategic forces should deterrence fail.[16] It was this concept of deterrence that continues to remain a key concept in nuclear strategy.

Deterrence to Keep the Peace

As nuclear strategies evolved from first and second strikes through to MAD, one simple, underlying strategy remained effective. Deterrence. It

was not just the United States and Soviet Union who could ward off nuclear aggressors; any country who possessed a nuclear stockpile could deter adversaries from attacking, as the focus of nuclear war was on nuclear weapons themselves: "What is the only provocation that could bring about the use of nuclear weapons? Nuclear weapons. What is the priority target for nuclear weapons? Nuclear weapons. What is the only established defence against nuclear weapons? Nuclear weapons. How do we prevent the use of nuclear weapons? By threatening to use nuclear weapons."[17] The United Kingdom, for example, considered their nuclear stockpile purely as a means of deterrence.[18]

The concept of many countries building and possessing nuclear stockpiles resulted in strategists' wargaming potential ways nuclear escalation would occur. Herman Kahn, an American strategist during the Cold War, developed scenarios and metaphors to enable politicians and civilians to understand how to anticipate, alleviate, and avoid crisis involving nuclear weapons.[19] These metaphors were aimed at the tensions between the United States and Soviet Union, therefore, could produce a framework and structure. For example, Kahn's forty-four rung escalation ladder. The transition from a Cold War disagreement, through the forty-four stages, resulted in all-out nuclear war. The combination of nuclear deterrence and a national Cold War strategy of containment provided a powerful political and strategic combination for the United States to maintain a slow but stable end to the Cold War.[20] However, these deterrence strategies were reliant on knowing your adversary and how they would respond to escalation. Therefore, as the Cold War ended, and other states joined the nuclear game, a multipolar nuclear strategy needed to be developed.

How Does Multipolar Deterrence Work?

The challenge with deterrence in a multipolar world is that the global community relies on a rules-based global order as agreed through the Nuclear Non-Proliferation Treaty (NPT). This treaty formally recognizes five nuclear weapon states: the United States, Russia, United Kingdom, France, and China. However, there are challenges to this treaty. Three states, India, Pakistan, and North Korea, who are not signatories of the treaty, have declared that they possess nuclear weapons. Additionally, Israel is one state highly likely to have a nuclear capability, however this is not confirmed. This, therefore, creates an instability not encountered by Cold War nuclear strategists. As strategist Lawrence Freedman has noted, "A bipolar relationship between great powers was uniquely stable. The corollary of this was that nuclear multipolarity would be more volatile."[21] Escalation lad-

ders and second-strike forces, with an ability to provide MAD, are unable to suitably fit each potential threat.

While each state has their own reason to maintain and employ nuclear weapons, there are three broad themes that influence how the United States maintains deterrence through a multipolar lens; they are through support to the NPT, alliances, and tailored deterrence strategies.[22]

Nuclear Non-Proliferation Treaty (NPT), Alliances, and Tailored Deterrence Strategies

Negotiated in the 1960s by the United Nations, the NPT aspires to prevent the proliferation of nuclear weapons and promotes the peaceful uses of nuclear technologies (medical and power production for example). While the treaty itself looks to global disarmament, it recognizes that nuclear states have a responsibility to contain and secure knowledge and technologies associated with nuclear weapons. This limits the spread of nuclear weapons, prevents non-nuclear states from accessing nuclear technologies, and also reduces the risk of non-state actors developing or securing a nuclear weapon.

Through ensuring allied states remain within the legal obligations of the NPT, the United States uses its nuclear deterrence as a leverage and support to alliance partners.[23] This is in a bid to reduce non-nuclear state's developing their own nuclear arsenals to meet security needs in a multipolar and unstable environment.[24] The United States continues to achieve this global reach and support to alliances through its strategic nuclear triad.

Current United States nuclear posture is centered on deterrence strategies tailored to individual adversaries.[25] This therefore allows for deterrence strategies that worked with the Soviet Union to still be in force with Russia while shifting from deterrence to pre-emption or disarmament for states or non-state actors in a post 9/11 world.[26]

Each of these three concepts are tangible approaches taken in a multipolar environment to address national and multinational interests. Because they are not eternal and affected by politics and personality, strategists must understand them and their purposes.

Future Nuclear Strategies

As competition between global powers continues, the lessons and strategies of the Cold War provide a good lens for strategists to begin to understand how nuclear diplomacy influences and shapes decision-making. Unlike the Cold War though, the complexity of multiple nuclear states with

their own security agenda (India and Pakistan for example), and the threat of non-state actors seeking legitimacy through threats of a nuclear weapon (North Korea), result in a complex problem for global stability. The rules of deterrence and strike may not provide states with a level of comfort or resolve; therefore, reliance on intelligence and understanding indicators and warnings may be the prompt for states to negotiate and resolve tensions.

Future nuclear deterrence strategies are likely to result in complex diplomatic deals. The global efforts to reduce the threat of Iran becoming a nuclear power through the Iran Nuclear Deal Framework saw negotiations between Iran and the five permanent members of the United Nations Security council plus Germany work through to find beneficial deal resulting in the establishment of the Joint Comprehensive Plan of Action (JCPoA). However diplomatic nuclear negotiations do not need to be global in their approach. The United States uses its power of diplomacy to reduce the threat of nuclear weapons with North Korea. While the consequences of these negotiations have a global effect, the legitimacy of a superpower negotiating a deal with North Korea may provide enough of a deterrent effect through diplomacy alone. As Toshi Yoshihara and James Holmes describe, the world needs to accept that "proliferation of nuclear weapons is happening or has already happened."[27] This will make it difficult for the traditional nuclear powers to negotiate with non-traditional nuclear states. Yoshihara and Holmes describe this age as the second nuclear age, which is "much about the human factor as about the missile flight profiles, and inventory size."[28] Does this mean that in a rules-based global order disarmament is impossible and the world needs to be comfortable that countries will possess nuclear weapons, we just need to be able to trust they will not use them?

There are, however, two significant challenges that military planners and thinkers need to be aware of as part of future nuclear strategies. First, the potential for proliferation to Southeast Asia. While the Association of Southeast Asian Nations attempted to implement and enforce a Southeast Asia Nuclear Weapon Free Zone in 1995, none of the recognized nuclear weapons states have agreed to its terms.[29] Shifting alliances, civil unrest, and ongoing insurgencies leave porous borders and stretch technical nuclear safeguards resources in the region therefore providing avenues of proliferation into and throughout Southeast Asia.

Second, the possible use of nuclear weapons at the tactical level in great power doctrine is increasing. The United States, Russia, and Pakistan possess and continue to modernize their non-strategic, or short-range tactical, nuclear weapons (range less than 500 kilometers).[30] The largest

arsenals from the Cold War were in the stockpiles of the United States and Russia. These have been significantly reduced, with the United States arsenal going from approximately 9,000 weapons in 1989 to 230 in 2019, and Russia reducing stockpiles from between 13,000–22,000 in the 1980s to less than 2,000 in 2019.[31] The modernization of tactical nuclear weapons included in military strategies presents challenges to arms control agreements as well as the Intermediate-Range Nuclear Forces Treaty.[32] Of concern is the Russian doctrine on tactical nuclear weapons, which would see the employment of tactical nuclear systems pushed to forward formation commanders to deter or defeat North Atlantic Treaty Organization (NATO) forces within Europe.[33] These challenges will continue to evolve, therefore requiring future nuclear strategies to be re-thought and in some cases, like the JCPoA, re-negotiated.

How Does This Affect the Military Strategist?

While nuclear strategy is not classically in the sphere of military leaders and strategists, it is an important and powerful diplomatic tool that has far reaching consequences on military forces; both from nuclear and non-nuclear states. An example is in regards to security in the Pacific. In the 1980s New Zealand's anti-nuclear stance denied the USS Buchanan, a nuclear capable destroyer, from conducting a port visit due to its nuclear capabilities. What resulted was a deterioration in relations between the United States and New Zealand that had impacts on New Zealand's strategic security alliance through the ANZUS Treaty.[34] Therefore, modern military strategists need to have an awareness on the effects of nuclear strategy and diplomacy. The negotiations and relationships between states can have consequences on military and security alliances.

Conclusion

While employment of weapons is normally within the remit of military commanders, the catastrophic devastation caused by nuclear weapons provides a powerful tool for politicians to leverage. However, as Cold War nuclear strategies proved, this worked when all the parties were playing by the same rule book. Nuclear strategies of first and second strike and MAD relied on transparency—knowing and understanding the nuclear capabilities of your adversary and them knowing yours. In return, this meant both parties were deterred enough to not escalate to nuclear war. The complexities of the current nuclear climate, with many different teams varying in skill and challenged by security concerns, means that nuclear strategy is not as simple as deterrence once was. A constant dialogue with potential adversaries as well as with allied partners is re-

quired to ensure decisions on nuclear posture do not startle an opponent and accidentally escalate to a nuclear war; or present opportunities for new nuclear weapons states. In a period in which many nations, including Russia and the United States, are rethinking their nuclear postures and use of nuclear weapons below the level of strategic deterrence, strategists are going to increasingly incorporate and manage nuclear strategy in their daily planning and policy roles. Therefore, they must understand ways in which nuclear weapons states rely on maintaining restraint, and that such a strategic approach is paramount to ensure there is some stability within an unstable and unpredictable environment.

