CHAPTER 1

Introduction: The Impact of Culture, Society, Institutions, and International Forces on Military Effectiveness

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WHY ARE SOME STATES, at some times, better able to translate their basic material and human strengths into fighting power? Why are some militaries able to make the most of their limited resources on the battlefield, whereas others perform poorly despite significant material advantages? These questions are the central themes of this volume. The study explores why states vary in their military effectiveness. It seeks to explain how states organize and prepare for war and ultimately create military power.

This book's overarching argument is that states' military effectiveness often depends on the global environment and the particularities of their political cultures, social structures, and institutions. The creation of military power only partially depends on states' material and human resources. Wealth, technology, and human capital certainly matter for states' ability to create military power. Equally important, however, are how a state uses those resources.

Cultural and societal factors, political institutions, and pressure from the international arena all shape how a state uses its resources. They constitute the environment in which a state's military activities take place: for example, they influence how patterns and routines emerge and evolve for strategic and operational planning, selection of leaders, procurement of weapons, training of soldiers, and creation of doctrine. By influencing these activities, a state's society and its international environment affect how well it uses its material and human resources in the process of organizing and preparing for war and therefore its ability to create military power.

This book examines these social and political forces in an effort to understand the sources of states' military effectiveness. Each of the following

seven chapters examines a different potential "cause" of effectiveness. These include the impact of nationalist sentiments, ethnic divisions, civil-military relations, domestic political institutions, and the international pressures induced by interstate competition, international organizations, and global norms. Chapter 9 assesses the implications of effectiveness for outcomes in war.

Here I introduce the common framework that provides the analytical infrastructure for each of these individual chapters. Specifically, in assessing military effectiveness we are interested in the degree to which a military exhibits four central attributes: *integration*, or the ability to ensure consistency in military activity, create synergies within and across levels of military activity, and avoid counterproductive actions; *responsiveness*, which is the degree to which a state accommodates both internal and external constraints and opportunities in preparing itself for armed conflict; *skill*, including the capacity to ensure that military personnel are motivated and prepared to execute tasks on the battlefield; and *quality*, or the capacity of the state to supply itself with essential weapons and equipment. The more a military exhibits these attributes, the more capable it is at generating military power.

Before presenting this framework in greater detail, I begin by discussing why military effectiveness is such a critical issue worthy of study. The chapter then addresses previous studies of military effectiveness, emphasizing the strengths of individual research traditions and the need for a more unified, coherent research program to allow for greater accumulation of knowledge in this area. The book's analytical framework follows.

Why Study Military Effectiveness?

Studying military effectiveness provides insight into a core concept of international relations: military power. Military power is central to a vast range of research questions in political science, yet few scholars of international relations have examined a key component of military power, that of effectiveness. Conventional assessments of military power in international relations tend instead to emphasize basic resources. For example, large-*n* studies often use gross national product (GNP) as a proxy or core indicator of military power.[1] Some studies include industrial capacity and population size; more detailed studies may use numbers of troops or weapons on the two opposing sides as measures of power. At best, however, studies try to equate capital expenditure per soldier, estimated by dividing total defense dollars by number of personnel in the armed forces.[2] Power generally is reduced to basic human and military inputs.

Although economic and technological resources are essential to any assessment of potential military power, they are not the sole important factor affecting the ability to project force in war. The actual creation of military power involves two things: the basic resources a state has—GNP, technology, and the like—and how it uses those resources, or effectiveness. Resources are important in assessing potential power, but effectiveness tells how well a state can translate those resources into actual power in war. Effectiveness is the difference between what a state's raw resources suggest it could potentially do, and what it is actually capable of doing in battle.

Recent empirical analysis by Stephen Biddle confirms that purely resource-based methodologies for measuring power have limited explanatory utility. Biddle finds that even efforts to estimate the odds of victory in war with five indices—GNP, population, military personnel, military expenditure, and a composite of these—can explain at best just 60 percent of outcomes.[3]

Clearly, more is involved in the generation of power than raw material resources. Yet, as I elaborate in the next section, we still have limited insight into what else beyond money and manpower actually influences the capacity to create military power. How, for example, do features of states' societies, politics, and international environments shape their military activities and therefore their abilities to make the best use of their resources in wartime? In an effort to help answer this question, this book examines an array of factors beyond the realm of traditional military analysis as we seek to understand the sources of states' military effectiveness.

In turn, by expanding our knowledge of the origins of military power, we gain insight into an even more pivotal concept in international relations: state power. Military capability is one (and, by many accounts, the most important) basis of state power.[4] By implication, if the creation of military capability is not simply a matter of generating wealth and technology but is indeed heavily influenced by broad characteristics of states, such as their cultures, social structures, institutions, global environments, and so forth, it potentially requires us to revisit our ideas about the origins of state power. Thinking about the origins of military effectiveness raises critical questions about what exactly makes states powerful.

In addition, by studying effectiveness, we gain valuable practical insight into which states are, in fact, more and less militarily powerful in the contemporary interstate arena. By understanding the processes through which states create power, we can anticipate when states are truly capable of dominating their adversaries militarily and when their threats to use force should be taken seriously. In turn, because the balance of military power often shapes states' strategic interactions—how they bargain with

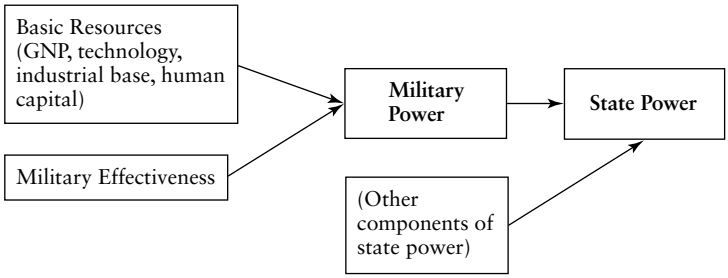

FIGURE 1.1. Resources, Effectiveness, and Power

one another, when and how much they concede in disputes, and when they decide to fight—by having a more complete understanding of the determinants of the balance of power, we can learn more about the nature of those interactions.

By incorporating effectiveness into military analysis more systematically, we may even alter our assessments of powerful states in the international arena. It may well be, for example, that a country like China is far more, or less, powerful than its wealth, population, and technology suggest when we more fully consider the intangible aspects of effectiveness and how they bear on its capacity to use those resources: when we better understand how its political structure, cultural traditions, civil-military relations, economic institutions, and global environment shape its military activities and effectiveness. Alternatively, some less developed states and nonstate actors may be far more powerful than their human and capital resources imply, whereas others, like Iraq under Saddam Hussein, may be capable of much less. The case of Iraq, in fact, perhaps best underscores the importance of incorporating nonmaterial factors into our assessment of military power: nearly universally prior to the 1991 Persian Gulf war analysts in the United States overestimated the Iraqi regime's military capabilities because they failed to recognize the limitations on training, leadership, and command and control posed by the regime's autocratic nature, social structure, and civil-military relations.[5] In short, by focusing on military effectiveness, this study raises profound questions about how political scientists think about military power, state power, and the origins of both. See Figure 1.1.

