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AN ARMY TRANSFORMED: THE U.S. ARMY'S POST-VIETNAM RECOVERY AND THE DYNAMICS OF CHANGE IN MILITARY ORGANIZATIONS

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U.S. Army War College



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The Letort Papers



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FOREWORD

It is common to hear the argument that military organizations are incapable of reforming themselves. In this paper, Lieutenant Colonel Suzanne Nielsen takes the opposite position. It is not only possible for senior military leaders to change their organizations, it is also necessary since only these leaders are likely to be able to do it.

To explain what it takes, she examines the transformation of the U.S. Army as it went from being an institution in distress in the late 1960s and early 1970s during the Vietnam War, to being the organization that demonstrated tactical and operational excellence in the 1991 Persian Gulf War. While this paper does not examine the causes of success or failure in these two wars, which clearly exist on multiple levels, it does argue that the U.S. Army that fought in the latter was a very changed organization. It was the beneficiary of a program of interrelated and integrated reforms in the areas of personnel policy, organization, doctrine, training, and equipment modernization. While political leaders and other external factors established challenges and constraints, it was the uniformed leaders within the organization who crafted and implemented the detailed programs of reform that transformed the Army.

At the end of the first decade of the 21st century, the Army and the other Armed Services again face the need to change to become more capable of meeting the country's national security needs given new strategic, economic, and technological realities. While change remains difficult, it is useful to know what can be garnered from past success. To this end, the Strate-

gic Studies Institute is pleased to publish this analysis
as part of our Letort Papers series.

A handwritten signature in black ink, reading "Douglas C. Lovelace, Jr." in a cursive script.

DOUGLAS C. LOVELACE, JR.

Director

Strategic Studies Institute

ABOUT THE AUTHOR

SUZANNE C. NIELSEN, a Lieutenant Colonel in the U.S. Army, is an associate professor in the Department of Social Sciences at the U.S. Military Academy at West Point. She is responsible for the International Relations Program and teaches courses in international relations and national security. She also chairs the Academy's Scholarship Committee, which selects and prepares cadets to compete for the Rhodes, Marshall, and other nationally-competitive scholarships. An intelligence officer by background, Lieutenant Colonel Nielsen has served in the United States, Germany, the Balkans, Korea, and Iraq. Her research interests include change in military organizations, civil-military relations, and strategy. Her books include *American National Security*, 6th Edition, which she co-authored, and *American Civil-Military Relations: The Soldier and the State in a New Era*, which she co-edited, both released by Johns Hopkins University Press in 2009. She contributed chapters to both volumes of *The Future of the Army Profession* and also published articles in *Defence Studies*, *International Studies Perspective*, *Public Administration and Management*, and *Military Review*. Her dissertation, *Preparing for War: the Dynamics of Peacetime Military Reform*, won the American Political Science Association's Lasswell Award for the best dissertation in the field of public policy in 2002 and 2003. Lieutenant Colonel Nielsen is a distinguished graduate from the United States Military Academy and an alumna of the National War College. She holds a master's degree in political science from Harvard University, a master's degree in strategy from the U.S. Army Command and General Staff College, and a Ph.D. in political science from Harvard University.

SUMMARY

During the 2 decades preceding the Persian Gulf War in 1991, the U.S. Army went through tremendous reform and rejuvenation. It recovered from the Vietnam War, transitioned to an all-volunteer personnel model, and refocused on a potential future war against a very capable adversary in Europe. The Army's transformation was evident to external observers: from being seen as an organization in distress in the early 1970s, by 1991 the Army became an organization whose professionalism was the source of admiration. Drawing on the relevant literature, the author seeks to explain this important case of military change.

This paper makes four central arguments. First, leaders within military organizations are essential; external developments most often have an indeterminate impact on military change. Second, military reform is about more than changing doctrine. To implement its doctrine, an organization must have appropriate training practices, personnel policies, organizations, equipment, and leader development programs. Third, the implementation of comprehensive change requires an organizational entity with broad authority able to craft, evaluate, and execute an integrated program of reforms. In the case of the U.S. Army in the 1970s and 1980s, this organization was the U.S. Army Training and Doctrine Command (TRADOC). To an unprecedented degree, TRADOC was able to ensure that changes in personnel policies, organizations, doctrine, training practices, and equipment were integrated and mutually reinforcing. Finally, the process of developing, implementing, and institutionalizing complementary reforms can take several decades.

This suggests that stability in an organization's mission and resources can be important.

Despite the many beneficial reforms implemented by senior uniformed leaders during this time period, there are at least two important criticisms that must be addressed. The first is that the Army failed to retain the professional knowledge about counterinsurgency it had gained at a high price in Vietnam; the second is that the Army attained tactical and operational excellence but failed to develop leaders well-suited to helping political leaders attain strategic success. While these criticisms have merit, it is difficult to examine the progress made by the Army in the 1970s and 1980s and claim that the reforms that made it possible were not beneficial. At most, one might say that they did not go far enough.

While today's demands differ from those of the past, this paper suggests questions that may be useful in thinking about change today. What are the key constraints or parameters that civilian policymakers have established for uniformed military leaders? Do political and military leaders have a constructive relationship which facilitates the implementation of a coherent program of change? Is there an integrated approach within the Army that reaches into all key areas of force development and guides them in ways that are integrated and mutually reinforcing? Is there an organizational entity empowered and capable of being the focal point for establishing coherence in developments ranging from equipment modernization and doctrine to training and education? Knowing the answers to these questions would enable informed judgment about the prospects for the successful implementation of a program of reforms. The consequences, for good or for ill, could be quite significant in terms of resources, lives, and the national interest.

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In the early 1970s, the books that were being published about the U.S. Armed Forces, and particularly the Army, had titles such as: *Army in Anguish*, *America's Army in Crisis*, *Crisis in Command*, *Defeated*, and even *The Death of the Army: A Pre-Mortem*.¹ The common phenomenon to be explained in each of these works is the poor state of the U.S. Army. In the 1990s, after the Persian Gulf War, books about the U.S. Armed Forces and the Army had titles such as *Getting it Right*, and *Prodigal Soldiers: How the Generation of Officers Born of Vietnam Revolutionized the American Style of War*.² Instead of focusing on the Army's problems, the puzzle that authors in the 1990s address is the strength of this "formidable professional organization."³ These books attempt to trace the Army's effectiveness to its source, rather than to address its problems; the contrast with the literature on the Army of the 1970s is significant and dramatic.