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Chapter 16
Coalition Perspectives on Strategy

M. J. Brick

> *In war it is not always possible to have everything go exactly as one likes. In working with allies it sometimes happens that they develop opinions of their own.*[1]
>
> —Sir Winston Churchill

The conduct of warfare by one nation in the company of an old ally, or a merely convenient partner, is common throughout history. From ancient Greece to the Global War on Terror, bands of humans have fought alongside each other as tribes, factions, states, and sovereign nations against another group of foes. Fighting in a coalition provides many benefits to a nation, such as consolidating political outcomes, access to capabilities to hedge against inherent weaknesses, bolstering strength for deterrence or dominance, and legitimacy for action. However, these benefits must be considered against the difficulty of formulating a shared strategic objective within a coalition, which may require compromising a national outcome for the benefit of the group. A strategist must have an understanding of the factors that drive national strategy for each nation in a coalition, so that the common denominators can be identified and form the basis upon which a coalition strategy can be built.

Examples from recent history indicate the importance of a unified strategy to the success of a coalition. Coalitions are mosaics of nations that are joined along jagged and misaligned points by a coherent strategy. The absence of a shared conception of strategic outcomes flows down to divergent operational and tactical approaches, and risks fracturing the coalition along pre-existing national fissures. Leaders of nations who contribute to coalitions must work toward a common strategy to enable success, even where national outcomes are not aligned. While there are many benefits to addressing security issues via a coalition, as Churchill's words above indicate, there are equally as many challenges to ensuring its success. Australia has always fought in coalition, and its national experience provides an interesting case study for strategists to examine these issues.

Why Coalitions?

Generally, strategic considerations are focused on protecting or pursuing an individual nation's interests. However, the means by which a nation attempts to achieve these outcomes is a function of its resolve and access

to necessary resources. Working in a coalition provides a viable option for individual nations to pursue their national strategic objectives within a larger, shared framework. Coalitions provide individual nations with access to greater resources and also provides for legitimacy of action.[2] Providing a capability contribution is generally the "buy in" to a coalition. Generally, that capability is available to the whole, as a means for achieving the coalition objectives. In this manner, members of a coalition benefit from access to capabilities that they would not otherwise have as an individual nation.

Perhaps the most important consideration is that a plurality of nations working together in coalition provides greater legitimacy than a nation acting alone. As Russell Glenn notes, "operational effectiveness without diplomatic legitimacy is a dangerous tool to wield in today's world."[3] The establishment of the United Nations, and the institution of its Charter, have created international norms of behavior surrounding the use of military force as an option for solving international disputes. While Clausewitz's axiom that "war is a continuation of politics by other means" remains valid, there now exists a precondition (at least among Western nations) that the use of force to achieve policy ends must now be generally consistent with the UN Charter.[4] A military operation gains legitimacy via a mandate under the UN Charter and/or where nations act together to address a collective problem. Andrew Pierre of Georgetown University stated, "politically, a coalition, especially a broadly based one, will be perceived by the international community as acting with greater legitimacy than the actions of a single state, especially if the coalition is supported by an international mandate such as a United Nations Security Council resolution."[5]

A stark example of the desirability of coalitions acting under a UN mandate is found in the actions taken by the United States and the United Kingdom (UK) in the UN Security Council to obtain a resolution to support military action in Iraq in 2002–2003. The case study also highlights the inherent tension between coalition and alliance partners—in this case the US and UK—in finding a mutually acceptable strategy that meets individual national conceptions of legitimacy. In broad terms, the Report of the Iraq Inquiry (also known as the Chilcot Review) found that the government of former Prime Minister Tony Blair "chose to join the invasion of Iraq before peaceful options for disarmament had been exhausted. Military action at that time was not a last resort."[6] Prime Minister Blair had initially urged President George W. Bush "not to take hasty action" in Iraq, and to take the issue of Saddam Hussein's "weapons of mass destruction" to the UN. The UK initially favoured a strategy of containment against

Saddam Hussein. However, on the basis of UK intelligence reporting and assessment, the UK's position moved toward military action. Although the UN Security Council Resolution (UNSCR) 1441, adopted on 8 November 2002, provided Iraq with a final opportunity to disarm, President Bush decided that the inspection regime would not achieve the desired effect and that military action would be the better option. By January 2003, Prime Minister Blair had accepted the US timetable for war.[7] Arguably, it would seem that the UK's desire to maintain its long-standing alliance relationship with the US had a significant impact on the UK's change of strategy—from containment to the use of military force. The problem was the legitimacy of taking military action under UNSCR 1441, and whether a separate, explicit, UNSCR was required to authorize military action in Iraq. Although UK Attorney-General Lord Goldsmith provided legal advice on this issue, it remains unclear and controversial, indicating just how challenging multinational strategy can be.[8]

Challenges of Strategy and Coalition Warfare

The benefits of acting in coalition to address a common security problem can draw many contributions on an ad hoc basis. This makes coalitions different from alliances, which are generally long-standing relationships between countries that are based on internationally-binding obligations set out in a formal treaty.[9] While alliances are not immune from the usual frictions and tensions arising from international diplomacy, the effects of such tensions are likely to be mitigated by mutual cultural understanding through previous dialogue and practical engagement. Coalitions are different because they are what Glenn called "come-as-you-are events, with some participants properly attired while others arrive in a state completely unsuitable for the event at hand."[10] Allies would generally have a shared cultural understanding and relationship of trust built over time that form a foundation for a common strategic purpose. Within coalitions, however, the absence or lack of cultural understanding and shared trust are likely to be the key sources of tension and some of the factors that may operate against achieving a common strategic purpose. Further, every nation in the coalition has its own strategic priorities that must be reconciled with the goals of the whole. Additional tension can also arise when there are shifts in relative power between members of the coalition.

Timo Noetzel and Sibylle Scheipers discussed the consequences of strategic incoherence in relation to the coalition efforts in Afghanistan.[11] They highlighted the existence of initial consensus among the Western coalition that was focused on the defeat of al Qaeda and the removal of

the Taliban from power in Afghanistan.[12] However, the issue of rebuilding Afghanistan from a "failed state" into a prosperous nation was also seen as preventing the use of this nation as a staging base for terrorist organisations. As a result, the Western coalition had to agree on a strategically coherent approach that addressed the defeat of al Qaeda and the Taliban, as well as reconstruction of Afghanistan. The difficulty was that the US and Britain favoured a light military approach to remove the security threat posed by al Qaeda and the Taliban, leaving reconstruction with the Afghans; while the European countries under the North Atlantic Treaty Organization (NATO) umbrella wanted to address both the security aspects and reconstruction/stabilization aspects. The result was a middle ground between these two options, with the US focused largely defeating al Qaeda and the Taliban, and the largely NATO countries forming into the International Security Assistance Force focused on stabilization of the capital, Kabul, and reconstruction assistance to the Afghans.[13]

This "middle ground" approach resulted in parallel structures that lacked strategic coherence across the wider coalition. Noetzel and Scheipers emphasized that this caused a fragmented approach to operations throughout Afghanistan, reflected in different mandates and strategic objectives allocated to certain coalition countries, and therefore varied legal frameworks across the coalition.[14] The void left by the absence of clear and robust strategy to guide coalition action in Afghanistan was filled by different national interpretations of strategic objectives, influenced heavily by national considerations about force protection and the risk of casualties.

A slightly different issue of relevance to coalition strategy relates to strategic prioritization. While there may be strategic coherence, members of the coalition may have differing conceptions of how to prioritize the steps toward achieving that strategy. Perhaps the best examples are found in examining the relationship between the Allied powers during the Second World War.

The British resolve in fighting Germany was emboldened by the evacuation of British forces from Dunkirk in 1940. German failures to obtain command of the air during the Battle of Britain led to the abandonment of Operation Sea Lion and the German invasion of Britain. Hitler was effectively committed to holding his western flank and sought success in the east.[15] In the northern summer of 1942, Stalin's forces were heavily engaged in Stalingrad, while the US and British forces were immersed in clearing the Axis from North Africa and containing Japanese advances in the Pacific.[16] Stalin demanded opening a second front in the West and continuing logistics support to Russian forces, but British and American

forces could not comply with these demands until they had consolidated their operations in the African and Pacific theatres.[17] The conflict in strategic priorities, nested within the overall goal of defeating Germany, needed to be resolved to maintain the alliance. Consequently, in January 1943, a conference was held in Casablanca to enable the allied leaders to agree on the strategic priorities of the alliance. The "Germany First" strategy was confirmed and the prioritization of the defeat of Hitler provided a foundation for operational planning. The focus was on the invasion of Sicily in an effort to force Italy to capitulate, and the commencement of initial planning for the invasion of Western Europe in the spring of 1944. This was particularly important in reassuring Stalin of British and American support, and to assuage Allied concerns that Stalin would seek a negotiated outcome with Hitler.[18]