The Study of Military Effectiveness

There is considerable research in sociology, operations research (OR), military history, and, more recently, in political science on the topic of

military effectiveness. Although this literature offers important insight, much remains to be done. Unsurprisingly for such a diverse literature, definitions vary, approaches are sometimes narrow or discipline specific, and linkages across traditions are infrequent. This volume is an effort to bridge these gaps and contribute to a more coherent, more cumulative literature on this critical subject.

Sociologists have long been interested in studying military effectiveness.[6] These studies date back to inquiries into the sources of German and American soldiers' motivation to fight in World War II.[7] Today, much of this literature is concerned with similar motivational issues and seeks to explain those factors that make individuals or units perform well in combat. In particular, a central debate revolves around the main source of human motivation in battle: unit cohesion versus ideology. Edward Shils and Morris Janowitz and others view an effective military as one whose soldiers exhibit high levels of unit cohesion.[8] The willingness to fight hard or even to die stems from the interpersonal bonds among soldiers: individual soldiers fight for one another, not for their countries. By contrast, Omer Bartov argues that effective militaries are those that exhibit high levels of morale, in which soldiers are motivated by beliefs about the worthiness of their country's cause and the honor of risking their lives on its behalf.[9] Other sociologists and scholars working in this tradition emphasize the importance of individual initiative, discipline, courage, or nationalism.[10] Yet another strand of literature emphasizes the impact of the social integration of specific groups, such as African Americans, women, or homosexuals, on organizational activity.[11]

The sociological research has addressed questions vital to the study of military effectiveness, but its analyses tend to be concerned with a relatively discrete set of questions concerning individual and small-unit behavior in tactical operations. It does not explore a broad variety of factors beyond individual motivation and small-unit social dynamics that affect military effectiveness, such as an organization's strength in strategic and operational planning, training, military education, or doctrinal development. In addition, this scholarship tends not to link these phenomena systematically to an explicit definition of military effectiveness.

The discipline of military-related operations research (sometimes referred to by the acronym MOR) represents a second tradition of analysis. MOR originated with British and U.S. efforts during World War II to model the effects of different technologies and systems such as radar, antisubmarine warfare, or antiaircraft defense. During the Cold War, the main goal of MOR was to test which conventional or nuclear weapons specifications and battle formations the U.S. military and its allies should adopt to

deter or halt a Soviet-led Warsaw Pact attack.[12] As such, MOR was used to examine force design, force structure, and resource allocation issues at the operational level, and systems requirements and tactics at the tactical level. But MOR's most important objective has been the development of a set of system characteristics to be used as performance requirements for developers to design the next generation of weapons systems. Characteristics of these systems include vehicle speed, target detection probabilities, hit probabilities, firing times, and survivability.[13]

Today, military operations research involves mathematical modeling and computer simulations of battle and war outcomes. Despite these models' growing sophistication, from the perspective of understanding military effectiveness, they have some weaknesses. First, given their purpose, these models are primarily focused on the tactical level of war; thus larger questions of operational planning and strategy, which affect a military's effectiveness, are beyond their scope. However, as several scholars emphasize in this book, strategic assessment and higher-order military planning are crucial to how a state employs its resources in the course of war; they set parameters for tactical action. These activities are also crucial to any comprehensive study of military effectiveness.

Second, MOR models often tend to measure a military's effectiveness almost exclusively in terms of its hard assets, neglecting the organizational and other forces that allow a military to use those assets productively. These models draw heavily on technological and numerical indicators of military power, primarily because these are easily quantifiable. They place much less emphasis on intangible factors such as leadership, training, morale, and doctrine that affect a military's proficiencies in using its weapons and equipment.[14] Such intangibles often have a major impact on a state's ability to take advantage of its weapons systems because they affect its military's skills in handling the weapons and integrating them with training and doctrine. The quality of a military's weapons is only part of the military effectiveness equation.[15]

Political scientists, too, have evinced growing interest in studying military effectiveness. Stephen Rosen, for example, has explored the effects of class stratification or caste on the Indian army's military effectiveness.[16] Dan Reiter and Allan Stam have analyzed the effects of regime type on military effectiveness.[17] Stephen Biddle and Robert Zirkle have examined how differences in Iraqi and North Vietnamese civil-military relations affected their armies' relative capacities to assimilate sophisticated technology.[18] One of the important contributions of this research is to focus attention on a range of factors beyond the realm of traditional military analysis that may influence states' effectiveness.

However, here, once again, the literature is more a point of departure than a conclusive resolution. A wealth of possible social and political variables seems likely to shape military effectiveness; the still-small political science literature on the topic touches only a fraction of these. With some important exceptions, much of this literature is focused chiefly on the tactical level of war; operational and especially strategic issues remain understudied. Definitions are also inconsistent. Some studies eschew a formal definition of military effectiveness. Those studies that do attempt a more systematic treatment of the concept lack a common definition or approach. For example, some political scientists analyze military effectiveness in terms of a military organization's capacity to prevail over an adversary—in terms of victory or defeat. Here the more effective military in a conflict dyad is indicated by victory over its adversary in a battle, controlling for differentials in raw resources;[19] effectiveness is indicated by success in battle. Other scholars place greater weight on the degree to which military organizations and their personnel exhibit particular attributes essential to the planning and preparation for war. They point to specific features of a military, rather than focusing on its battlefield victories and defeats, as indicators of its effectiveness.[20] Here the properties of military activity and the organization itself provide evidence for its (in)effectiveness.[21]

Military historians represent a fourth group of scholars who are interested in military effectiveness, although they rarely use the term explicitly. Academic historians such as Martin van Creveld, Michael Handel, Bruce Catton, John Keegan, and John Gooch, as well as more popular authors such as Stephen Ambrose and Shelby Foote, provide rich contextual narratives about societies and their militaries during war. Some of these accounts use broad brushstrokes to paint a comprehensive picture of a society at war; others focus very precisely on individual leaders and their decision making during the heat of battle. All of these authors examine detailed evidence to reconstruct what happened during specific military battles and campaigns.

They make an important contribution by stressing the importance to an effective military of the psychological and cognitive traits of leaders, bonds among individuals in war, intelligence collection, and doctrine. Their goal, however, is not to explain military effectiveness, or even to define it, and therefore their narratives do not seek to generalize or to provide systematic tools for the study of military effectiveness, as is done in this book.

The seminal three-volume study by Alan Millett and Williamson Murray on military effectiveness from 1914 to 1945 is an important exception to the otherwise very contextual approach of historians.[22] Many of the

factors emphasized in the Millett and Murray study stress the importance of a military organization's competence in a range of planning activities. In this sense, these authors emphasize the organizational "glue" that allows a military to create power from its raw resources. Hence they emphasize factors neglected in more materially based methodologies for assessing military capabilities (such as in many OR models). The Millett and Murray study also represents one of the few systematic efforts to consider equally the strategic, operational, and tactical levels in assessing military effectiveness. Most others focus primarily on the tactical level.