This sea change in writing about the Army reflects the fact that, during the years between the Vietnam War and the Persian Gulf War in 1991, the U.S. Army went through a period of tremendous change. This was an important period in which the Army recovered from Vietnam and refocused on a potential future war against a very capable adversary in Europe. In the process, the Army saw important reforms in its personnel policies, organization, doctrine, training practices, and equipment modernization. The effects of these reforms were magnified as they were implemented in an integrated and mutually reinforcing manner.

Given the significant weight and role of the United States in international affairs and the importance of the military instrument of power in U.S. foreign and security policy, the resulting improvements in U.S. Army fighting capabilities were of great importance. However, despite the titles mentioned above, the literature on military change does not yet contain a systematic effort to explain this important case in a comprehensive fashion. This monograph seeks to fill this gap, while also informing ongoing debates about the dynamics that are likely to characterize successful military reform efforts.

Before turning to the specifics of this case, it is useful to survey what the existing literature offers those seeking to understand military change. Three issues are addressed in the next section. The first relates to the difficulties that may be associated with efforts to change military organizations. Historically speaking, it is certainly true that military organizations have developed new capabilities or improved existing ones in ways that have greatly improved their effectiveness when put to the test. However, it is also true that military organizations do not constantly, or even always, improve. For this reason, it is valuable to identify some of the challenges that stand in the way of attempts to change military institutions. Building on an appreciation that progress cannot be taken for granted, the second issue relates to explaining changes that do occur. Though valuable generalizations exist, these propositions do not fully explain the changes that took place in the U.S. Army from the Vietnam era through the 1980s, and therefore a new approach is needed. Finally, the existing literature leaves unresolved a number of important debates that shape explanations for military change. An appreciation for these debates

provides valuable context for understanding the contributions and limitations of various explanations of military change.

Informed by this groundwork, change in the U.S. Army in the 1970s and 1980s is then examined. This case lends support to four central arguments about processes of military change. First, leaders within military organizations are essential; developments external to military organizations most often have an indeterminate impact. Political leaders' interpretations of the international environment, and their decisions on issues such as the military budget and conscription, shape the parameters within which military leaders act. However, military leaders play an important role in determining how to manage these challenges and constraints and develop the specific programs and policies that shape military institutions in important ways. Second, military change is about more than doctrine. For a military organization to be able to implement its doctrine, it must have appropriate training practices, personnel policies, organizations, equipment, and leader development programs. Therefore, attempts to implement a comprehensive reform agenda must be supported by critical analytical work which logically relates developments in each of these areas. Third, as a related issue, the implementation of comprehensive change requires an organizational entity with broad authority over the development of the entire organization. Finally, the process of developing and implementing peacetime military changes can take several decades. Therefore, stability in an organization's mission and resources can be important.

Though dissimilarities are numerous and significant, the first decade of the 21st century is similar to the Vietnam War years in that both periods proved to

be very challenging for the U.S. Army. Both periods saw enormous operational demands being placed on the Army, and in both there were vigorous debates about what the Army of the future should look like. Even as the Army of today remains involved in ongoing combat and stability operations, those charged with shaping the force for the future could benefit from reflecting on what can be learned from past success.

MILITARY CHANGE IS DIFFICULT

Instituting change in military organizations is both difficult and potentially very important. It is important because, given the nature of war itself, military organizations must adapt to remain effective in a dynamic environment. This environment contains at least four important sources of change. The first of these is political. Carl von Clausewitz is famous for writing “war is merely the continuation of policy by other means.”⁴ He goes on to say that “policy, then, will permeate all military operations, and, in so far as their violent nature will admit, it will have a continuous influence on them.”⁵ One implication of these ideas is that the nature of war will be altered as relations among states evolve and changes in policy occur. Second, Clausewitz observes that social changes significantly affect the character of war. Clausewitz’s recognition of this factor can be seen in his discussion of the changes that the French Revolution brought to warfare by involving the popular masses.⁶ Finally, two additional dynamics that affect the nature of war are economic development and technological change—two issues Clausewitz has been criticized for not adequately addressing.⁷ In sum, the nature of warfare can be altered

by political, social, economic, and technological developments and military organizations must adapt to remain effective. Not all changes are good, but stagnation can easily become problematic.

Given that change is important, why is it difficult to institute in military organizations? It is possible to gain a better understanding of the issues at stake by looking at three aspects of military institutions: their status as large organizations, their status as government bureaucracies, and finally their unique characteristics due to the fact that their central task is to manage organized violence for the political purposes of the state.⁸

The Military As A Large Organization.

Perhaps the best known set of propositions about organizational behavior is the Organizational Process Model originally developed by Graham Allison in *Essence of Decision*, and refined by Allison and Phillip Zelikow in the second edition of that book. One of the model's central predictions is that, "The best explanation of an organization's behavior at t is $t - 1$; the best prediction of what will happen at $t + 1$ is t ."⁹ A major challenge that large organizations face is the coordination of the efforts of large numbers of people. For this reason, it is rational for organizations to develop standard ways of doing business, or standard operating procedures (SOPs), to facilitate this coordination. At higher levels of aggregation, these SOPs form part of programs, which together constitute an organization's repertoire of existing capabilities. As Allison and Zelikow argue, "Since procedures are 'standard,' they do not change quickly or easily."¹⁰ Change is not only difficult, but also problematic because it cuts

against the mechanisms designed to keep the organization functioning smoothly. These factors lead to the general expectation of continuity rather than change in organizational behavior.

In addition to the need for SOPs, Allison and Zelikow mention three additional factors that can work to inhibit organizational change. First, leaders may be influenced to favor the status quo by organizational culture. Organizational culture, simply defined, consists of an organization's formally and informally expressed understandings of how it is to fulfill its functions and what functions are appropriate for it. The existence of a strong organizational culture, like the existence of SOPs, can serve the functional purpose of helping to coordinate the activities of large numbers of people toward a common purpose.¹¹ However, organizational culture can also serve to constrain the options that leaders of organizations consider.