The strategic decisions made by the major alliance nations had significant impact on a minor alliance partner in Australia, which was effectively fighting under a British Commonwealth rather than in pursuit of its own independent national strategy. As a minor partner, Australia had little influence on the strategic prioritization of the major allied powers. Prime Minister Robert Menzies declared war on Germany on 3 September 1939 as a consequence of the British declaration of war.[19] The Australian dominion contributed personnel and resources to the British military efforts in Europe and Africa. However, it became evident to Australian leaders that reliance on British support was not viable as Britain prioritized its own national survival in 1940, and particularly after the fall of Singapore and the bombing of Darwin in 1942. Australia had to seek a stronger strategic partnership with the United States and found a willing partner in General Douglas MacArthur. According to T. B. Millar, "America saw Australia in World War II as a firm base from which to launch an American drive against Japan. In this process America needed Australia, and in needing it, helped to save it."[20] MacArthur's drive to return to the Philippines was a key foundation of Allied strategy in the Southwest Pacific. Australia's strategic desire for national survival and to defeat Japanese advances toward it easily found strategic coherence with MacArthur's goals. However, the relationship between America and Australia was an unequal one, with Australia's strategic priorities—particularly its need to focus on defense of the homeland—being secondary considerations for the major allies.[21] After the bombing of Darwin in February 1942, Prime Minister Curtin insisted on the return of a convoy carrying the 6th and 7th Divisions from the Middle East to Australia, despite pressure from Prime Minister Churchill and President Roosevelt that the troops be sent to Burma. The return of the

Australian troops subsequently enabled the defense of Australia through the conduct of forward operations in New Guinea under General MacArthur's command in the Southwest Pacific theatre.[22] According to David Horner, "The Australian government reaffirmed the principle that although Australia was part of the Allied coalition, ultimately it was for the Australian Government to decide where its troops would fight."[23]

These examples highlight that strategic cohesion and resolve in a broad coalition are vital to its success, even if the individual nation's reasons for contributing to the coalition may differ. Australia's experience in contributing to many coalitions throughout its national history also demonstrates the need for nations to nest their national strategy within wider coalition strategy for coalition efforts to succeed. However, the issue of strategic prioritization within alliances and coalitions continues to be a possible fissure point that needs constant review and mitigation by coalition membership.

The Australian Experience: Balancing Coalition Strategy and National Interest

The Australian experience demonstrates that it is possible to find a balance between a coalition's strategic objectives and national strategy. It is important to find this balance during the nascent phases of coalition formation, as it enables the leader of a coalition and the contributing nations to understand where possible points of tension may occur between wider coalition goals and national interests. Arguably, identifying and understanding these pressure points are essential in ensuring that they are not exploited by enemy forces as a means for fragmenting and destroying a coalition.

Australia has always fought alongside major allies and in a coalition. Formerly a collection of separate British colonies, Australia contributed men and materiel to the broader Commonwealth armies as in the First World War, with little or no ability to contribute to strategy or decision-making.[24] From the Second World War and various subsequent conflicts, the Australian strategic leadership—both civilian and military—have learned to ensure that any Australian contribution is balanced by the ability to shape the development of allied and coalition strategy and to create, within that strategy, a space in which Australia's national interests can nest.

During the Second World War, Australia had to address the challenge of sustaining and deploying Australia's military forces to protect Australia's national interest, while acknowledging that the strategic policies for the conduct of military operations in the Southwest Pacific were determined by its major alliance partners in Britain and the United States.[25]

The strategic framework also excluded the Australian government from higher decision-making bodies, as there was no Australian representation in the Combined Chiefs of Staff (US and British representation only), and General MacArthur's strategy and operations in the Pacific were directed by the US Joint Chiefs of Staff, via General George Marshall (the chief of staff of the US Army).[26] As a result, Prime Minister Curtin and his secretary of the Department of Defence, Frederick Shedden, worked closely with MacArthur to ensure that there were sufficient Allied resources in the Southwest Pacific to address Australia's security concerns. MacArthur became Curtin's principal military advisor, with Shedden and Commander-in-Chief of Australian Military Forces General Sir Thomas Blamey in support.[27] Australia's strategic concern about Japanese invasion was well nested within MacArthur's desire to use Australia as a staging base for his return to the Philippines. Horner describes this strategic coherence as "a happy coincidence" that formed the foundation for the defense of Australia and the drive to push Japanese forces out of the Southwest Pacific.[28]

Since the Second World War, as a nation with a small population and resource base, Australia has learned how to be an effective junior partner to its larger allies, principally the United States, while achieving realistic and modest national strategic goals. This is evident in Albert Palazzo's discussion of how Australia made an effective contribution to the 2003 Iraq War, while successfully navigating a "middle path" that balanced the policy goal of enhancing its relationship with the US without creating a conflict with US objectives that focused on regime change in Iraq.[29] This middle path was achieved through clear communication and understanding between Australian and US leaders that managed expectations regarding the limits of Australia's contribution. According to Palazzo, Prime Minister Howard made it clear to the United States that Australia's contribution would be confined to the invasion phase, and did not include stabilization operations.[30] Australia's strategic objectives were to make a clearly defined contribution, nested within the US strategic goals, rather than being parallel to it. Further, although the Australian contribution was modest, the contribution nevertheless bolstered the legitimacy of President Bush's "coalition of the willing" in a political environment where there was significant public opposition—in both countries—to the conduct of military operations.[31]

Over time, Australian political and military leaders have learned to appreciate the benefits of contributing to coalitions, particularly because of access to significant capabilities and resources that would be outside Australia's capacity to obtain alone. As Palazzo identified, "In strategy, the balance of aims, means and goals is a vital consideration, and in Iraq,

Australia got it right."[32] Consequently, these leaders appreciate the need to establish and nurture alliance relationships, which are central to Australia's national strategy, while being realistic about the limits of Australia's effective contribution.

Considerations for Strategic Planning in Coalitions

Countries collectively contribute to military operations for many and varied reasons that are always based on imperatives of national interest. Despite these different motivations, the leaders of a coalition must guide the collective to a common understanding of what must be achieved and how the collective can achieve it. As Clausewitz said, "No one starts a war—or rather no one in his senses ought to do so—without being clear in his mind what he intends to achieve by the war and how he intends to conduct it."[33] His warning, although related to a different context, applies to coalition operations just the same. The fragmentation and destruction of a coalition is the aim of the enemy, as it reduces the strength of the collective by weakening the resolve and diminishes the resource base of those nations that choose to continue the fight. This aim is made easier when there is no strategic goal that binds and strengthens the coalition force. The bifurcated approach in Afghanistan and the consequent divergence in approaches between coalition countries is an important example of how the absence of strategic cohesion diffuses operational and tactical effectiveness.

As Lt. Gen. Peter Leahy's words highlighted, it is not useful for members of a coalition to hold unrealistic or romantic notions of what they can each contribute or their reasons for doing so. The Australian experience in managing its contribution to the 2003 Iraq War also demonstrates the importance of clear communication and understanding between leaders within a coalition regarding the limits of national contributions and the motives for nations to contribute to a coalition. This common understanding between coalition partners also assists in identifying potential points of tension between members that could be exploited by the enemy to fracture the coalition. Identifying, and being sensitive to, these points of tension during the nascent phases of forming the coalition is vital for its long-term survival.

Finding a common strategy within a large coalition is likely to be challenging, particularly where contributing nations do not have common cultures, or common military doctrine and capabilities. Significant training and preparation are necessary to mitigate the negative effects of the lack of common understanding. For this reason, it is perhaps worthwhile to place strong alliance relationships at the core of a coalition force. This

is premised on the basis that allies have already considered how they can operate effectively at the strategic through to the tactical levels via constant engagement and training. Coalition formation is a daunting task that can be made easier by having a good foundation for building a cohesive strategic approach that is built around a strong alliance partnership.

It is vital to consider these aspects of coalition warfare outside of the pressures of an imminent conflict or security threat. As Kjeld Hald Galster stated, "Coalition warfare is . . . a coalescence of nations that, of necessity, transcend national core values and beliefs to facilitate positive outcome of a common cause."[34] Globalization and enhanced reliance of nations on each other require national leaders to find common strategic approaches to problems outside of security, creating habits of engagement that facilitate better understanding and communication with likely coalition partners.

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Chapter 17
Strategic Approaches to Building Civil-Military Trust

Marcia Byrom Hartwell

> *Nonviolent resistance achieves its demands against an uncooperative opponent by using tactics of widespread noncooperation and defiance to seize control of the conflict. Violent coercion accomplishes the same by threatening physical violence.*[1]
>
> —Maria J. Stephan and Erica Chenoweth

Few military forces in the world rival those belonging to the United States, yet new "bottom up" civilian voices—amplified by social communication platforms and enabled by sophisticated technologies—are challenging military strategists to rethink how they define coercive power, national strategic objectives, and the resources used to achieve them. This especially applies to developing strategies for regions where military forces and civilian organizations share unstable, dangerous, and chaotic environments that are vulnerable to cascading disasters. These are complex scenarios where a natural disaster or conflict may trigger a sequence of events and layers of unanticipated crises that include new armed and civilian actors; unfamiliar combinations of natural, biological, and climate-induced crises; technological events; and pandemics.[2]

This chapter begins by describing how the changing dynamics of successfully acquiring and keeping political power are shifting away from the use of coercive force toward using civilian nonviolent strategies. These findings challenge traditional strategic thinking that views the rise and fall of nations in terms of military innovation, conquest, and the positive impact that coercive force and martial activities have on rebuilding a country's political stability and economic strength. I then discuss why future strategic success in unstable environments will increasingly depend on building civil-military trust and conclude by offering recommendations for bridging that gap.

The changing nature of the relationship between political power acquired by coercive force and that achieved by civilian nonviolent strategies poses two important global security challenges for strategists to consider. First, the evolving balance of power has important implications for the effectiveness of future strategies that primarily rely on military capability

to achieve national strategic objectives. Second, in order to achieve future strategic objectives, military strategists need to focus on how to build closer military alliances with a wide range of civilian organizations that have the ability to forge closer civilian connections than military forces.