In the introduction to that study, the editors identify a range of key issues essential to measuring a military's effectiveness and provide a template of questions that analysts can employ in assessing it.[23] Each contributing author in Millett and Murray's study draws from this list of questions in structuring the analysis of a particular state's military in a given era. However, the editors of the study do not synthesize their questions into a more general set of attributes indicative of military effectiveness. For example, although they make implicit references to the concept we call "integration," when they discuss the correspondence of strategic, operational, and tactical activity with the consistency of training, logistics, and other aspects of force development, they do not explicitly address it.

The chapters in Millett and Murray's study are also largely descriptive and do not generalize about the causes of military effectiveness. Using the questions presented in the study's introductory chapter as a framework, the contributing authors provide narrative accounts of different states' military effectiveness. However, they do not theorize about the reasons why those states' military effectiveness differs, and the sources of variation in states' military effectiveness are not systematically explored.

The term *military effectiveness* is also often used by military professionals and defense officials and analysts. In this context it has a variety of different meanings. Sometimes effectiveness is used to refer to the readiness of forces to deploy to the theater of war. Sometimes it indicates a mission accomplished in a combat zone: a bombing raid is deemed "effective" if the pilots hit the intended target. Sometimes it refers to the attributes of a particular military organization and the quality of its leadership, training, and systems, and the organization's general preparation for war.[24] The diverse uses of the term pose a challenge to developing a systematic and broadly shared understanding of what an effective military looks like and how to evaluate a military's effectiveness. In this book we present an explicit definition of effectiveness and use it throughout the volume. As we elaborate later, the definition highlights several attributes of states' militaries essential to the

TABLE 1.1
The Causal Chain of Military Effectiveness

Independent Variables →	Military Activities →	Military Effectiveness
Culture	Strategic assessment processes	Integration
Social structure	Procurement	Responsiveness
Political institutions	Strategic command and control	Skill
Civil-military relations	Intelligence and internal monitoring	Quality
Interstate competition	Officer selection, promotion, and rotation	
Global norms	Tactical command and control	
International organizations	Training and education	

creation of military power. We hope this consistency will facilitate analysis and contribute to an accumulation of knowledge on the subject.

The Common Framework

In an effort to advance a coherent and comprehensive research program on military effectiveness, in this study we develop a framework for studying military effectiveness. Our approach stresses the importance of a variety of causes of military effectiveness beyond the traditional realm of military analysis, including a state's underlying social, cultural, and institutional fabric, as well as the pressures of its international environment. The framework is reflected in the causal chain shown in Table 1.1.

The authors employ this common framework and a common methodology: each author shows how variation in a specific aspect of a state's domestic or international environment affects military activities such as leadership, training, and doctrine essential to the preparation and organization for war, then explores how these activities influence military effectiveness.

We next examine each step in the causal chain, beginning by defining the dependent variable: the concept of military effectiveness.

Defining Military Effectiveness

In this book we define military effectiveness as the capacity to create military power from a state's basic resources in wealth, technology, population size, and human capital.[25] A military's level of effectiveness varies with the degree to which it is organized to make good use of these material and human resources. Specifically, military effectiveness is measured according

to the degree to which a military exhibits four crucial attributes: the *integration* of military activity within and across different levels; *responsiveness* to internal constraints and to the external environment; high *skill,* as measured in the motivation and basic competencies of personnel; and high *quality*, as indicated by the caliber of a state's weapons and equipment. An effective military is one that exhibits high levels of these four attributes. That is, the more integrated, responsive, and skilled it is, and the higher the quality of its hardware, the more likely it will be able to realize the potential of its basic resources in warfare. Next I discuss each of the four attributes in turn.

INTEGRATION

The first key property of an effective military is its capacity for integration. We define integration as the degree to which different military activities are internally consistent and mutually reinforcing. Essential here is the relationship among strategic, operational, and tactical activity, as well as with the force development activities that further those pursuits. Strategic-level military activity involves overarching conceptions for how the military is to be organized and employed in support of political objectives. Operational-level military activity is the method for employing force within a theater of war or campaign. Tactical-level military activity refers to the specific engagement of units on the battlefield.

An integrated military is one whose activities at the tactical level are consistent with those at the operational level and also support broader strategic objectives. Integration also involves maintaining consistency in force development activities, such as procurement, training, and education, with strategy, operations, and tactics. Integration means the achievement of consistency within and across levels and areas of all military activity.

Integration reduces waste and the duplication of effort. For example, if a state were to procure aircraft and other weaponry without considering the missions and doctrine for which this weaponry would be used, the state might waste valuable resources on equipment that did not support the state's strategic goals or tactical operating procedures. Integration also ensures that a military is prepared to use its resources to full capacity or to employ them as intended. Failures of integration compromise this ability. This was evident, for example, when the United States procured the M2 Bradley fighting vehicle that held only seven soldiers, although doctrine and training were based on infantry squads of nine.

Even more serious are cases where poor integration of military activity compromises a state's ability to achieve its strategic objectives. In World War I, for example, Germany's Schlieffen Plan meant that it would inevita-

bly provoke Britain in the event of hostilities because the plan called for invading neutral Belgium. The plan was adopted despite Germany's avowed strategic objective of averting British involvement in a continental war. Thus, although the tactical rationale for the plan might have been sound—Germany needed to defeat France quickly before taking on Russia—it was poorly integrated with Germany's strategic goal of keeping Britain out of a continental war.

RESPONSIVENESS

The second property of an effective military is responsiveness. We define responsiveness as the ability to tailor military activity to a state's own capabilities, its adversaries' capabilities, and external constraints. In the broadest sense it refers to a military's capacity to respond to new information about itself, its adversary, and its environment. Accordingly, a responsive military is one that adjusts its operational doctrine and tactics to exploit its adversary's weaknesses and its own strengths. Equally important, a responsive military is one that adjusts and compensates for external constraints, including material, geographic, technological, social-structural, political, or cultural limitations in its domestic environment.

Responsiveness helps ensure that a military is structured, organized, trained, and equipped optimally for its strategic environment. Responsive military leaders are those who constantly analyze their strategic and military situation, and who, in response, modify strategy, doctrine, procurement, and the like. These leaders remain aware of their organization's own internal constraints and weaknesses and modify military activity to compensate if they cannot overcome them.

Militaries without responsiveness may lose an accurate sense of their particular strengths and weaknesses because of a lack of critical self-evaluation and of rigorous assessment of the external environment. They may dismiss vital cues from their external environments and may be more likely to be caught off guard in anticipating the challenges they will face in the event of armed conflict. Without responsiveness, a fighting machine that looks good on paper may be ill equipped to fight the battles and adversaries it will actually face.