Three authors who have focused on culture when examining constraints on military change are Elizabeth Kier, Morton Halperin, and Andrew Krepinevich. Organizational culture is a major component of Kier's explanation in her book, *Imagining War*, for the lack of doctrinal innovation in the British and French armies prior to World War II.¹² Halperin similarly captures the possible impact of organizational culture in his discussion of "organizational essence." He argues that organizational leaders will resist change that threatens their view of the appropriate missions and capabilities of their organization.¹³ Finally, Krepinevich argues that adherence to the "Army Concept" inhibited the ability of the Army to adapt to the demands of the Vietnam War. This concept called for the Army to focus on mid-intensity, conventional war, and rely heavily on firepower to keep casualties down. This vi-

sion of the appropriate way of war prevented the U.S. Army from adopting appropriate counterinsurgency tactics in Vietnam.¹⁴

Although these authors see organizational culture as constraining change, this would not necessarily have to be the case. One possible counter-example is the German Army in the years leading up to World War II. According to military historian Williamson Murray, throughout the interwar period the German Army had a “culture of critical examination” that enabled it to not only learn the lessons of World War I, but to continue learning during exercises and during the early combat operations of World War II. In addition, the German Army’s culture was characterized by a high degree of trust between levels of command. This trust enabled learning by making it easier to openly acknowledge deficiencies and by ensuring that failures were examined for learning points rather than used as a source of punishment.¹⁵

A third factor, in addition to SOPs and culture, which may inhibit change is the interest that organizational leaders have in the status quo. A strong statement about the incentives of senior leaders to resist change can be found in Barry Posen’s discussion of doctrinal innovation. He argues that one of the reasons that military organizations will normally stagnate when left alone is that “individuals develop a vested interest in the distribution of power and in the purpose it protects. Generally, it is not in the interests of most of an organization’s members to promote or succumb to radical change.”¹⁶ The following passage from Allison and Zelikow captures these two ideas and further suggests their relevance to the military context:

The military services are manned by careerists on a structured ladder. Promotion to higher rungs is dependent on years of demonstrated, distinguished devotion to a service's mission. Work routines, patterns of association, and information channels . . . make quite predictable a service's continual search for new hardware consistent with currently assigned roles and missions.¹⁷

The implication is that senior uniformed leaders, who have been socialized by the system that has also recognized them with promotion to the highest ranks, would be unlikely to advocate change. As Carl Builder points out, in the U.S. military services, culture and material interests can combine to form "masks of war" through which the services see threats. "The advocates for a particular kind of military instrument can hardly be faulted (at least in peacetime) if their interpretations of the threat – and the effectiveness of a particular military system to counter it – reflects the interests of their institutions and the importance of their chosen careers."¹⁸

A final factor that may impede organizational change is an interest in avoiding uncertainty. Allison and Zelikow argue that organizational leaders will try to minimize uncertainty in two ways. The first is to attempt to create a "negotiated environment" around themselves within which organizational leaders can "maximize autonomy and regularize the reactions of other actors with whom they must deal."¹⁹ A second approach is relevant to an organization's relationship with the outside world that cannot be managed in this way. In this case, Allison and Zelikow argue, organizations respond to uncertainty by running standard scenarios.²⁰ That organizations desire to reduce uncertainty is another key point of agreement between

Allison and Zelikow and Posen, and is a second key reason why Posen believes that military doctrine will stagnate if militaries are left on their own.²¹ If minimizing uncertainty is a reasonable goal for organizational leaders, it may also be a factor that militates against change.

The previous section has discussed the following four general characteristics of military organizations: standardization, culture, vested interests, and uncertainty avoidance. As discussed above with regard to organizational culture, these factors may not always militate against change. In their critique of Allison's models, Jonathan Bendor and Thomas Hammond argue that Allison downplays the dynamism of large organizations and their ability to take on complicated challenges.²² Nevertheless, in any given situation these organizational attributes may serve as obstacles to change.

The Military As A Bureaucracy.

Although Allison and Zelikow usefully point out the elements that militaries have in common with all large organizations, military organizations are also government bureaucracies. As James Q. Wilson points out, government executives operate in a realm of unique constraints that affect their ability to implement change. In contrast to the executives of private firms, government executives can neither allocate the factors of production, nor can they entirely set their own goals:

Control over revenues, productive factors, and agency goals is all vested to an important degree in entities external to the organization – legislatures, courts, poli-

ticians and interest groups . . . whereas business management focuses on the “bottom line” (that is, profits), government management focuses on the “top line” (that is, constraints).²³

This lack of control can make instituting change more difficult, and also makes salient a second factor—the importance of political support. One of the key tasks of a federal executive is maintenance of the organization. As Wilson points out, “In a government agency, maintenance requires obtaining not only capital (appropriations) and labor (personnel) but in addition political support.” Political support provides government executives the necessary autonomy to implement change when they perceive that change is needed. “Political support is at its highest when the agency’s goals are popular, its tasks simple, its rivals non-existent, and the constraints minimal.” Unfortunately, these conditions do not often apply to government agencies.²⁴

In *The Defense Game*, Richard A. Stubbins discusses how these factors play out in the making of U.S. defense policy. Ideally, one would like to see some coherent link between the country’s national security strategy and defense program and policy decisions. In the first portion of his book, Stubbins explains why a high degree of coherence is not necessarily to be expected in the United States:

At stake in our defense program is not only our national security, but also large opportunities for personal and economic success. Congressmen favor programs and facilities in their states and districts regardless of efficiency. Industry officials seek to boost their sales and profits, oftentimes at the expense of the government and the taxpayer. Military officers seek promotion

and advancement under accepted standards of performance, which often conflict with hard-nosed business practices.²⁵

Stubbing also discusses the need for defense executives to maintain political support. He argues that in order to remain effective, U.S. Secretaries of Defense must maintain good relations with three key constituencies: the White House, Congress, and the military services. Stubbing approvingly quotes James Schlesinger, who said of the position of Secretary of Defense that it merely constituted a “license to persuade,” with part of the ability to persuade strongly dependent on political support.²⁶

Though the positions of the uniformed leaders of military services in relation to their own services are perhaps a bit stronger, much the same could be said of them. Their key constituencies include civilian political leaders in the executive branch (who may be unified or divided), members of Congress, and other senior officers within their services. At this level, key leaders still face resource constraints and need political support.

The Special Nature Of Military Organizations.

The preceding paragraphs have argued that changing military organizations can be difficult because of the potential built-in resistance to change characteristic of all large organizations and because of unique constraints on their leaders that derive from their status as government bureaucracies. In addition to impediments raised by these aspects of military institutions, obstacles to change are posed by their unique function. Military organizations operate in an envi-

ronment fraught with uncertainty. During peacetime, they do not fulfill their essential functions on a daily basis. Instead, they merely prepare to fulfill those functions. This can make change more difficult because until military organizations face operational tests, it is difficult to judge existing organizational structures and practices – let alone the value of alternatives. Although wargaming and simulation can help, the best of these still only approximate the conditions of future combat and the results of the interaction of friendly and enemy forces.²⁷ Since it is impossible to eliminate uncertainty when arguing that change will enhance future prospects of victory, and the potential for unforeseen side effects exists, there is often not an obviously right answer to particular military problems.