Changing Dynamics of Power

Despite contemporary perceptions of overwhelming global violence, there is consistent and growing evidence that dynamics of power between civilian-led strategic nonviolence and traditional coercive force are evolving.[3] For centuries Western cultural understanding about acquiring and sustaining power has been rooted in a sixteenth century model first described by Niccolò Machiavelli in *The Prince*. Machiavelli's winner-take-all approach advocates the use of force, fraud, ruthlessness, and strategic violence as the most effective way to take and keep power.[4] However, social psychologist Dacher Keltner and other researchers determined that over the past twenty years there has been a steady shift away from this coercive model toward one that is more civilian-centered. This model of nonviolent resistance draws from an array of social, psychological, economic, and political tactics that refrain from using threats or violence.[5]

These findings are supported by a long track record of initiating powerful changes that successfully challenge the Machiavellian model without using equivalent violence or force.[6] Recent research also shows this dynamic playing out during mass killings (1,000 or more) carried out by government security forces against civilian noncombatants who seek political change. Mounting evidence indicates nonviolent resisters, who often face beatings, arrest, and other forms of coercive and lethal violence, are significantly less likely to be targeted for mass killing than those engaged in violent uprisings.[7] Nonviolent acts are repressed 12 percent of the time but this increases to more than 70 percent for purely violent or "mixed" events.[8] Another factor that contributes to lessening violence against unarmed civilians engaged in nonviolent protests is that leaders who order their armed forces to crack down run the risk of defection and insubordination.[9] In a 2008 study, "Why Civil Resistance Works," which examined 323 opposition movements from 1900 to 2006 in countries ranging from East Timor to the former Soviet bloc, researchers indicated a nonviolent strategy that supported marches, vigils, petitions, and boycotts was 53 percent successful in winning broad citizen support and political power that helped topple oppressive regimes.[10] This compared to a 26-percent success rate for movements using coercive force including bombs, assassinations, beheadings, torture, and civilian killings.[11]

Keltner emphasized that power freely given to support a group or individual can just as easily be taken away. Actions of those in power are continually evaluated by their supporters for their perceived value to the group. An individual or group's reputation is slowly built up or torn down hour by hour, day by day. The same strategic nonviolence that mobilized individual and group alliances for or against policies can be used to remove those perceived to be abusing their granted power. This is known as the power paradox.[12] While many rise in power to make a difference in the world due to what is best about human nature, an altruistic desire to do good for instance, many fall from power when they succumb to the worst, such as greed and corruption.

To be clear, nonviolent resistance achieves its demands against an uncooperative opponent by using tactics of widespread noncooperation and defiance to seize control of the conflict. Violent coercion accomplishes the same by threatening physical violence.[13] The use of coercion or force is not always ineffective, but it can be less effective in achieving political objectives than military strategists might assume. Nonviolence can be leveraged by military strategists. First, they can focus on developing a better working relationship and mutual understanding with their civilian counterparts, leading to military support for a range of civilian-led alliances. These alliances could more reliably and accurately assess a broader range of opportunities to achieve strategic goals with greater use of civilian influence and minimal use of force. A plan is much more likely to be effective if it focuses on optimum roles that technology-adept civilian, diplomatic, governance, humanitarian, faith-based, and a range of other nongovernmental organizations could play in diffusing conflicts and building political influence in chaotic environments.

Second, they could redefine how they assess and mitigate unintended consequences caused by the use of force. This is critically important when the only available option is to use high levels of military force, especially in urban landscapes, that will cause unavoidable destruction of civilian lives and livelihoods. This requires creative planning with civilian counterparts to develop flexible strategies that support a wide range of rapid responses by global, national, and local civilian organizations. If responses are too slow in meeting impacted civilian needs, resulting instability and chaos will open opportunities for recruitment by opposing organizations. Deeper levels of civil-military trust must be built to achieve the depth of analytical thinking necessary to accurately identify strategic concepts, risks, and realistic courses of action against a background of rapidly evolving conditions.

Key Issues in Building Civil-Military Trust in Dangerous Environments

Civil-military trust is defined here as individuals and institutions across military and civilian sectors having confidence in the reliability and commitment to mutual goals. Reliability assumes a level of transparency where no relevant information is withheld and all participants are equally committed to mutual cooperation and compromise. The unstable, dangerous, and chaotic environments envisioned here are what the Institute for Risk and Disaster Reduction defines as negative events filled with cascading crises and emergencies.[14] These begin when a primary impact sets off a chain or network of consequences, ranging from a humanitarian disaster that cannot be handled locally to a war.[15] The initial events or conditions trigger secondary impact(s), which initiate another set of interactions between complex vulnerabilities such as ongoing persistent conflicts or climate change, which in turn trigger multiple negative humanitarian crises and emergencies. These are often accompanied by escalation points, which have complex impacts on related or unrelated critical infrastructure that are not confined to the location of the crises. They can include adverse effects on regional and international finances and institutions, as well as social, political, and security issues caused by sudden flows of displaced populations, migrants, and refugees that worsen an already catastrophic situation.[16] Contrary to popular perceptions, high-profile political reactions are not always an accurate indicator of the extent to which a system is affected by refugee flows. These flows have important implications for strategic military planning. For example, while Western European countries reacted with what Alex de Waal called an attitude of "counter-humanitarianism" to refugee flows coming from Syria, Lebanon was the most impacted because it hosted the largest number of refugees compared to its total population.[17]

During recent years, deployed American and international civil-military teams often concluded that the widest trust gap was not among themselves but between their distant headquarters where strategies they were being tasked to implement had been developed.

Strategic teams that include civilians and military who understand real world relationships between strategy and tactics, and who have the ability to inform strategic planning processes, are more likely to value the key roles of intangible resources such as goodwill, courage, and emotional and intellectual intelligence in achieving strategic objectives. It is essential to assemble teams that mix old and new analytical perspectives, technological abilities, gendered viewpoints, and creative problem-solving skills to realistically

identify ends, ways, and means and assess risks in vulnerable environments. As combinations of strategic threats and opportunities continue to be infinite and unknown, building teams that bridge the strategic civil-military gap at organizational headquarters and support similar cooperation in the field will require military strategists to consider multiple factors:

• Information sharing is the cornerstone for building or breaking civil-military trust, yet this is often the most difficult and sensitive issue for military forces and civilian organizations to address. Decide immediately—before or at the first meeting—how and when relevant classified, unclassified, and sensitive/confidential information will be shared between civilian and military strategists. Make an agreement and stick to it. Information sharing protocols established at the beginning of the process will go a long way toward developing strategies that earn equal civil-military support.

• Teams should be assembled which consider the roles that leadership, personality, and experience play in achieving successful outcomes. Multiple conversations and interviews with civilian humanitarian and aid workers and military forces have emphasized the critical role that quality leadership and the "right" personalities play in achieving goals and completing projects.[18] Leaders who listen to and learn from others, especially subordinates with prior experience in similar circumstances, will develop strategies that accurately identify military limitations and strengths in hypersensitive environments. Team personalities are important factors. While difficult to change, civilian and military organizations often provide leadership training on how to diffuse tensions that distract from achieving mutually desired goals. Experienced strategists who ask the "right" questions can help to avoid strategies based on erroneous assumptions. Deficits in any of these areas can be overcome by a willingness to work toward mutual goals.

• While assessing risks is a key part of the strategic process, perceptions of what constitutes a security threat or risk can differ significantly between military forces and civilian organizations. When confronted by physical threats, members of the military are trained to move toward, engage, and neutralize sources of violence. Civilians who do not carry weapons—especially members of diplomatic, humanitarian, development organizations—usually prefer to minimize personal risk by moving away from the source of the threat. These differences can be problematic when military and civilians move together through dangerous regions. However, there are exceptions. International civilian health workers who engaged with infected patients during the Ebola pandemic moved toward and at-

tempted to neutralize sources of the disease threat but reported that the non-medical military who assisted them moved away to avoid contact whenever possible.[19] Local and international emergency medical workers routinely go toward violent areas during conflicts to treat wounded civilians.[20] Strategies that acknowledge this range of civil-military responses can better identify and counter risks by prioritizing and allocating resources that support civilian and military roles and align with their missions.

• A strategy that acknowledges the value of visible versus invisible civil-military interactions while planning courses of action is likely to be more successful in achieving its objectives. Visible interactions might include open cooperation and coordination between individual civilians and/or organizations and military forces. Invisible interactions appear on the surface as if little or no interaction is taking place while military forces secretly communicate and coordinate their movements to provide cover for civilian-led efforts. Over the past decade "invisible" meetings between international and local civilian organizations, and military forces have supported reintegration of former insurgents and thwarted terrorist recruitment efforts when visibility would have jeopardized participants' safety and the project's success.[21] Identifying these choices and allocating the necessary resources to support them will require frank civil-military discussions about the advantages and disadvantages of the visual impact of military forces on civilian missions and local perceptions.