A good example of responsiveness was the U.S. military's World War II strategy of island hopping in the Pacific (which Deborah Avant describes in Chapter 4). As its military started moving west across the Pacific, the United States realized that it did not need to take every island that Japan controlled. Rather, the United States figured out which islands it would need to control for its strategic goals, relying on its air and sea superiority; it chose to bypass the others on its way to the Japanese mainland. These

islands were left under Japanese control, stranding many Japanese soldiers because the Japanese military was unable to resupply or rescue them. In this way, the United States tailored its strategy in the Pacific to its air and sea superiority and to Japan's weakness, and it saved resources for battles on crucial islands.

SKILL

The third attribute of an effective military is its capacity to realize high levels of skill. Skill measures military personnel and their units against some objective standard or benchmark in assessing their ability to achieve particular tasks and to carry out orders. This includes, for example, a military organization's ability to assimilate new technologies or to adapt to sophisticated doctrine and demanding forms of military organization. It captures how well soldiers can use sophisticated computerized technology, and how proficient they are at firing and maintaining their weapons or at executing such tasks as coordinated tactical movements while shielding themselves from enemy fire. It is reflected in small units' ability to adapt to a constantly changing battlefield and to exploit opportunities.

Skill is especially important in modern warfare, which is complicated by the assimilation of new technologies and weapon systems.[26] A military that has difficulty using these technologies will have a hard time making the most of the resources that are available to it. These dynamics were evident in Iraq's war against Iran during the 1980s, when shortcomings in Iraqi soldiers' training and education hampered efforts to use sophisticated technology. As a result of such weaknesses in organizational activity, observe Biddle and Zirkle, Iraqi soldiers were less skilled than, for example, the North Vietnamese in the U.S.-Vietnam war.[27]

The attribute of skill also captures a military's ability to motivate soldiers and to ensure that they carry out orders, fight hard, and seize the initiative in combat. A military that can motivate its soldiers and their units and therefore maximize the initiative of individuals in combat units is better able to generate power in battle. Hence militaries that incorporate training and education that heighten the sense of meaning and commitment to the organization, or that encourage strong officer-enlisted relations and interpersonal bonds among individuals—and which operate in a social, political, or institutional environment that supports and encourages the development of these structures—can produce a more motivated military: in our terms, it is more skilled. In short, skill reflects the degree to which military personnel are, in the broadest sense, both capable and willing as they undertake difficult and complex tasks essential to preparing for and executing war.

QUALITY

The fourth attribute of an effective military is its ability to provide itself with highly capable weapons and equipment. Holding cost constant, quality measures the relative ability of a military to supply itself with superior weapons and equipment: those that, for example, minimize trade-offs among size, firepower, survivability, and mobility and have low failure rates. Military effectiveness is maximized in states that are able to obtain a "better" system for a given resource dollar. Military activities associated with internal organizational planning and procurement processes—and the broader causal forces that affect them—are likely to be especially relevant in assessing "quality." For example, debates about the defense budgeting system in the United States and whether organizational conventions encourage innovation or stasis in weapons design and production are issues that speak to the effectiveness of the American military in this regard.

Of course, just because a state is able to procure a superior weapon, and demonstrate high levels of quality in this regard, does not mean the weapon is needed, can be used, or is worth the investment. These are, however, questions of integration and responsiveness, which are also crucial to assessing military effectiveness. The ultimate utility of a weapon, and therefore its contribution to a military's preparation for war, depends on more than its inherent technological properties or its cost effectiveness. It depends on how—and how well—it is used. Quality is only one of four essential attributes of an effective military. Nevertheless, it is important because, holding all else constant, states that are able to supply themselves with better weapons are often able to generate more military power.

ALL FOUR PROPERTIES ARE ESSENTIAL TO MILITARY EFFECTIVENESS

All four properties—integration, responsiveness, skill, and quality—are essential to military effectiveness. A state that has shortcomings in just one attribute is likely to be handicapped in generating power in the event of an interstate dispute. Take the case of a military that is skilled, responsive, and has quality weapons but is not integrated. It may have highly capable personnel, advanced weaponry, and its leaders may comprehend their strategic situation well. Its services and intraorganizational units, however, fail to coordinate to ensure consistency across their activities. The military as a whole operates with poorly harmonized strategic, operational, and tactical activity. At best, this military wastes resources by duplicating efforts or, for example, failing to realize the synergies of cooperative action.

At worst, the strategic or tactical approach of one organizational unit proves counterproductive to the activities of another.

Alternatively, take the case of a military that is integrated and responsive and has high-quality weapons but is poorly skilled. It will face constraints in utilizing particular technologies and doctrine. Like Egypt in 1973 (as Chapter 5 details), this military may tailor its doctrine and training to its manpower resources (e.g., develop training regimens consistent with the low literacy, education levels, and experience of its army), but low skill means that there will be inherent limitations in the types of doctrine its soldiers can successfully implement. Because of limitations in skill, it will be constrained in doctrinal choices—how it uses its weapons—hence it may not be able to take advantage of the technological strengths of those systems. It will be limited in how much military power it can generate.

A military with high skill that is integrated and responsive but has low-quality weapons will similarly be restricted in its ability to generate power. Its soldiers may be highly capable of using sophisticated weapons, but the military does not have such weapons and systems to supply its personnel. The military may tailor its military activity to minimize this weakness and play on its strengths and integrate its strategy, operations, and tactics accordingly, but there will be material limitations on what it can accomplish in war.

Finally, take a military that is integrated and skilled, with high-quality systems, but that is not responsive to its environment. This military is at risk of preparing for war without accurately comprehending its external environment or its own inherent strengths and weaknesses. For example, perhaps it develops an operational plan and doctrine and procures weapons that emphasize offensive maneuver: high-intensity, fast-paced mobile operations that require significant tactical initiative for implementation. However, it might, for example, neglect the fact that the topography and political environment in which it will fight renders offensive maneuver impractical. The country's war plan may not make the best use of the state's basic resources; perhaps it relies on a small professional force that has been highly trained when one of its biggest assets is a large but less educated population that could be exploited through conscription. By ignoring its resource environment, this military chooses a method to fight that may not be responsive to its own strengths and weaknesses. In short, even a military that is highly skilled, has supplied itself with quality weapons, and is integrated across all levels of military activity, but is not able to anticipate its own strengths and weaknesses or its adversary's capabilities and the likely battlefield, will lack responsiveness and therefore be less militarily effective than it could be.