Second, the stakes involved in military change are uniquely high, given that military organizations perform their essential tasks in an environment of at least potential violence.²⁸ Military leaders may hesitate to abandon “tried-and-true” weapon systems, organizations, or tactics in favor of new approaches that may – in their view – unnecessarily put lives at risk. As an example, armor commanders that enjoyed the protection of the M1 Abrams Tank during the Persian Gulf War in 1991 may be reluctant to abandon that system in favor of more lightly armored vehicles and new concepts of force protection that rely on less proven technologies and systems. At a higher level of analysis, the stakes involved could be as significant as national survival. Changes to military organizations that are dramatic and revolutionary are also the most dangerous and the most likely to be seen as irresponsible gambles with the country’s defense. So, in addition to the challenges facing the executives of all bureaucracies, senior military leaders face additional uncertain-

ties as to the worth of particular changes and may pay a high price in terms of lives and mission success for getting it wrong.

Types Of Military Change.

To this point, I have been a bit vague on the definition of “change.” The reason is that the above obstacles stand in the way of most efforts to change military organizations. However, because these obstacles may impact on different types of change in distinct ways, it is useful to further distinguish among two types of change: innovation and reform. The latter of these is the focus of this paper.

Military innovation has been defined differently by various authors, but the most useful here is the definition Stephen Rosen sets forth in *Winning the Next War*. In Rosen’s work, innovation consists of “a change in one of the primary combat arms of a service in the way it fights or alternatively, as the creation of a new combat arm.”²⁹ The U.S. Armed Forces are divided into services—the Army, Navy, Air Force, and Marines—which are then in turn divided into different specialties. Here Rosen focuses only on “primary combat arms,” which for an army reasonably includes infantry, armor, field artillery, and perhaps combat aviation. Rosen’s definition means that for innovation to take place, one of these branches either needs to fundamentally alter its approach to warfighting, or a new combat arms branch must be created.

One can imagine that all of the challenges mentioned above may be operative in the case of military innovation. However, as Rosen points out, there is an additional crucial obstacle. Innovation is difficult because it requires a new theory of victory rather than

merely incremental improvements against existing measures of success. It also requires institutionalization, which necessitates the development of promising career paths for specialists in the new way of war. In order to have the political power in the military to create these pathways, innovators must have the credibility that comes with traditional service credentials. In sum, "peacetime military innovation occurs when respected senior military leaders formulate a strategy for innovation that has both intellectual and organizational components."³⁰

The concept of reform differs from Rosen's definition of innovation in that it encompasses a broader range of potential changes. As the term is used here, a reform is an improvement in or the creation of a significant new program or policy that is intended to correct an identified deficiency. Therefore, reform does not necessarily entail adjustments to an organization's core tasks. It also does not necessarily require the visualization of new ways of warfare, or the development of new measures of effectiveness. A third distinction between the two concepts is suggested by Williamson Murray who uses an alternative terminology. Instead of "innovation" and "reform," Murray uses the terms "revolutionary innovation" and "evolutionary innovation." Murray's "revolutionary innovation" is similar to Rosen's "innovation" in the sense that both give great weight to the role of key individuals. Reform, as discussed here, is similar to evolutionary innovation in that it "depends on organizational focus over a sustained period of time rather than on one particular individual's capacity to guide the path of innovation for a short period of time."³¹

Those who would attempt either innovation or reform face the challenges mentioned above: the difficulty in changing standard ways of doing things

in large organizations, as well as obstacles posed by organizational culture, vested interests, and the need to manage uncertainty; the particular problems that executives in federal bureaucracies face because of the need for political support which interacts with a lack of control over resources; and finally the performance uncertainties and high costs of failure especially associated with militaries. Some reforms will face more resistance than others, and Wilson's insight that reforms that threaten existing managerial relationships will be most resisted is probably useful in attempting to predict the degree of resistance.³² Nevertheless, all change is difficult, which goes a long way in explaining why it is that military organizations do not constantly improve – even incrementally.

THE LITERATURE ON MILITARY CHANGE

Despite all that has been said above, it is, of course, true that military organizations change. In the introduction to an anthology that reviews the experiences of major industrialized countries during the interwar period, editors Williamson Murray and Allan R. Millett challenge the picture of military stagnation altogether. Their study assumes, on the contrary, that:

Innovation is natural and the result of a dynamic environment in which organizations must accept change if they are to survive. While the period of 1918 to 1939 was technically one of peace, the future combatants engaged, especially as war approached, in intellectual and technological jockeying and sought advantages in materiel and doctrine.³³

Although the contributing authors hesitate to draw explicit “lessons learned” about innovation, their cas-

es paint a rich picture of change across the military organizations of different countries in this peacetime period.³⁴ So, despite all the obstacles, military institutions adapt and adjust. This section will review existing approaches to understanding military change, and group these studies into four categories based on their central focus: military innovation, military doctrine, civil-military relations, and technological change. This review will acknowledge contributions of these perspectives, while also arguing that the case of the U.S. Army in the 1970s and early 1980s indicates the need for a new approach.

Innovation.

A first way of examining military change is to focus on innovation, with innovation defined (as it is above) as consisting of an alteration of core tasks. This is the manner in which Rosen looks at peacetime military change in *Winning the Next War*, and also adequately describes the focus of many of the chapters in the anthology edited by Williamson and Millett.³⁵ This approach contributes to an understanding of peacetime military change through its explanation of the conditions under which military institutions develop the capability to conduct new ways of warfare. However, this approach has limitations when applied to the post-Vietnam U.S. Army of the 1970s and early 1980s. In this period, the Army's core task – defined as high intensity, conventional conflict – remained constant. No new combat arms branches were created, and concepts governing the employment of existing branches were adjusted rather than reconceived.