• Strategists should not underestimate the impact of civilian-adapted technologies on strategic failure or success. Miscalculations about the role that expensive sophisticated weapons and related technology play in achieving success are reflected in diminishing security returns from long wars in Afghanistan and Iraq. Lack of funding proved to be no obstacle to civilians who easily adapted expensive defense technologies for both "good" and "bad" intentions. Over the past ten years, drones have evolved; these military battlefield weapons today are used by growing numbers of global "digital humanitarians" to help identify damage or locate survivors in crises and disasters.[22] Human rights groups use satellites and drones to monitor human rights abuses and track movements of insurgents who threaten local communities. Civilians use robots to locate and rescue international and local victims. WeRobotics trains local partners on responsible use of robotics technology to accelerate and reinforce local aid, health, development and environmental projects.[23] Tech-savvy insurgents are equally adept at hacking into highly funded military security systems and exploiting robotic technologies they can arm and deploy with

violent intentions.[24] Civilian use of social media and other digital platforms amplifies growing civilian ability to undermine or support military strategic goals in unstable environments. Strategies that value and leverage low-cost technological contributions by civilian organizations, such as PeaceTech Lab and similar well-intentioned initiatives, will increase their options for achieving strategic goals.[25]

• The strategic process is often made difficult by external political, social, and economic challenges. Planning effective strategies for unpredictable environments will require strategists to focus beyond contemporary distractions to a future where some or none of these external influences will matter. Civilian and military strategists will need to build mutual trust so they can conduct frank conversations and sharpen their focus to accurately identify realistic ends, ways, means, and assessment of risks then develop effective responses for unpredictable and dangerous environments.

Conclusion

This chapter has discussed how military strategists are being asked to reevaluate traditional approaches that focus too narrowly on the use of force. Traditional measures of military capability such as force personnel and weapons that were useful for gaining important short-term advantages tend to become less effective or counterproductive over time. One reason is the changing dynamics of civilian-led or bottom-up power. These relationships influence national and regional systems and shape varying responses to coercive force.[26] As complex threats become increasingly unpredictable, military strategists will need to accurately identify the limitations of military capabilities and resilience; they will need to rely on a range of civilian resources to achieve strategic success.[27] Accomplishing this will require building greater strategic civil-military trust.

Integrating civilian-led approaches into military strategic plans will help military forces achieve strategic objectives in two ways. First, international civilian organizations are more likely to develop a rapport with civilian populations. This will increase local citizen input and reflect changing relationships of power. They are also more likely to sync with civilian nonviolent resistance movements to undermine common adversaries while simultaneously supporting legitimate governance, social reforms, and peacebuilding processes.[28] Second, relying on civilian organizational partners will lessen the pressure on military capabilities. This allows military forces to refocus on attainable goals and achieving objectives with fewer force personnel, also allowing earlier withdrawal of troops and weapons

while increasing flexibility for rapid redeployment in response to expected and unanticipated threats. By involving civilian political, diplomatic, economic, and informational assets in planning, military strategists will use one of their greatest strategic advantages to reshape global patterns in favor of the United States.[29]

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Chapter 18
Transformational Technology and Strategy

Miah Hammond-Errey

In a world deluged by irrelevant information, clarity is power.[1]
—Y. N. Harari

The future of big data and national security lies in humans' ability to embrace the power and mitigate the limits of algorithms.[2]
—D. Van Puyvelde

Ongoing technological evolution—and its associated social, psychological, and organizational impacts on human society—is significantly affecting the development and application of military strategy. The speed and nature of technological change has impacted how we store, interpret, analyze, and communicate information in society as well as how we access services and develop and maintain trust.[3] Within the last twenty years, big data has emerged and become a ubiquitous feature within commercial and social enterprise.[4] The subsequent information explosion is accelerating exponentially amid suggestions that we are entering a new "industrial" revolution.[5] The combination of big data and digitization with constant connectivity and the rise of artificial intelligence contribute to what has become known as the fourth industrial revolution—or cyber-physical systems.[6] Despite the substantial investment and sustained interest in technological advancement by military forces, there is a limited, slowly growing body of research exploring the current and potential impact of big data in the national security and military strategy environments.

Despite a nascent understanding of the cultural and psychosocial implications of these technological changes, commercial and other imperatives impel their use. The accelerated pace of technological growth and widespread adoption are outstripping consideration by humanity writ large, including military strategists. This chapter addresses the unprecedented global shift to digitization, constant connectivity, big data analytics, and automation, and articulates what it might mean for military strategists and national security decision-makers. It briefly covers the relevant evolution of warfare and military strategy, followed by a necessary exploration of the technologies themselves. Then the chapter offers a brief assessment of some implications for military strategy, which while potentially profound are as yet, not fully understood. Finally, it raises some prescient issues and asks some key questions to guide future strategists.

Military Strategy and the Evolution of Warfare

The character of war is not static; it changes alongside societal and technological evolutions. Often military advances are the precursors and frontrunners for major societal changes. Constant change is part of the enduring nature of military competition. Warfare and war fighters constantly evolve. This evolution of warfare has included a shift from interstate to intrastate (and non-state) conflict since the end of World War II. The era of great power wars over territorial sovereignty largely gave way to a diplomatic and military tug of war between superpowers, with a notional equilibrium based on alliances, and the mutually assured threat of nuclear power and weapons of mass destruction. Since the end of the Cold War, however, the trend has been increasingly toward emergent or "non-traditional" threats to security, as challenges have expanded from a global power structure defined by bipolarity.[7] Contemporary notions of national security and warfare include emergent threats to nation-state security: terrorism, insurgency, and guerrilla warfare as well as hybrid, grey zone, and information warfare. Such non-traditional threats have become much more prominent in terms of both frequency and intensity, although of course the potential for interstate war still exists.[8]

The character and environment of warfare has evolved, but this is just one aspect of the changing role of technology in warfare.[9] Greg Allen and Taniel Chan argued that the volume of information, big data, constant connectedness, and artificial intelligence is transformative to national security on a par with nuclear weapons, aircraft, computers, and biotech.[10] Though these technologies will be covered in this chapter, it will not provide an exhaustive list of potential military strategy futures arising from emergent technologies, but rather a list of possible implications worth considering. As Professor Sir Michael Howard warned, "No matter how clearly one thinks, it is impossible to anticipate precisely the character of future conflict. The key is to not be so far off the mark that it becomes impossible to adjust once that character is revealed."[11] Therefore, an assessment of these implications is a worthwhile contribution.

While there is a range of available theories on military strategy, many covered in the previous chapters, the primary one referred to here was articulated by Arthur F. Lykke and others at the US Army War College.[12] It gained widespread global acceptance and largely focuses on the employment of instruments of national power—including the military—in the pursuit of political objectives. For Lykke, strategy is managing the risk inherent in military operations through a balance of ends, ways, and

means.[13] This theory of military strategy draws on the foundation conceived by Carl von Clausewitz, where "strategy forms the plan of war and gives aim to the whole military action."[14] Lykke saw strategy within a comprehensive continuum that encompassed the entire political environment, but understood that strategy had to be practical enough to enable a strategist to act toward achievement of the political goals involved.

The application of military strategy—or model of decision-making and adaptive cognitive processes—relied on in this analysis is John Boyd's Observation-Orientation-Decision-Action (OODA) Loop, discussed in detail by Ryan Kort in Chapter 6 on contemporary strategic theories.[15] The OODA Loop is an analytical tool to deal with our environment as well as a strategic theory of how to do so. The model, developed in a tactical setting, proposes four key actions: observe, orient, decide, and act (with varying levels of complexity and feedback loops within). It is simple, elegant, and comprehensive, and is able to describe, explain, and predict. The applications and processes of developing military strategy (and understanding the operating environment) are significant in this context because some technologies are already altering historical and existing approaches. Examples of this are Russian manipulation of public opinion for militarily advantage in relation to Ukraine and the increased vulnerabilities of mass manipulation at an unprecedented scale.

The Information Age and the Fourth Industrial Revolution

The Information Age continues to provide an ever-expanding quantity and variety of data that underpins many of the technologies impacting national security and defense.[16] Even though we instinctively know there is a lot of data out there, the extent is astounding. According to IBM, 2.5 exabytes (or 2.5 billion gigabytes) of data were created every day in 2012.[17] Data are growing at such a rate that 90 percent of the data on the internet has been created since 2016.[18] It has been projected that by 2020, there will be as many bits in the digital universe as stars in the physical universe; this digital universe is forecast to double in size every two years.[19] So it will likely reach 44 zettabytes, or 44 trillion gigabytes in 2020.[20] Another estimate suggests the global datasphere—summation of data we create, capture, or replicate—will grow to 175 zettabytes by 2025.[21] As increasingly vast amounts of data are captured from and about humans, machines, and the natural environment, the temptation to analyze these data grows.[22]

Big data then emerges as a technological phenomenon with potentially massive transformative social impact. The concept developed in the early

2000s as a descriptor to an information management issue of large volumes of different types of data being generated very quickly, although earlier references to the term do appear.[23] The term big data is one of many attempts to "quantify the growth rate in the volume of data or what has popularly been known as the 'information explosion.'"[24] It was conceptually intended to encapsulate what has been described as "the explosion in the quantity (and sometimes, quality) of available and potentially relevant data; largely the result of recent and unprecedented advancements in data recording and storage technology."[25] Big data is an amorphous and contested concept that is used to refer to large, diverse, growing, and changing datasets.[26] Since it emerged, the term big data has evolved from key components such as volume, velocity, variety, and breadth—or scope—of data to include value derived from the understanding of it (data sets) as a whole and by drawing insight using new analytical techniques.[27] The unprecedented volume and size of data sets that are unable to be manually processed precipitated analytical solutions to analyze data and derive insight, expanding the term big data from referring solely to the storage of data.[28] Importantly, big data "is less about data that is big than it is about a capacity to search, aggregate, and cross-reference large data sets."[29] It is this ability to use the data for some type of decision or action that characterizes its value."[30]

The increasing interconnectedness of our systems and our infrastructure—including our reliance on them—is a transformative and unprecedented evolution. In October 2018, more than 5.1 of 7.5 billion people (67 percent) of the global population were using a mobile phone, with the majority being smartphones.[31] And the world's internet population grew to just more than 4 billion users in 2018, representing half of the global population.[32] While estimates regarding the number of devices connected to the internet vary widely, there is consensus that in 2014, this number overtook the global population and there were more than 7 billion connected devices. That number is forecast to rise to between 20 and 75 billion by 2020.[33] This connectedness enables greater access to services enhanced by information transmission capabilities—including mobile and fixed internet speed. While allowing us to create, store, access, and share ever-increasing volumes of data with ease and speed at increasingly low cost, it also dramatically changes the information environment—increasing vulnerability to information and cyber warfare.