TABLE 1.2
Attributes of Military Effectiveness

Integration	Responsiveness	Skill	Quality
Consistency within and across levels and areas of military activity	Ability to tailor military activity to the state's own resource and environmental constraints and opportunities and to its adversary's strengths and weaknesses	Military personnel's capabilities and motivation to perform essential tasks in preparing for and executing war	Properties of weapons and equipment a military is able to provide for itself
Indications:	*Indications*:	*Indications*:	*Indications*:
Integration of tactics with broader political and strategic goals (e.g., tactics that do not compromise attainment of broader political objectives)	Tactics tailored to exploit specific weaknesses of an adversary	Fluid assimilation of technology	Nature of weapons procured (e.g., speed, low failure rates)
Integration of training system with tactical concepts and quality (literacy, experience, etc.) of personnel	Modifications of force structure are promptly made in response to new threats and challenges	Highly motivated soldiers and units	Ability to minimize trade-offs in mobility, firepower, etc.
Logistical systems support force deployments; procurement supports tactical concepts; operational plans support strategic objectives	Internal evaluative processes reflect rigorous efforts to evaluate and analyze military activity	Proficiency at executing sophisticated doctrine (combined arms, maneuver, etc.)	

Probabilistically, militaries that exhibit all four attributes should be more effective than those that do not. All things equal, the ability to produce a skilled, quality, integrated, and responsive military helps ensure the state is able to realize synergies in military activity and maximize the potential of its resources. As such, these four attributes provide benchmarks for estimating a military's effectiveness. See Table 1.2.

Causes of Military Effectiveness

This volume brings together scholars from diverse backgrounds to survey social, cultural, and systemic forces, using a common framework to ana-

lyze the effects of specific independent variables on military effectiveness. The chapters in this book examine various causes of military effectiveness, organized around four general central themes: culture, social structure, institutions, and international factors.

This section says a bit more about these categories of causal variables: its objective is both to define these categories and to lay out what we generally mean by them. Many of the variables discussed here are covered in the chapters that follow, although space prohibits an exhaustive analysis of every possible source of military effectiveness. The hope is to draw attention to the diverse array of phenomena that might warrant analysis in future studies of military effectiveness. We intend, therefore, to provide a starting point for this broader inquiry.

CULTURE

"Culture" represents a first category of potential causes of military effectiveness that warrant investigation. Specifically, by culture we are interested in how shared worldviews or beliefs within a state or society shape how a military organization prepares for and executes war. Culture may be expressed in both evaluative standards (values and beliefs about appropriate action) and cognitive standards (such as rules and methods for undertaking action) that both define the actors in a given society and shape their behavior.[28] It is frequently articulated in the symbols and practices of actors and the society in which they participate.

As the diversity of studies in political science that invoke the concept of culture suggests, culture can operate on many different levels of analysis; scholars who differentiate states according to ideational factors focus on different dimensions of culture. On the grandest level are conceptions of culture consistent with Ian Johnston's notion of strategic culture (similar to what was once referred to as national ideology). Others, such as Kenneth Pollack, focus on societal or political culture by examining how beliefs common to a particular society affect behavior. Still others are interested in the general culture of organizations; Barry Posen, for example, delineates a number of attributes common to military organizations' culture. Studies by Elizabeth Kier and Jeffrey Legro, in contrast, focus on the unique historically bounded cultures of particular military organizations.[29]

SOCIAL STRUCTURE

A second category of potential causes is social structure. At its most basic, social structure refers to the way a society divides itself and distributes resources to different groups; it captures the underlying distribution of power among groups with different characteristics. As such, societies can be divided along any number of axes: ethnicity (including race and reli-

gion), familial or tribal ties, gender, and economic means or class are commonly cited social structures. Some cleavages may be more pronounced than others in different states and societies, and the nature and intensity of divisions may evolve over time.[30]

POLITICAL AND ECONOMIC INSTITUTIONS

The focus in a third category of independent variables is on how states' political structures and means of organizing their economies affect military effectiveness. Institutions encompass both formal rules (as expressed, for example, in constitutions and law) and informal rules (unwritten, but routinized and observable patterns of behavior). Institutions also operate on many levels of the state, and the relevant distinctions vary by analyst. For example, some scholars are interested in broad comparisons between regime types (such as autocratic versus democratic institutions); others might contrast political systems according to more specific ways that states organize their elections or their legislative and executive activity. Still others focus on some subset of the country's institutional structure, such as relations between bureaucratic units or agencies of the state; this, for example, includes relations within and among these units (e.g., foreign and defense ministries or departments, intelligence agencies, military services) or relations between those entities and political leaders. Similarly, economic institutions can be divided into broad categories such as communist or capitalist systems, or more narrowly in the degree to which economic activity in states that are generally capitalist is generated by private means or by the state (public means). Alternatively, economic institutions can refer to differences within the government in budgetary processes and in how economic planning is undertaken.

INTERNATIONAL FACTORS, INCLUDING GLOBAL NORMS, COMPETITION, AND INTERNATIONAL ORGANIZATIONS

A fourth category of causal variables captures the effects of stimuli that originate from beyond a state's borders on its military effectiveness; it refers to pressures and forces from the international arena. Especially intriguing are how international forces affect states' incentives to modify their military practices and whether those modifications improve or degrade effectiveness. These include the pressures from interstate competition. For example, when states face challenges from others in the international arena, it seems probable they will have significant incentives to modify, and potentially improve, their military effectiveness to meet those threats. However, whether and how those modifications occur and actually yield improvement is a question that merits further investigation.

International factors also include ideational factors in the form of global norms or global culture. By global norms we mean beliefs that define appropriate and effective forms and behavior, often embedded in international processes and structures such as transnational military networks, international law, or epistemic communities. Critical here are how efforts to conform to global norms affect states' military effectiveness, and the potential benefits and costs of complying with these normative pressures. International factors also include the constraints on domestic action posed by formal multinational organizations, broadly defined to include institutionalized military alliances, the United Nations, and regional organizations. The issue here is whether the pressures of coordinating action and the demands of participation in an international organization affect states' military activities and effectiveness.

In summary, a variety of potential phenomena originating both within a state's borders and in its global environment may affect its organization and preparation for war.[31] The authors of this book examine several of these in the chapters that follow, as I outline towards the end of this chapter. First, however, I discuss the intermediate step in the causal chain just presented: the military activities that mediate the effects of causal variables on military effectiveness.

Military Activities as Translation Mechanisms

Although we expect the independent variables just outlined to have different effects on military effectiveness, we expect those effects to be registered in a similar way, through different aspects of a state's military activities. Military activities are the means through which variation in states' cultures, social structures, institutions, and international environments influence their military effectiveness. As such, when causal factors vary, we should observe variation in some military activities and, as a result, differences in a military's overall level of integration, responsiveness, skill, or quality.