While it is useful to draw a clear distinction between the concepts of innovation and reform, two other key

points should be made. First, it is not necessarily the case that innovation is something that has a rapid impact, and reform only bears fruit after a long period of time. The cases of successful peacetime innovation in the United States which Rosen examines include: amphibious warfare (1905-40); carrier aviation (1918-43); and helicopter mobility (1944-65).³⁶ Although the transformation in the Army's use of helicopters occurred most quickly, each of these innovations took decades to be institutionalized. Similarly, there may be a lengthy lag time between the decision to implement reforms and when these reforms have their impact. Organizations such as the U.S. Army do not turn on a dime; change takes time.

The second point is that it is not necessarily the case that innovation will prove more beneficial or consequential than reform. Both types of change have the potential to noticeably change organizational capabilities, and this is especially true of reforms in various programs when they are integrated and mutually reinforcing as they were in the U.S. Army in the 1970s.

Military Doctrine.

A second approach is to look at a single facet of military organizations and attempt to explain change using comparative cases drawn from either different military institutions, or from the same military institution over time. The aspect of military organizations most commonly studied in this way is military doctrine. Three scholars who have contributed in this area include Barry Posen, Elizabeth Kier, and Kimberly Zisk. In *The Sources of Military Doctrine*, Posen uses comparative case studies and propositions from organization theory and balance of power theory to

explain doctrinal innovation in the armed services of Britain, France, and Germany in the interwar period. In *Imagining War*, Kier investigates the power of cultural factors in explaining change in the British and French armed services in the same period. A third example is Zisk's book, *Engaging the Enemy: Organization Theory and Soviet Military Innovation, 1955-1991*. Rather than investigating cases drawn from different countries, Zisk examines cases drawn from the same military institution across time.³⁷

Without a clear definition of what is meant by military doctrine, it is possible to either overstate or understate its importance.³⁸ According to the Department of Defense (DoD), doctrine consists of "fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application."³⁹ Doctrine's potential importance is based on the fact that it constitutes an organization's formal articulation of its understanding as to how it will fight the next war. For this reason, examinations of military doctrine and the dynamics that shape it make a valuable contribution. However, an examination of doctrine alone will not tell the whole story.

In his doctoral thesis, Kevin Sheehan looks at post-World War II changes in U.S. Army doctrine. He examines three cases of peacetime doctrinal change: the Pentomic Division Concept in the 1950s, the development of active defense in the 1970s, and the creation of Airland Battle doctrine in the early 1980s.⁴⁰ In his study, Sheehan seeks to determine what role doctrine played in the U.S. Army, to understand why it changed so frequently in a time of peace, and to draw some conclusions about what role it ought to play to maximize the effectiveness of the Army.⁴¹ What is most

relevant to the discussion here is that it is possible to read these and other accounts of doctrinal change in the U.S. Army in this period and not appreciate the extent to which the organization was undergoing a process of reform and revitalization. Doctrine is part of the story, but it is not the whole story. Sheehan himself makes this clear in his explanation of the potential significance of military doctrine:

In theory, doctrine constitutes the framework through which army leaders convert inputs (soldiers, officers, ammunition, plans, equipment, etc.) into outputs (success in battle and, ultimately, in war); it tells armies how to prepare for and win its battles, campaigns, and wars. . . . Armies come to believe that having the 'right' doctrine is a prerequisite for military success — but, as we have suggested, the history books and conventional wisdom suggest that they rarely do.⁴²

The fact that doctrine serves as a guide for the broader development of armies in theory does not mean that this always occurs in practice. It was the integration of different reforms, in doctrine as well as in other areas, which allowed the Army to begin the process of rebuilding in the 1970s. A solid understanding of military change in this period requires an examination of doctrine as well as reforms in areas such as personnel management, training, and equipment modernization, and the manner in which these reforms were linked and became mutually reinforcing.

Civil-Military Relations and Military Change.

A third approach seeks to explain the propensity for military organizations to change as either a prod-

uct of different political structures, or as a result of civilian choices as to delegation of authority and monitoring mechanisms. These approaches have their roots in the discipline of economics and principal-agent theory, where political leaders are the principals and their task is to get their military agents to perform in a desired way. The principal-agent approach usefully calls attention to the fact that military leaders at the highest level operate in a realm of constraints, serving some purposes established by others while also trying to meet organizational needs. It also provokes an examination of the potential importance of civilian leaders in motivating or directing change in military institutions.⁴³ As discussed above, some analysts see civilian involvement as necessary to the prevention of military stagnation.⁴⁴

Two scholars who have done work in this area are Deborah Avant and Peter Feaver. They have applied adaptations of the principal-agent framework to derive predictions about both military responsiveness and civilian control. In *Political Institutions and Military Change*, Avant looks at the experiences of the British and American armies in counterinsurgency warfare and finds that domestic institutions hold the key to explaining differences in the effectiveness of these two organizations. The structure of domestic institutions (united or divided) affects the bias of military organizations and also indicates the type of civilian intervention that will be likely to prompt military change. In Avant's cases, these two factors determine how readily military organizations will adapt doctrine to meet new circumstances.⁴⁵ Feaver also uses the principal-agent framework, but he focuses less on the issue of a divided or united principal and more on the forms of delegation and monitoring civilian leaders embrace.

In one application of this approach, Feaver develops a game theoretic model and uses it to explain the 1990s “crisis” in U.S. civil-military relations through its predictions about friction in the civil-military relationship.⁴⁶ That same model also makes predictions about military compliance, which is the focus Feaver himself ascribes to the work.⁴⁷ Feaver further develops his argument about the importance of delegation and monitoring mechanisms, and the understanding they provide about the state of American civil-military relations and civilian control, in a later book.⁴⁸

As mentioned above, these contributions point to the potential importance of the nexus between uniformed officers and civilian leaders as a possible source of military change. However, these approaches have limitations that particularly come to light when exploring the changes that took place in the U.S. Army in the 1970s. The pride of place that the principal-agent approach gives to the role of the civilian principal can be a source of weakness for several reasons. First, political leaders often lack the incentive to spend a large portion of their time and energy on military issues. The internal workings of the military services and their problems may be below the noise level for political leaders managing multiple areas of concern. Second, even if military issues do grab their attention, civilian political leaders may lack the expertise, confidence, or will to direct specific solutions. If just being informed has costs, then the sustained attention needed to ensure that changes are actually implemented consumes even greater resources. As one example of this phenomenon, even when President John F. Kennedy made the development of counterinsurgency capabilities in the Army a personal priority, the Army failed to move in this direction in a meaningful way.⁴⁹

Third, a focus on the civil-military relationship as the source of change underestimates the possibility that military leaders will take the initiative in identifying the need for change and acting upon that need. Fourth and perhaps most importantly, the principal-agent framework presumes that the principal knows what it wants and the problem is to get the agent to comply faithfully. In the realm of military policy, this may only be true in a very rough sense.