Technologies like artificial intelligence, automation, and machine learning drive the value component of big data. There are many different understandings of the terms artificial intelligence, machine learning, automation, and augmentation, and there can be varying levels of automation

within the same system, depending on the task.[34] Indeed, they are a constellation of technologies.[35] Advances in technology are enabling higher levels of automation in military systems, especially in backend systems, and have been presented as having significant potential for national security.[36] A United Kingdom (UK) parliamentary report on autonomous systems and capabilities—not necessarily in existence in the country but necessary for their military—identified three categories (with some overlap between them): remotely operated, semi-autonomous or automated, and fully autonomous.[37] At the time of writing this chapter, there were no publicly disclosed fully autonomous military kinetic systems in use, but military systems had an increasing range of automated functions within each of the main military domains.[38] In the United States, official policy mandated that humans make the final decisions regarding the use of lethal force, even by otherwise autonomous weapon systems.[39]

Both existing and potential future applications of technology and data are key to the future of national security and military operations.[40] To date, the move toward greater autonomy has led to removing the pilot or driver from a military vehicle to create unmanned vehicles, of which aerial are the most common.[41] Other examples include the application of machine learning technology to enable high degrees of automation in labor-intensive monitoring and analysis activities such as satellite imagery analysis and cyber defense.[42] Strategists will need to be familiar with automation and emerging technology trends, as they will continue to drive the size and makeup of military forces, friendly and adversarial, as well as affect future military decision-making.

Military Strategy and the Fourth Industrial Revolution

The meaning of the fourth industrial revolution for military strategy is still largely unknown and continues to unfold. Researchers have considered aspects of these phenomena within national security contexts such as the volume of information and big data, artificial intelligence, and automation. However, the technologies—and their applications—are constantly changing, and their impacts are uncertain. The potential significance for military strategy is, therefore, very broad. To begin to address some of the most salient issues, a handful of key vulnerabilities and challenges are highlighted below, followed by a range of questions that may help practitioners work through them.

First, the sheer volume of "noise" and the increasing velocity of expanding large repositories of information pose a significant challenge for decision-making. Even harnessing technological solutions, models such

as the OODA Loop are challenged in the environmental understanding and situational phases (observation and orientation) which have potential ramifications for decision-making and action. Technology enables tactical actions to advance a strategy, but technology cannot replace tactics.[43]

Second, the constant connectedness of humans and devices makes us more vulnerable across systems with a greater number of weak points and has implications for military security and strategy. Examples of the kind of challenges here are largely in relation to increased security concerns, especially encryption for command and control and vulnerabilities and threats to direction-finding systems, but also in relation to networks which deal with increased data sensors and mass data collection from devices (from robotic vacuum cleaners to fitness trackers to unmanned aerial vehicles). However, this increased interconnectedness (and reliance) is occurring at a time when there is also little government regulation, oversight, or control of these technologies due to speed of growth. This is resulting in a diminished ability to identify and implement specific effects, as well as understand second- and third-order effects. The command and control components are especially relevant where militaries require autonomous entities to connect back to a human in the loop for use of lethal force.[44]

Third, the uncertainty around potential futures arising from transformational technologies in the national security community results in a need for military strategists and decision-makers to improve their knowledge of the entire national security community. Claudia Aradau and Tobias Blanke commented:

> The digital age does not mean that decisions are simply transferred from humans to computers and algorithms. We are only beginning to understand the transformation of intelligence agencies, military and security organizations, into Big Data (and information age) capable organizations.[45]

It is clear that those responsible for assessing and mitigating threats proportional to the harm they pose a nation will need a greater understanding of the nation-state apparatus as a whole, especially when trying to understand second- and third-order effects.

The implications of technological transformation for military leaders are profound. These implications will almost certainly continue changing given that a valid military strategy must find a balance among ends, ways, and means consistent with the risk a nation is willing to accept.[46] This is likely while nation-states continue to grapple with shifting conceptual-

izations of privacy, risk, and governmental roles as well as the constant evolution of the technologies themselves.

In a pragmatic sense, perhaps the most obvious challenges are to manage massive volumes of information and understand the context quickly enough to make sense of it and inform decisions. However, there are also a range of significantly more complex issues facing military strategists and leaders today and into the future. Given the vast array of technologies and their potentially infinite applications and environments, perhaps the most useful way to end this chapter is to offer some key questions to help you embrace technology and achieve your mission while understanding the risks before you:

• What does it mean to be human in the fourth industrial revolution in terms that best inform military strategy?

• What aspects of human decision-making in a military strategy context can be automated?

• Is the technology being proposed the best for the task at hand? Are we asking the right questions of the technology and data? Do we understand the technology and the data used to develop it?

• Is transparency essential? Do you need to implement a system that can explain a process, conclusion, or decision suggestion?

• What kind of principles will guide or inform automated decision-making support mechanisms or assistance?

• How will the military address societal and community concern around the ethics of using big data, automation, and artificial intelligence?

• How can we empower military members to question the results of automation?

• How can military members understand potential bias in data and systems? How can military forces build in processes for constant refinement and reflection?

• How will military forces understand and maintain social contracts with the citizens they protect?

Questions such as these provide a foundation for assessing the impacts of new technologies and processes on strategy, as well as support their best use by militaries and strategists. While some of these technologies and concepts can at times seem like science fiction in our current world, the speed and pace of technological change will increasingly drive changes to

the character of warfare, as well as transforming how military forces and leaders make decisions and develop strategies. Society is relying on the next generation of military strategists and national security decision-makers to understand and appreciate these technologies. It is incumbent on all of us to explore how best to use them to sustain national security in keeping with our national values, norms, and ethics.

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Chapter 19
Future War and Competition: Strategy for an Age of Acceleration

Mick Ryan

> *We're entering an age of acceleration*.[1]
>
> —Ray Kurzweil and Chris Meyer

> *The utterly unprecedented rate of change that has marked the weapons revolution since the coming of the first atomic bomb has moved much too fast to be fully comprehended even by the most agile and fully informed minds among us*.[2]
>
> —Bernard Brodie

In his "little blue book" on the future of strategy, Colin Gray wrote that the "endlessly binary nature of change and continuity that is our history means that the most enduring function of strategy is management of potentially lethal dangers."[3] These words offer useful advice for aspiring strategists and those with deep experience in the field. It neatly wraps up the arguments across the various chapters of this book about why strategy matters, while also projecting into our collective future about its enduring consequence.

Gray's influence on generations of scholars and practitioners of the art of strategy provides a solid theoretical basis for developing the strategies that will guide nations through the opportunities and perils of the twenty-first century. So, too, will the classics from Clausewitz and Sun Tzu, as well as the contemporary works of Strachan, Heuser, Payne, Brands, and others complement and strengthen our theoretical understandings of strategy and its applications.[4] But to understand the environment in which this theory will be applied, we might also study a strategist of a different kind—Ray Kurzweil.

Ray Kurzweil wrote in 2003 that we are in an "era of acceleration."[5] Kurzweil was ahead of his time in anticipating how the pace of change, particularly in technology, was accelerating. This has been obvious to some in the world of technology for some time, particularly the adherents of Moore's Law.[6] In the past decade, however, the full spectrum of accelerating changes across the fields of technology, geopolitics, demographics, and military endeavors—and the impact of their convergence—has become more evident across government, academia, business, and the wider community.

Strategy for an Age of Acceleration

The contemporary changes apparent in the fields of technology are not without historical precedent. The first Industrial Revolution resulted in the development and proliferation of technology on an unprecedented scale.[7] Several decades later, another industrial revolution followed (the late 1800s into early 1900s), which resulted in motorcars, airplanes, wireless communications, assembly lines, and widespread electrification. Vaclav Smil characterized this second revolution as the "greatest technical discontinuity in history."[8] Finally, the last three decades of the twentieth century have been described as a Digital Revolution. During this time, humans left planet earth for the first time in spaceships and also developed and massively expanded affordable computing and connectivity.

What distinguishes the current era from its predecessors is the pace of change. This acceleration was a key finding in the 2017 US National Intelligence Council report on global trends.[9] The National Intelligence Council noted, "Artificial intelligence and robotics have the potential to increase the pace of technological change beyond any past experience, and . . . may be outpacing the ability of economies, societies, and individuals to adapt."[10] The world has shifted into an era of rapid and often disorienting change.