These activities encompass a range of organizational processes involved in planning, training, and fighting in armed conflict. They are diverse and range from processes central to strategic-level planning to the nuts and bolts of the tactical engagement of forces. Unlike most of the existing literature about military effectiveness, we do not focus exclusively on the tactical level of military activity. Instead we encourage analysis of all three levels of military activity: strategic, operational, and tactical.[32] We do so to highlight the importance of all these levels of activity in assessing military effectiveness. By focusing on tactical activity alone, for example, one may overestimate the overall effectiveness of a military by neglecting

larger problems of integration across the strategic and tactical levels: as the German military illustrated in both world wars, a state can adopt an ill-fated strategic plan poorly linked with key aspects of military activity despite very high tactical proficiency in some areas. Alternatively, problems in integration at the tactical level could overshadow strengths in a state's strategic level of military activity.

By including activity at all three levels, we also aim to highlight possible trade-offs between pursuing the most efficient approach to accomplishing a specific aim in one area and maintaining overall military effectiveness. For example, as Nora Bensahel highlights in Chapter 8, there are often trade-offs between pursuing efficient tactics in a multinational operation and maintaining the integration of political goals, strategy, and tactics. In addition, as Deborah Avant discusses in Chapter 4, states may be strong in some properties of military effectiveness but weaker in others.

Next we describe some of the military activities discussed by the authors of this book and in the broader literature relevant to military analysis. The following list is not exhaustive but intended to illustrate some of the ways that military activities mediate the effects of causal variables and may affect the attributes of military effectiveness.

STRATEGIC ASSESSMENT AND COORDINATION PROCESSES

Strategic assessment is the process whereby top military and political leaders consult with one another, analyze policy options, and otherwise participate in decision making about military strategy prior to or during an interstate conflict. Strategic assessment may improve responsiveness by providing accurate assessments of the capabilities of a state's allies and those of its enemies, and of the costs and risks of different military operations; this helps the military tailor its strategy, doctrine, and force structure to make the most of its own strengths and capitalize on its enemy's weaknesses. It also helps the military minimize the effects of negative constraints such as terrain, weather, or international opinion. Good coordination at the political-military apex, with open communication between civilian and military policymakers, can enhance integration by improving coordination of national political goals and military strategy. It may also facilitate policymakers' understanding of how constraints on the battlefield may have political ramifications, so that tactics do not compromise the attainment of broader political goals.

WEAPONS AND EQUIPMENT PROCUREMENT PROCESS

Procurement is the process whereby states buy weapons and equipment for themselves. A procurement process characterized by impartial technical

standards, rather than politicized or corrupt processes, may enhance responsiveness by ensuring that the force structure and new weapons development respond to the current threat environment. It may improve integration by aligning resource allocation and weapons capabilities to doctrine and tactics. It may increase quality by ensuring that the state acquires weapons of high quality.

STRATEGIC COMMAND AND CONTROL

Strategic command and control is the process by which the political leadership and upper echelons of the military hierarchy communicate, coordinate, and transmit decisions down the chain of command. Strategic command and control procedures can improve responsiveness by ensuring that developments on the battlefield are communicated in a timely fashion up the chain of command to the political leader and that decisions are transmitted quickly and clearly via the military hierarchy to tactical commanders to allow speedy and flexible reactions to events in the field. Good strategic command and control can improve integration by ensuring that a state responds quickly to developments in the field and that those responses remain consistent with strategic goals and operational plans.

INTELLIGENCE AND INTERNAL MONITORING

Intelligence is the process whereby militaries collect, analyze, and disseminate information about the capabilities of other states; internal monitoring refers to how they assess their own capabilities. Internal monitoring may take the form of an auditing function in which activity within the organization is surveyed, for example by means of reporting requirements and internal reviews. Internal monitoring might also encourage other actors to identify and report when they observe shortcomings. For example, in pursuit of its own interests, one service branch may gather and report information to decision makers about flaws in the activities of other branches. Internal monitoring can affect responsiveness, by helping a military recognize and compensate for limitations in its own capabilities and capitalize on its strengths in how it organizes itself for war. Intelligence can increase responsiveness by allowing a military to gather information about its adversaries' strengths and weaknesses and to tailor its own military activity accordingly. On the battlefield, tactical intelligence can enhance responsiveness by helping a military exploit enemy weaknesses and achieve strategic and tactical surprise. Internal monitoring affects integration by allowing a military to identify gaps, duplications, and contradictions in its activity. Intelligence can enhance inte-

gration by increasing information flow and thus assisting leaders at all levels in updating as they make decisions.

OFFICER SELECTION, ROTATION, AND PROMOTION PROCEDURES

Officer selection, rotation, and promotion processes include the methods by which a military identifies individuals to advance in the hierarchy and to be appointed to key positions. These processes can influence effectiveness by affecting the criteria by which individuals are selected for positions of responsibility in the chain of command. They can enhance responsiveness by promoting officers with a strong understanding of the threat environment and of exogenous constraints, who would thus be better able to adopt and implement tactics to exploit specific weaknesses in the enemy's tactics and operational doctrine. Such officers would also be able to develop internal evaluative processes so as to tailor tactics and operations to their organization's own strengths and weaknesses; similarly, they should be better able to capitalize on allied armies' strengths and compensate for their weaknesses. Promotions affect integration by allowing skilled and experienced officers to rise to the top of the military hierarchy. Officers will work better together to ensure consistency across different commands when promotions are merit based, which avoids politicization that could cause compartmentalization and unproductive competition. This helps facilitate integration across and within levels of military activity. Officer selection, rotation, and promotion procedures, through their effect on leadership, can affect skill: good commanders can do a better job at training and motivating soldiers, making them more capable and willing to execute sophisticated and risky tactical operations.

TACTICAL COMMAND AND CONTROL

Tactical command and control is the process whereby units actually engaged with opposing forces communicate with one another and coordinate their activities. Tactical command and control can improve responsiveness in battle by helping tactical commanders react quickly as the battle unfolds and capitalize on tactical-level opportunities. It can enhance integration by affecting the coordination of deployments and troop movements on the battlefield. More broadly, tactical command and control can affect the degree to which individual units and commands work well together and synchronize their operations. It can affect the degree to which combat support and logistics are coordinated with combat operations. Tactical command and control can improve skill by providing soldiers with the cues necessary to perform complicated synchronized fire, maneuver, or other activities.

TRAINING AND MILITARY EDUCATION

Training and education are the processes through which a military imparts skills and knowledge to its forces, and socializes them to organizational norms and conventions; these processes involve hands-on practice as well abstract and intellectual lessons. Training and military education systems can improve responsiveness when they are tailored to the nature of the states' resources in human capital and weapons and equipment. When those regimens help a state to maximize its strengths and minimize its weaknesses in its personnel and matériel, responsiveness is enhanced. Effective training and military education can also enhance integration by ensuring that soldiers and officers understand how military strategy, doctrine, and tactics interact, so that all three are consistent with each other and with broader policy goals. Effective training and military education systems can also improve skill by, for example, affecting soldiers' capacity to assimilate technology, use weapons effectively, and execute sophisticated doctrine and battle drills.