In the case of the Army in the 1970s and early 1980s, civilian leaders played a variety of roles in the process of change. At times they provided constraints that gave further impetus for change, at times they served as partners in change, and at times they made change more difficult. The argument that will be developed here suggests, however, that the primary determinants of the content of changes initiated in the Army during this period came from within.

Technological Change.

Finally, military change can be seen as primarily a product of technological advances. In search of combat advantage, military organizations embrace new technologies and develop new ways of warfare. The idea that developments in technology can be a key motivator for military change seems to be particularly compelling to some in the U.S. defense policy community, and helps to generate energy for the debate about whether or not there is an ongoing "revolution in military affairs" (RMA). One of the leading military proponents of the RMA in the 1990s, Admiral William A. Owens, believed that advances in intelligence, command and control communications, and the ability to use precision strike capability could be com-

bined to create a “system of systems” that would give U.S. Armed Forces a significant advantage.⁵⁰ Skeptics, on the other hand, see military discussions about the RMA as reflective of service parochialisms and a desire to eschew undesirable forms of combat.⁵¹

In a balanced examination of the debate over the existence of an RMA, Michael O’Hanlon provides a useful review of the various positions and draws some conclusions relevant to any discussion of the impact of technological developments on military change. Specifically with regard to the current RMA, O’Hanlon argues that some of the more extreme claims unjustifiably project the pace of advance in electronics and information systems onto other technologies, and therefore are of dubious value. One is the claim that “land vehicles, ships, rockets, and aircraft will become drastically lighter, more fuel efficient, faster, and stealthier, making combat forces far more rapidly deployable and lethal once deployed.”⁵² Instead, improvements in these areas are much more likely to continue to be incremental. O’Hanlon also makes a more general observation worth citing here in full:

Military revolutions are the purposeful creations of people. They are created by a combination of technological breakthrough, institutional adaptation, and warfighting innovation. They are not emergent properties that result accidentally or unconsciously from a cumulative process of technological invention.⁵³

O’Hanlon is not alone in making this point – many RMA discussions acknowledge the importance of changes in organizations and warfighting concepts as well as in technology.⁵⁴ Nevertheless, it is important to keep in mind that there is nothing inevitable about advances in technology producing advances in warfighting capability.

A great illustration of this point is the development of radar during the interwar period. Although the Germans had an early technical lead, they never fully exploited this advantage. In strategic air defense, for example, they used radar in their existing organizations to substitute for aerial observers. In other words, radar was for the German Army primarily a manpower saving device—it sparked neither operational nor organizational innovation. The British, on the other hand, were technically behind the Germans in some respects but more fully took advantage of radar by creating an effective, centrally-directed air defense network. As one historian notes, “This logic contributed a winning strategy to the Battle of Britain in 1940-41.”⁵⁵

This observation that organizations and countries differ in their ability to fully exploit new technologies applies to broader spans of time as well. As Bernard Brodie concludes in his historical sweep that runs from the Napoleonic Period through World War II, “there seems not to be any direct proportionality between technological change and military-political consequences.”⁵⁶ Profound changes in warfare can come in periods of technological stagnation, and technology does not inevitably have near-term effects. In the long run, technological change may shape the nature of war, but the long run may be a very long time.

This debate is relevant when examining change in the U.S. Army in the 1970s for several reasons. First of all, Army leaders sought to interpret the significance of technological trends in this period as these trends became evident through both research activities and in actual operations. One example of the latter was U.S. General William E. DePuy’s analysis of what he perceived as a new lethality on the battlefield made

evident by tremendous losses during the 1973 October War in the Middle East.⁵⁷ A second reason is the importance of the Gulf War as a key event that showed the increased levels of effectiveness that U.S. Armed Forces had achieved over preceding decades. Some, such as William Perry, believed that the scale and low cost of the victory were primarily due to technological advantage.⁵⁸ Undoubtedly, technological advantage played a substantial role, but focusing solely on it leaves out the attributes of the organizations that enabled them to exploit advanced technologies. Without denying that technological change has an impact, the main point here is that this does not occur in any sort of inevitable or straightforward way. Much will depend on the individual organization's ability to create new operational concepts and perhaps new organizations in order to exploit the change.⁵⁹ This suggests the importance of strong integration in an army's doctrine and training. Changes in each of these areas, as well as in other management systems, were important components of the U.S. Army's 1970s reforms.

THE NEED FOR A NEW APPROACH

The previous two sections established the importance of military change, explained why it is difficult to institute, and reviewed existing approaches to the problem. The argument here is that the change that took place in the Army between the end of the Vietnam War and the 1991 Persian Gulf War is not readily explained through a focus on a particular innovation, doctrinal change alone, the civil-military relations nexus, or advances in technology. Instead, it was the product of interrelated reforms in the following areas: personnel management, professional military educa-

tion, training philosophy and execution, doctrinal developments, and modernization. The specific reforms were not in and of themselves revolutionary. Instead, they were incremental improvements adopted to overcome identified deficiencies. In some cases, these reforms required the initiation of new programs, but these programs did not change the organization's core task. It was the combination of these reforms, and the links among them, which were essential to changes in the U.S. Army that began in the 1970s.

An explanation of organizational change in this period, therefore, requires an explanation of the various reforms that in combination produced it, as well an explanation of the links that were forged among them. Unfortunately for the sake of simplicity, the different reforms were not produced by exactly the same dynamics. One challenging aspect of the literature on military change is that the conclusions of different scholars vary widely. Here I will organize these issues into three debates. First, who initiates reform? More specifically, do civilian political leaders or military organizational leaders play the key role? Second, what motivates reform? Third, what differentiates merely attempted reforms from those that have an impact? This section will explore these questions.

Who Initiates Reform?