The pace of change in technology is examined in a range of publications. Richard Baldwin recently noted, "Transformative technology is as old as the sundial."[11] There are many examples that illustrate this point, but two stand out. One is the popular Apple iPhone. The 2015 iPhone 6S could process information about 120 million times faster than the large NASA mainframe computer that supported the 1969 journey of the Apollo 11 astronauts to the moon. Two years after the iPhone S6 was developed, the new iPhone X more than doubled its processing speed. This processing improvement was twice that of the previous forty-six years.[12] The other example is rapid advances in DNA sequencing. The cost of the first human genome sequence completed in June 2000 was $300 million; by 2003, this cost had halved, and it dropped to $14 million in 2006, $4,000 in 2015, and approximately $1,000 in 2019.[13] This accelerating capacity for genome sequencing even has its own name: Carlson's Curve.[14]

Areas such as urbanization are also rapidly changing. The mass shift of people into the world's urban areas has accelerated over the last four decades.[15] The share of the global population living in urban areas increased from one third in 1960 to 47 percent (2.8 billion people) in 1999.[16] Be-

tween 1960 and 1980, the world's urban population grew by 5.5 percent increase then increased by 7.4 percent over the next twenty years and was expected to increase by 9.5 percent from 2000 to 2020.[17]

Accelerating change is not restricted to the technological disciplines. There is also apparent acceleration in military endeavors. Over the past two decades, most contemporary leaders have witnessed profound changes in the pace at which they must undertake operations and increasing speed to adapt between mission sets. In 2017, General Joe Dunford, the US chairman of the joint chiefs, noted that "the accelerated speed of war ensures the ability to recover from early missteps is greatly reduced."[18]

The accelerating pace of change has already impacted societies across the world, as older linear models of change are challenged.[19] Changes in technology have enabled the rapid economic growth in many nations. China has been a particular beneficiary, rapidly re-emerging as a global economic and geopolitical power. Significant changes in demographics has created acceleration in urbanization, an increased industrialization in modern economies, and shifted birth rates of countries downward.[20] It is an environment where potential frictions can emerge with little notice, and the pace of change can lead to multiple, interacting challenges and conflicts. Lawrence Freedman wrote, "Strategy comes into play where there is actual or potential conflict, when interests collide, and forms of resolution are required. Strategy is required when others might frustrate one's plans because they have different and possibly opposing interests."[21] More than ever, this is an environment where strategy is essential to anticipate, stave off, minimize, or conclude conflict.

Therefore, this chapter proposes four elements that will underpin the future of strategy:

• Strategy is still needed to underpin national approaches to evolving geopolitical, technological, and demographic challenges.

• Regarding strategy development and implementation, there is a need for continued integration in all elements of power in national security strategies.

• Working on the premise that great strategists won't just emerge, we need to evolve education and talent management systems to build more creative and adaptive strategists.

• Future strategy development and execution will no longer just be produced via biological intelligence; there will be an increasing applica-

tion of artificial intelligence in developing, testing, implementing, and adapting strategy.

Strategy Is Still Needed

Sir Michael Howard wrote: "Archaeological, anthropological, as well as surviving documentary evidence indicates that war, armed conflict between organized political groups, has been the universal norm in human history."[22] In his study of war across several millennia, *War in Human Civilisation*, Azar Gat noted, "The solution to the enigma of war is that no enigma exists. Violent competition is the rule throughout nature. Humans are no exception to this pattern."[23] War is most likely to remain a human endeavor, albeit continually evolving due to the impacts of new technologies, different warfighting ideas, and geopolitics. Strategy will still matter in this future.

Colin Gray wrote, "There is no final solution to the challenge posed by strategic requirements and occasional dilemmas. The future of strategy has to be seen as nesting in a great and hopefully unending stream of time."[24] If strategy remains the "rational determination of a nation's vital interests, the things that are essential to its security, its fundamental purposes in its relations with other nations, and its priorities with respect to goals," it will retain a central relevance to national and military leaders.[25] This is regardless of the pace or type of changes in geopolitics, technology, demographics, or even climate.

Indeed, increased pace of change in the environment only reinforces the necessity for the shared understanding of purpose that is provided by strategy. But strategy will probably need to be nimbler if it is to retain relevance to national leaders. Regardless of industry, the generation of a competitive advantage in this era of accelerations is becoming more difficult. When an advantage is generated, it is likely to be more temporary than in the past. Rita McGrath wrote that we now exist in an era of "transient advantage," and that successful institutions must "spark continuous change."[26] Nations must be able harness all elements of their national power. In this, strategy is essential.

To retain relevance and remain at the forefront of best practice, strategy will need enhanced mechanisms for environmental scanning and adaptation. National security practitioners, and military leaders, must remain at the forefront of understanding the various elements of change and continuity in their environment. Strategy in the future must also be founded on engagement between like-minded military institutions and continue to

evolve and embrace a greater sharing of ideas. There is a wide array of ideas in the realm of military endeavors and in strategy. Generating diverse strategic options within an ongoing strategic dialogue between agencies, industries, and nations will be critical to sustaining a strategic edge in the twenty-first century. As Peter Schwartz noted in *The Art of the Long View*, "Resilient companies continually hold strategic conversations about the future."[27] Key to this diversity will be enhanced sharing of information and greater integration in strategic development and execution.

Strategy Must Be More Integrated

A contemporary trend is that many nations are adopting more integrated cross-government approaches to national security affairs. The Australian Army's 2014 *Future Land Warfare Report* noted the increasingly "collective environment."[28] Over the past two decades, the trend toward more joint, interagency, and multilateral approaches has been adopted by more nations and has expanded military capacity and capability to deal with a broadened array of military and non-state actors. The last two decades have seen a deepening of relationships among the different military services and civilian institutions related to national security across several nations.

Integrated military, governmental department, and industry activities requires high levels of trust and extraordinarily competent collective planning to achieve national purpose. The continued development of more integrated approaches to strategy development and implementation is given additional impetus by the strong likelihood of states in the future seeking advantage first and foremost in non-military areas of power. These include economic and technological paths to national competitive advantage but also tools of influence, coercion, and power.[29] These are at the forefront of contemporary Russian and Chinese strategies.[30]

Democracies are naturally susceptible to Russian and Chinese approaches that exploit seams within national governments, ethnic groups, and between governments and other elements of society. The West has suffered a lack of strategic coherence over the past two decades. The strategic goals of the West in countering authoritarian states have been generalized, while national leaderships have been distracted by counterinsurgency campaigns and internal politics, and the publics of the United States and other Western allies have been resistant to new foreign involvements.[31]

Russian and Chinese approaches also exploit the different mindsets, systems, and structures between nations such as the United States and its close allies. As Ross Babbage noted, "The defense and security systems

of most Western and partner states are optimized for peacetime diplomacy and occasional deployment to conduct intense conventional warfare. Western electorates are fearful of triggering confrontation and the escalation of an argument."[32] This allowed both Russian and Chinese strategists to apply a wide range of civilian, paramilitary, and military instruments to achieve their own strategic objectives beneath the threshold of violent conflict with the West.

The only way to address this challenge is for nations to develop more integrated, whole-of-nation strategies to apply all elements of their national resources. And these national approaches must be aligned within a more integrated Western alliance strategy to challenge the adventurism and advances of twenty-first century techno-authoritarian states. It will demand a modification of existing bureaucratic structures, a different approach to risk, building an enhanced range of political warfare instruments, leadership, and development of effective and inclusive strategies.[33] Whether the challenge is systems destruction warfare, hybrid war, strategies of limited action, or some future version of these approaches, a more integrated approach will be a key element of future strategy.[34]

We Need to Build a Better Strategist

A landmark 1989 report on joint professional military education by the United States Congress noted: "Well-educated military officers who can think strategically have an important contribution to make to the development of strategy."[35] The development of future strategists not only rounds out the intellectual capacity of an individual, but also provides an institutional and national asset: someone who can develop better approaches to the strategic challenges faced by military organizations and nation states in the coming decades.

In a recent speech, Emily Goldman noted that given the proliferation of cyber activities and political warfare, "The strategic space below the threshold of war is as strategically consequential as that above the threshold."[36] In developing strategy that spans the competition and conflict spectrum, Western notions of separate peace and war constructs—which have dominated the last three decades—are no longer relevant. Compounding the challenge, the primary strategic competitor for the United States—China—is also competing economically. China applies huge resourcing to the competition in a way the USSR never could and invests in technologies, all of which might quickly change the balance of power.

In this environment, spending the way out of a strategic problem is not possible. While seeking an edge in size, geographic position, and technology still remain highly desirable, an edge in superior thinking will be essential.[37] History, particularly Cold War history, provides a guide for strategists. But ideas such as containment and end states are unlikely to provide an intellectual foundation for the next several decades of competition.[38] Future strategies where we seek success not just survival, therefore, will depend on more creative, lateral thinking by strategic planners and leaders.[39] This will demand enhancements in education and talent management.

The capacity for strategic thinking—and its ongoing development—is especially compelling given that the complex problem of running military operations is "liable to occupy the skills and minds of senior commanders so completely that it is easy to forget what it is being run for."[40] Williamson Murray and Andrew Millet noted that the capacity for effective strategic thought is even more important than tactical or operational competence. They stressed the importance of getting strategy right, and its underpinning strategic education, when they stated: "It is more important to make correct decisions at the political and strategic level than it is at the operational or tactical level. Mistakes in operations and tactics can be corrected, but political and strategic mistakes live forever."[41]

What are the skills required for future strategists? They will need to design, influence, and implement national and military strategy holistically as well as orchestrate all instruments of national power in a coherent plan to achieve national objectives in peace, crisis, and war. They must also design and maintain operationally effective military forces, ensuring that their organizations are capable of aligning current and future operational concepts and decisions with available technologies.[42]

Education for strategists must include formal opportunities as well as disciplined self-study and embrace history, international relations, political science, economics, advanced technology, and organizational theory. Understanding the relationship between these disciplines is central to the development of strategists and future national security leaders.[43] It underpins their capacity to develop military strategy that aligns with national security policy, while also coordinating the military means with other aspects of national power.