The activities just described provide a way for tracing the effects of causal variables on military effectiveness. In each of the seven chapters that follows, the authors track the effects of one causal variable on particular military activities, showing how it potentially enhances or degrades the integration, responsiveness, skill, or quality of the military under consideration. In the final chapter, Stephen Biddle pushes the analysis one step further to examine the connection between military effectiveness and war outcomes.

Notes

1. See Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton: Princeton University Press, 2004), 2, 21–23.

2. Qualitative studies often employ similar concepts in describing the relative power of states. See, for example, John Mearsheimer, *The Tragedy of Great Power Politics* (New York: Norton, 2001), 55–82. Although he emphasizes wealth as the determinant of military power, Mearsheimer also acknowledges that variations in states' "efficiency," and in the decisions they make about what forces to procure, will affect their military might.

3. See Biddle, *Military Power*, p. 21.

4. Of course military power is only one dimension of state power: economic leverage is also important in shaping interstate interactions as are intangible manifestations of power such as persuasion and the capacity for moral leadership, which are sometimes referred to as "soft" power. See, for example, Joseph Nye, *The Para-*

dox of American Power (New York: Oxford University Press, 2002). In addition, although we employ a conventional, behavioral view of power, in this volume there are alternative ways of conceptualizing the concept. See, for example, Michael Barnett and Raymond Duvall, "Power in International Politics," *International Organization* 59 (Winter 2005): 39–75.

5. On overestimates of Iraq's capabilities, see Biddle, *Military Power*, p. 1 and 240, note 1. On problems in civil-military relations in Iraq, see Stephen Biddle and Robert Zirkle, "Technology, Civil-Military Relations, and Warfare in the Developing World," *Journal of Strategic Studies* 19, no. 2 (1996): 171–212; Kenneth M. Pollack, *Arabs at War: Military Effectiveness, 1948–1991* (Lincoln: University of Nebraska Press, 2002); Mark Heller, "Iraq's Army: Military Weakness, Political Utility," in Amatzia Baram and Barry Rubin, eds., *Iraq's Road to War* (New York: St. Martin's Press, 1996). On social structure and military effectiveness in Iraq, see Chapter 3 in this volume. On problems faced by autocracies and military effectiveness generally, and in the Middle East specifically, see Dan Reiter and Allan C. Stam, *Democracies at War* (Princeton: Princeton University Press, 2002); Pollack, *Arabs at War*; James T. Quinlivin, "Coup-Proofing: Its Practice and Consequences in the Middle East," *International Security* 24, no. 2 (Fall 1999: 131–165); Gordon Tullock, *Autocracy* (Boston: Kluwer Academic, 1987); Risa Brooks, *Political-Military Relations and the Stability of Arab Regimes*, Adelphi Paper 324 (Oxford: Oxford University Press, 1998); David C. Rapoport, "The Praetorian Army: Insecurity, Venality and Impotence," in Roman Kolkowicz and Andrzej Korbonski, eds., *Soldiers, Peasants, and Bureaucrats* (London: George Allen and Unwin, 1982).

6. For a good overview of the sociological literature, see Tania M. Chacho, "Why Did They Fight? American Airborne Units in the Second World War," presented at annual meeting of the American Political Science Association, San Francisco, August 30–September 2, 2001. See also S. L. A. Marshall, *Men against Fire* (New York: William Morrow, 1964); William Darryl Henderson, *Cohesion: The Human Element in Combat* (Washington, D.C.: National Defense University Press, 1985); and Roger W. Little, "Buddy Relations and Combat Performance," in Morris Janowitz, ed., *The New Military: Changing Patterns of Organization* (New York: Russell Sage Foundation, 1964), 195–223.

7. Among the early studies are Edward A. Shils and Morris Janowitz, "Cohesion and Disintegration in the Wehrmacht in World War II," *Public Opinion Quarterly* 12 (Summer 1948): 280–315; and Samuel A. Stouffer et al., *The American Soldier: Combat and Its Aftermath* (Princeton: Princeton University Press, 1949).

8. See Shils and Janowitz, "Cohesion and Disintegration in the Wehrmacht in World War II."

9. Omer Bartov, *Hitler's Army* (Oxford: Oxford University Press, 1991).

10. Jasen Castillo, "The Will to Fight: Explaining a Nation's Determination in War," paper prepared for annual conference of the International Studies Association, February 21, 2001.

11. On integrating African Americans, see, for example, Charles C. Moskos, *All That We Can Be: Black Leadership and Racial Integration the Army Way* (New York: Basic Books, 1996); Brenda Moore, *To Serve My Country, to Serve My Race: The Story of the Only African American WACS Stationed Overseas during World*

War II (New York: New York University Press, 1996). On homosexuals in the U.S. military, see Aaron Belkin and Geoffrey Bateman, *Don't Ask, Don't Tell: Debating the Gay Ban in the Military* (Boulder, Colo.: Lynne Rienner, 2003); Gregory Herek, Jared B. Jobe, and Ralph M. Carney, eds., *Out in Force: Sexual Orientation and the Military* (Chicago: University of Chicago Press, 1996); Elizabeth Kier, "Homosexuals in the U.S. Military: Open Integration and Combat Effectiveness" *International Security* 23 (1998) Fall, 5–39; Craig A. Rimmerman, ed., *Gay Rights, Military Wrongs* (New York: Garland, 1996); Wilbur J. Scott and Sandra Carson Stanley, eds., *Gays and Lesbians in the Military* (New York: Aldine de Gruyter, 1994).

12. Seth Bonder, "Army Operations Research: Historical Perspectives and Lessons Learned," *Operations Research* 50, no. 1 (January–February 2002): 25–34.

13. Today, military-related operations research is extremely influential and pervasive in defense policy circles. Analysts in this field have a major professional society (see www.mors.org), numerous journals, and a growing of body of texts and degree programs.

14. One exception is the HERO data set created by the U.S. Army Concepts Analysis Agency and frequently used for analysis of war outcomes, which includes variables for intangible factors such as morale and leadership. However, these variables were coded ex post facto by military experts who had the benefit of knowing which side won, and the coding is subjective. In theory, data for these intangibles could be gathered with a more rigorous methodology, but to date much of operations research has sidestepped these issues, preferring not to address them. Also see T. N. Dupuy, *Numbers, Predictions and War* (New York: Bobbs-Merrill, 1979).

15. For examples of how behavioral factors affect the utilization of weapons and technology, see Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton: Princeton University Press, 2004). On assimilation of weapons, also see Christopher S. Parker, "New Weapons for Old Problems," *International Security* 23, no. 4 (Spring 1999): 119–47; Stephen Biddle and Robert Zirkle, "Technology, Civil-Military Relations, and Warfare in the Developing World," *Journal of Strategic Studies* 19, no. 2 (1996): 171–212.

16. Stephen Peter Rosen, *Societies and Military Power: India and Its Armies* (Ithaca, N.Y.: Cornell University Press, 1996).