As discussed above, there are a variety of impediments to changing military institutions. Recognizing this to be the case, one possible conclusion is that change can only come from without. This is essentially Barry Posen's perspective as presented in *The Sources of Military Doctrine*. He argues that military innovation occurs when civilian leaders are motivated to get

involved and institute change.⁶⁰ Posen recognizes that civilians may not always have the expertise necessary to directly implement changes, and therefore argues that they will find a compensating source of military knowledge in either a competing service or “mavericks” – rebels within military organizations.⁶¹

Other scholars have disagreed with the central role Posen gives to civilian political leaders. Rosen argues, for example, that senior military leaders with traditional credentials in their services drive successful innovations. Rosen also argues that military mavericks are unlikely to be effective agents of innovation, since their very status as mavericks makes it impossible for them to garner the organizational authority needed to implement change.⁶² In basic agreement, Kier points out that “civilian intervention is unusual” in the development of doctrine, and suggests that civilian political decisions instead shape the environment in which military choices are made.⁶³ Avant, like Rosen and Kier, ascribes primary responsibility for the detailed development of doctrine to military leaders.⁶⁴

Given these differing perspectives, one dispute in the literature is over the identity of the key agent of change. The case examined here supports those in the latter school of thought since military leaders were the crucial developers of the reforms which were implemented in the U.S. Army in the 1970s and early 1980s.

What Motivates Change?

There are two possible sources of motivation for change in a military organization—external and internal. When examining external sources, there are again two broad spheres that should be considered. In distinguishing between them, it is valuable to use

Kenneth Waltz's concept of levels of analysis. Spurs to change that come from outside an organization can be categorized as third image sources stemming from the international system or second image sources stemming from the domestic environment.⁶⁵ There are contrasting perspectives as to the relative importance of these levels of analysis, as well as disagreements about which factors within them matter most.

Turning first to Waltz's third image and the international system, Posen argues that military change occurs when changes in the international environment drive civilians to intervene in military affairs and institute change.⁶⁶ What matters most is the international balance of power. A second possibility – which does not necessarily rely on the direct and detailed intervention of political leaders – is that military leaders respond to shifts in the national security strategy as developed and articulated by political leaders.⁶⁷ This second view gives weight to the international system in that the international environment is likely to impact on political leaders' development of national security strategy.⁶⁸ However, civilian influence on the accompanying changes in military organizations is not necessarily direct.

There are two other ways of capturing the potential effect of developments in the international system on military change that rely more on an independent evaluation by military officers rather than civilian involvement. The first, developed by Rosen, suggests that key military leaders respond not so much to civilian direction, as to structural characteristics of the security environment. In his words,

The international security environment is composed of those factors not under the control of either the

United States military or the government of hostile powers but that constrain or create opportunities for the military. Technological revolutions outside the control of the military, such as the invention of the airplane, or large changes in the international role of the United States, such as the nation's emergence as a Pacific power after the acquisition of the Philippine Islands, have triggered peacetime innovation.⁶⁹

Kimberly Zisk provides a second perspective that also emphasizes independent military evaluations, but she focuses on threat. Zisk argues that military officers should be viewed as national security professionals who seek to ensure the state's security through their analysis of potential future adversaries.⁷⁰ Senior military officers are capable of learning from, and will respond to, changes in rivals' military postures. Posen also acknowledges the possibility that militaries will learn from foreign developments. However, he takes a more skeptical approach by restricting this exception to the idea that militaries may respond to either their own experiences or those of client states.⁷¹ Both Zisk and Posen argue that military officers are more likely to respond to foreign developments that they see as being relevant to the success of their own current plans.

Shifting now to Waltz's second image but still looking outside the organization, the initiators of change may respond to factors that stem from within the state. As one example, Kier argues that when civilian political leaders make decisions that shape military policy, they are more likely to prioritize the domestic – rather than the international – balance of power.⁷² Similarly, Avant argues, "We should not necessarily expect to see civilian leaders as unitary actors pursuing the best interest of their country in the international realm. We

should expect them to behave as strategic political players who act first to ensure that they will stay in power."⁷³ An actor's protection of his or her status in the domestic political game is an important source of motivation for actions of many types—including the formulation of military policy. This insight is valuable in the case examined here. For example, one of the most important political decisions which shaped the course of the U.S. Army's reforms in the 1970s was the political decision to go to an all-volunteer manpower policy. This decision, announced by candidate Richard Nixon during the 1968 presidential election, had more to do with Nixon's relationship with the American electorate than with a desire to improve the effectiveness of the U.S. military.

Turning to organization theory, James G. March and Herbert A. Simon suggest additional possibilities. They argue in their classic work on organizations that "the rate of innovation is likely to increase when changes in the environment make the existing organizational procedures unsatisfactory."⁷⁴ When hypothesizing about potential domestic influences on change, it is useful to combine March and Simon's observation with insights from organization theorists who have focused on the importance of the resource dependence of organizations. These theorists expect managers to actively "seek to increase power over critical aspects of the environment."⁷⁵ This suggests that military leaders would seek to shape the resources that political leaders decide to provide them. In some circumstances, change could be a means to this end. This chain of reasoning suggests that military leaders would be more likely to institute reforms when such reforms were necessary to secure the organization's supply of critical resources.⁷⁶ Although these resources could be

material, organizational leaders may also attempt to reinforce the social legitimacy of their organizations as either an end in itself, or as a means to strengthen claims on material resources.⁷⁷

A second proposition that can be drawn from organization theory is that organizational leaders will strive to reduce uncertainty. It was noted above that some analysts, such as Allison and Zelikow and Posen, derive from this the idea that organizations will tend to stagnate when left on their own. However, this is not necessarily the case. In his book, *Organizations in Action*, James Thompson argues that it is useful to take a level of analysis approach to organizations. At their core, organizations are focused on performing their technical functions. In a military context, this could be taken to consist of the operations of warfighting units. At a second managerial level, the focus is on servicing these technical suborganizations by mediating between them and their customers, and by ensuring the receipt of adequate resources. A crucial responsibility of the managerial level is to enable the elements of the organization operating on the technical level to fulfill their functions by reducing uncertainty in their environments.⁷⁸ As in the case of resources, this suggests that military leaders would be more likely to introduce reforms when these reforms reduce uncertainty in the organization's environment. This does not mean that there is a direct relationship between an organizational desire to reduce uncertainty and a specific policy — such as a preference for offensive doctrines.⁷⁹ The particular policies that will meet organizational needs for uncertainty reduction are context dependent.⁸⁰

In sum, change could be motivated by both foreign and domestic developments external to military organizations. The characteristics of the international

environment that may be important include shifts in the balance of power, structural characteristics of the security environment, or the activities and postures of foreign militaries. Within the state, political leaders may impact on military reform as they make policies with an eye to their domestic political situation. Finally, organizational leaders may be motivated to attempt reforms when such actions help them to secure critical organizational resources or reduce uncertainty.