Two other capabilities of these are also worth highlighting. First, noting the increasing pace of change in the environment, the capacity to better

understand a changing environment, appreciate the capacity of the military institution to adapt, and then lead that change will be a critical future skill set. Most important will be the ability to deal with change, learn new things, and preserve mental balance in unfamiliar situations.[44] This will not be a once-in-a-career event, or an annual one. The future strategist will exist in a milieu where change and institutional evolution must occur at a pace not seen before in military history. Understanding key concepts in institutional culture and organizational adaptation must be an important part of their professional development.

Second, the future strategist must possess a vastly improved technological literacy because the future strategist is likely to work within a human-machine framework that incorporates strategic decision-support by artificial intelligence.[45] Future strategists must appreciate not only the challenges and opportunities of employing these technologies, but also ensure that there are quality control mechanisms around decision-support provided by artificial intelligence. This must be complemented by an understanding of the ethics of advanced technology, as well as how advanced technologies will necessitate development of new operating concepts and organizations. As Andrew Marshall described in 1993, "The most important competition is not the technological competition. The most important goal is to be the best in the intellectual task of finding the most appropriate innovations in the concepts of operation and making organizational changes to exploit technologies."[46]

Yuval Harari wrote, "Just as in the twentieth century governments established massive education systems for young people, in the twenty-first century they will need to establish massive re-education systems for adults."[47] Future strategists will need systems that provide continuous education and rapid re-education as technology and strategic circumstances change. Murray and Millet determined that military leaders were better able to lead and invest in innovative new ideas and technologies when they had undertaken continuous learning throughout their careers.[48] Continuous education for strategists is driven by rapid change but there is historical evidence for its effectiveness.

Continuous education might also be complemented with earlier selection of potential strategists, new talent management, and enhanced career management for the most creative and talented strategists.[49] If this evolved approach is to thrive, elite military thinkers must be celebrated and nurtured.[50]

Human-Artificial Intelligence Teams Will Drive Future Strategy Development and Execution

Building an intellectual edge for future strategists demands an understanding of the key task involved.[51] It is, as Gray wrote, to build people who are "'right enough' to enable us to survive the perils of today, ready—and possibly able—to cope strategically with the crises of tomorrow."[52] The accelerating pace of change is rapidly changing the means that nations and military institutions might apply to achieve their national objectives, and how they strategize. In this environment, it is unlikely that any individual can be fully aware of the amount of change occurring. The world is changing at an inhuman speed.[53] Consequently, it is unlikely that human-only approaches to strategy development will suffice in the future.

Enhancing biological cognition with silicon-based intelligence—AI (artificial intelligence)—may offer military institutions and the nations they serve a pathway to an enhanced advantage in the twenty-first century.[54] This AI support will augment the creative and contextual abilities of humans; it does not replace it. A recent article by Frank Hoffman proposed, "A human's *coup d'oeil* might be augmented by a data-fused *cyber d'oeil* that supports human decision-making."[55]

Nations such as the United States and China are rapidly expanding AI investment. China in particular is investing heavily, with a stated goal to lead the world in artificial intelligence theory, technology, and application by 2030.[56] The United States has a competing approach, called the American AI Initiative, launched in February 2019, which is supported by a Department of Defense AI Strategy.[57] Both the Chinese and US approaches have enhanced decision-making as an area of focus.[58] This is likely to be an increasingly fundamental approach to master if humans are to retain a full measure of decision authority in an environment of rapidly increasing tempo in military operations. It will underpin future strategy-making. The only variables are who will master this first, and when it will occur.

Much current literature about the military application of artificial intelligence is focused on battlefield applications. As Kenneth Payne wrote, "Insights about tactical AI are hugely far-reaching for strategy. Marginal advances in AI performance, especially in the speed of decision-making, are likely to be decisive and render legacy systems redundant."[59] But more thinking about how AI can support strategy development is needed. Notwithstanding this current limited understanding of how strategy might be

improved with AI, initial steps might be taken into this new world that could improve basic cognitive functions for strategists. These are in the areas of enhanced memory, attention and search, comprehension and expression, planning and executing activities, and learning.[60]

AI might be able to play an important role as a retained corporate knowledge to underpin strategy development, particularly in institutions with regular turnover of personnel. This will be important where the implementation of strategies over long periods of time is necessary. AI may provide an enhanced memory function to assist with previous examples of friendly and adversary strategies to assist in planning and adaptation, as well as support optimal strategies for technology development and resource use in national and military activities. Purpose-designed and strategically-oriented AI may also be early key indicators of changes in the broader strategic environment to future strategists. This may incorporate the activities of competitors and adversaries but could also signal breakthroughs in disruptive technologies, new strategic concepts, and other resources applied to military operations. Such AI might also underpin other strategic functions such as management, logistics, monitoring, and problem-alerts and potentially uncover "unknown unknowns"—unseen threats.[61]

The use of AI could assist in better understanding the linkages in a competitor's political warfare activities. Conversely, AI may assist in measuring the progress, and recommending improvements, in friendly influence activities. AI may also be used to ensure that different elements of a national security enterprise—across governments, industry, academia, and society—might improve understanding of each's motivations and priorities.

Intelligent decision-support tools for strategists to develop a diverse array of options for dealing with strategic dilemmas might be developed. Additionally, informed and connected decision support for the range of strategic enterprise functions—personnel management, logistics, base management, and maintenance to name a few—might be an important set of design drivers for AI.

AI-driven intelligent tutoring systems may provide simulated one-on-one human tutoring.[62] Future strategists might also benefit from an AI "lifelong learning partner" that accompanies them through their career.[63] Sophisticated tools using AI, including advanced simulations, might hone the cognitive skills of senior military leaders and national security professionals. By linking human resource databases, doctrinal libraries, lessons learned databases, and curriculum designs, AI may identify gaps in the learning experience of strategists.

The complexity of national security endeavors in the twenty-first century highlights the importance of military institutions identifying talent and achieving the full capacity of their strategists. It does not require organizations to replace human decision-makers with machines; this is not likely to be possible at least in the next several decades. But human planners and decision-makers must be augmented to accelerate some human cognitive functions with the extant AI.[64] It may provide military and national security organizations with a compelling advantage in a rapidly changing and ambiguous strategic environment.

Conclusion

> *We know from the study of military history how fallible man is in matters concerning war and how difficult it has been to adjust to new weapons. Almost always in the past there was time even after hostilities began for the significance of technological changes to be learned and appreciated. Such time will not again be available in any unrestricted war of the future*.[65]
>
> —Bernard Brodie

John Lewis Gaddis noted in *On Grand Strategy*: "The necessity for alignment goes back to the first pre-human who probably figured out how to get something it wanted using whatever means happened to be available. The need for alignment, and hence for strategy, has always arisen."[66] Alignment, within nations and between them, will be vital for future strategy in a changed global security environment.

This future strategy must deal with future threats that the application of technology and mass alone will not solve. It demands strategies that better integrate all aspects of national (and alliance) power. It requires nations to better educate and prepare those who will design and implement strategy. And it means that human-only strategy is probably at an end; augmentation with artificial intelligence will undoubtedly underpin all future strategies.

As Barry Watts wrote: "In the end, strategies are guesses about how the unpredictable future will unfold after the strategist has chosen and implemented a given course of action to address a major problem."[67] No strategy is perfect. Strategy making will always possess human bias and flaws, even if its development is supported by artificial intelligence. But it remains the superior method for states to deal with conflict and prioritize national resources, to build a bridge between purpose and action.[68] Only through evolving our approach to future strategy—with faster, bet-

ter thinking and adapting more quickly—will Western nations retain their capacity to secure national interests and retain their national sovereignty.

Further Reading

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Notes

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3. Colin S. Gray, *The Future of Strategy* (Cambridge: Polity Press, 2015), 117.

4. See Hew Strachan, "Strategy in Theory; Strategy in Practice," *Journal of Strategic Studies* 42 (2019); Hew Strachan, *The Changing Direction of War: Contemporary Strategy in Historical Perspective* (Cambridge: Cambridge University Press, 2013); Beatrice Heuser, *The Evolution of Strategy: Thinking War from Antiquity to the Present* (Cambridge: Cambridge University Press, 2010); Kenneth Payne, *Strategy, Evolution and War: From Apes to Artificial Intelligence* (Washington, DC: Georgetown University Press, 2018); and Hal Brands, *What Good Is Grand Strategy?* (Ithaca, NY: Cornell University Press, 2014).

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50. Ryan, *An Australian Intellectual Edge for Conflict and Competition in the 21st Century*.

51. The intellectual edge for an individual is the capacity for that person to creatively out-think and out-plan potential adversaries. It is founded on the broadest array of training, education, and experience that can be provided by institutions, as well as a personal dedication to continuous self-learning over a long period of time. Increasingly, this intellectual edge for an individual will be underpinned by cognitive support through human-artificial intelligence teaming. Ryan, 4.

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