17. Reiter and Stam, *Democracies at War.*

18. Biddle and Zirkle, "Technology, Civil-Military Relations, and Warfare in the Developing World."

19. Reiter and Stam, for example, compare states' military effectiveness in terms of their "competence at winning individual battles." Dan Reiter and Allan C. Stam III, "Democracy and Battlefield Military Effectiveness," *Journal of Conflict Resolution* 42, no. 3 (June 1998): 259–77, at p. 260. Also see Reiter and Stam, *Democracies at War.* Similarly measuring effectiveness in terms of achieving battlefield outcomes are Stephen Biddle and Stephen Long, "Democratic Effectiveness? Reassessing the Claim That Democracies Are More Effective in Battle," paper prepared for annual meeting of the American Political Science Association, Boston, August 29–September 1, 2002.

20. Kenneth Pollack, for example, takes "the ability of soldiers and officers to

perform on the battlefield, to accomplish military missions, and to execute the strategies devised by their political-military leaders" as indications of military effectiveness. Pollack, *Arabs at War*, 4, 13. Christopher Parker focuses on a military's ability to assimilate new weapons and technologies (rather than the technical capacity of the systems and equipment in its arsenal) as key to its military effectiveness. Parker, "New Weapons for Old Problems," note 8.

21. There is, in addition to a small literature on military effectiveness that examines the impact of social and other factors on militaries, a much larger literature in which the causal arrow is reversed that explores how militaries affect society, culture, and the like. For example, see Otto Hintze, "Military Organization and the Organization of the State," in F. Gilbert, ed., *The Historical Essays of Otto Hintze* (New York: Oxford University Press, 1975); Ronald R. Krebs, *Fighting for Rights: Military Service and the Politics of Citizenship in the United States and Israel* (Ithaca, N.Y.: Cornell University Press, 2006); Morris Janowitz, "Military Institutions and Citizenship in Western Societies," *Armed Forces and Society* 2, no. 2 (February 1976): 185–204; Max Weber, *Economy and Society*, Guenther Roth and Claus Wittich, eds. (Berkeley: University of California Press, 1978 [1968]), 980–87, 1236–44, 1260–62; Samuel E. Finer, "State- and Nation-Building in Europe: The Role of the Military," in Charles Tilly, ed., *The Formation of National States in Western Europe* (Princeton: Princeton University Press, 1975), 84–163; Brian Downing, *The Military Revolution and Political Change* (Princeton: Princeton University Press, 1992); and Stanislav Andreski, *Military Organization and Society* (Berkeley: University of California Press, 1968 [1954]).

22. Allan R. Millett and Williamson Murray, eds., *Military Effectiveness,* vols. 1–3 (Boston: Allen and Unwin, 1988). Another exception is Eliot Cohen and John Gooch, *Military Misfortunes*: *The Anatomy of Failure in War* (New York, Free Press, 1990), which examines eight cases of battlefield failure, from the tactical to the strategic level.

23. Allan R. Millett, Williamson Murray, and Kenneth H. Watman, "The Effectiveness of Military Organizations," in Millett and Murray, eds., *Military Effectiveness*, vol. 1: *The First World War*, 1–30.

24. For example, multiple uses of the term *military effectiveness* were evident during the 2003 Iraq War. In one briefing during the war, for example, Brigadier General Vince Brooks referred to the effectiveness of coalition forces in terms of the missions they accomplished: "Our coalition special forces remain very effective in targeting regime concentrations. . . . [They] destroyed numerous vehicles and five regime buildings." Brooks, briefing transcript, April 1, 2003. Three days later he reported, "Coalition operations over the last 24 hours remain focused and effective. Coalition attacked command and control targets, surface to surface missiles, air defenses and any identified military aircraft." Brooks, briefing transcript, April 4, 2003. In contrast, other officials stressed the nature of military organizations. For example, Defense Secretary Donald Rumsfeld referred to the Iraqi Republican Guard as "the most effective fighting forces that Saddam Hussein has," implying that these units exhibited some property that rendered them more proficient than their regular army counterparts. Rumsfeld, reported in the *Pittsburgh Gazette*, March 31, 2003.

25. For a similar, broad definition see Millett, Murray, and Watman, "The Effectiveness of Military Organizations."

26. This is what Stephen Biddle refers to as the modern combat system. See Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton: Princeton University Press, 2004).

27. Biddle and Zirkle, "Technology, Civil-Military Relations, and Warfare in the Developing World."

28. Peter Katzenstein, ed., *The Culture of National Security: Norms and Identity in World Politics* (New York: Columbia University Press, 1996), p. 6. Note that this definition accords with fairly traditional usages of the concept of culture in political science. Ann Swidler's concept of culture might also be usefully employed, as it is in Elizabeth Kier's *Imagining War* (Princeton, N.J.: Princeton University Press, 1997). As Swidler characterizes it, culture, is a "'tool kit' of habits, skills and styles from which people construct 'strategies of action.' Culture shapes behavior by defining possible alternative course of action and helping them to solve problems, not by defining people's goals or the values they place on different ends." Ann Swidler, "Culture in Action: Symbols and Strategies," *American Sociological Review* 51 (April 1986): 273–86. Quotation appears on p. 273.

29. Alastair Ian Johnston, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History* (Princeton: Princeton University Press, 1995); Kenneth M. Pollack, *The Influence of Arab Culture on Arab Military Effectiveness*, Ph.D. dissertation, Massachusetts Institute of Technology, 1996; Kenneth M. Pollack, *Arabs at War, Military Effectiveness, 1948–1991* (Lincoln: Nebraska University Press, 2002); Barry Posen, *The Sources of Military Doctrine* (Ithaca, N.Y.: Cornell University Press, 1984); Kier, *Imagining War*; Jeffrey W. Legro, *Cooperation under Fire: Anglo-German Restraint during World War II* (Ithaca, N.Y.: Cornell University Press, 1995).

30. Some scholars treat social structure as a subset of culture (see, for example, Rosen, *Societies and Military Power*). We acknowledge that culture ultimately shapes the power structure in a society and how societies decide (based often on ascriptive characteristics) how resources are allocated. However, as a starting point for analysis we begin with these hierarchies and cleavages in an effort to investigate how the existing structures in a society shape military activity.

31. One potential independent variable that we have not included is technology. We believe that technology is a basic material resource of the state and therefore, although it is a component of a state's military power, technology is not itself a component of a state's military effectiveness (in contrast to how a military chooses to procure and employ technology, which is a component of military effectiveness as we define it). For this reason, this volume does not examine technology per se as an independent variable. Rather, several of the chapters explore the reasons why a state chooses to procure particular technology or to use it on the battlefield in a particular manner. In other words, technology affects the resources a state has; effectiveness affects how a state uses that resource. Together the resource and the manner in which it is employed determine a state's military power.

32. Much previous research has focused on the tactical level. See, for example, Pollack, *Arabs at War*; Reiter and Stam, *Democracies at War*; the sociological and military operations research discussed earlier.