In addition to external sources, organizations may be driven to embark on reforms by internal developments. The most common proposition here is that reform will be motivated by dramatic performance failure. As two examples, Posen and Allison and Zelikow suggest that organizational failures may drive reform in organizations in which continuity is otherwise expected.⁸¹ In response, Rosen has pointed out that failure may just lead to more failure, and that lack of success does not necessarily indicate directions for positive future development.⁸² Nevertheless, since this idea is so common in the literature it should be kept in mind.⁸³

A second possibility, which draws again from Simon and March's work, requires less drastic disasters to inspire change. Simon and March argue that innovation may be spurred by organizational performance that falls below established standards.⁸⁴ Their analysis suggests that military leaders would embark on reforms when internal review processes identify performance that does not meet current levels of acceptability. This perspective serves as a corrective to the overly stagnant and regimented portraits sometimes painted of the performance of large organizations and the individuals within them. As March writes in a different article, "Change takes place because most of the time

most people in an organization do about what they are supposed to do; that is they are intelligently attentive to their environments and their jobs.”⁸⁵ To the extent that key reforms can be explained as stemming from this process, this routine conscientious behavior takes on added significance.

Institutionalization.

For reforms to have an impact, they must become embedded in an organization’s ways of doing business. In the case of innovation, for example, Rosen argues that new ways of warfare must have supporting organizational dimensions. Especially important are promotion pathways that allow specialists in the new way of warfare the possibility of a promising career. Rosen’s analysis points out the importance of using incentive structures to align individual and organizational goals when attempting to change large institutions.⁸⁶ It also valuably highlights the importance of the process of institutionalization to military change.

The Argument.

This section has touched on three issues that are central to understanding military reform. The first of these is a debate over whether civilian political leaders or military officers are the central figures in the process of military reform. Early and influential work argued that military change requires civilian intervention. However, other scholars have pointed out that the role of civilian policymakers in changing military institutions is constrained by expertise and by competing demands. The case examined here supports the latter school of thought. Political leaders may affect

pace and priority, but rarely determine the content of reforms in any degree of detail.

The second issue relates to the source of reform—what spurs military organizations to change? Possible motivators include changes in the international system, characteristics of the domestic environment, and internal diagnostics. Although various scholars have prioritized one or another of these factors, none of them necessarily dominates. As is evident in the history of the U.S. Army in the 1970s and early 1980s, the weight of these factors varies. Political leaders act in accordance with their interpretation of the demands of the international system, but also take into account domestic politics. Military leaders respond to all of the following: civilian decisions about military policy, changes in the potential threat, and developments within their own organizations. A general pattern is that civilian policy decisions provide the parameters within which militaries operate. The manner in which military leaders respond to these constraints, as well as to factors such as the threat, is usually a product of analyses that occur within military organizations.

A final component of the argument about reform relates to institutionalization. Rosen argues that innovations must be backed up by changes in personnel policies in order to be successful. The dynamics revealed by the case examined here build upon this insight. Reforms are most likely to be successful when changes in doctrine, personnel policies, training, professional education, and modernization are integrated and mutually supporting. For this to happen, there must be a single organizational entity with broad authority over the entire organization that is capable of creating, critically analyzing, and implementing a coherent program of reform. This process takes a long time—at least a decade and probably longer.

The remainder of this monograph examines the essential reforms which were implemented in the U.S. Army beginning in the 1970s. The sections below are focused on the key decisionmakers in a particular time period or within core issue areas. After an examination of the major developments of this important case, this monograph concludes by summarizing findings and addressing implications of this work.⁸⁷

THE U.S. ARMY IN THE 1970s AND 1980s

In the late 1960s, the U.S. Army faced a broad range of challenges which came from external sources as well as from within. In the executive branch, President Richard Nixon promulgated the “Nixon Doctrine” and a new national security strategy of “realistic deterrence” with important implications for the Army’s future. The Nixon Doctrine emphasized burden-sharing and reduced involvement in helping other states provide for their own security as the Nixon administration focused on reducing government spending and inflation.⁸⁸ Under realistic deterrence, the country had to be prepared to fight one and one-half wars at a time (a major war as well as a contingency operation elsewhere) rather than the previous two and one-half wars requirement.⁸⁹ As interpreted by Secretary of the Army Stanley Resor, the Nixon Doctrine and strategy of realistic deterrence meant that the Army would be smaller and receive fewer resources. The Army would need to strike a new balance between continued forward presence in places such as Europe and Korea and an increased emphasis on allies contributing more to their own defense.⁹⁰ Even more important in terms of its impact on the Army was President Nixon’s decision to move to an all-volunteer force. His

first statements of intent were in the 1968 campaign; by 1971 this significant change had been expressed in legislation by Congress. The Army's environment was also shaped by Congress' reassertion of its powers relative to the executive branch. Congressional resurgence meant that the Army would have to respond to two sets of political superiors who could not be presumed to agree.⁹¹ Finally, the domestic environment was characterized by sometimes violent social turbulence, to include urban riots, demonstrations spurred by unresolved issues of race discrimination and equal rights, and an active anti-war movement.

By the late 1960s, the Army also faced great internal challenges as the Vietnam War had placed great strain on the entire force. The political decision made early on to fight the war using only the active Army meant that the Army had to become much larger. Between early 1965 and mid 1968, the Army expanded from a size of 973,000 Soldiers and 16 2/3 divisions to 1,570,000 Soldiers and 19 2/3 divisions. By July 1968, the equivalent of nine divisions, approximately 355,000 Soldiers, had been sent to Vietnam and the commitment was still growing. Because of the need for leaders, commissioned and noncommissioned officer (NCO) promotions were accelerated and average experience levels decreased. The decision not to mobilize the reserves also interacted with the decisions to give Vietnam top priority in resources and to restrict hardship tours by creating skill mismatches and personnel turbulence that reached an annual turnover that "approximated 100 percent—80 percent in units stationed in Europe, but 120 percent in those in the United States."⁹² This turbulence degraded the ability of leaders to create cohesive units—both in Vietnam and throughout the rest of the Army. Finally,

the Army's equipment procurement was limited to what would be needed in a post-Vietnam Army. This had ripple effects throughout the force, as the forces in Vietnam received equipment from the rest of the Army and were the priority for new acquisitions. In combination, personnel challenges and equipment shortfalls severely degraded the Army's motivation and capabilities.

Westmoreland's Watch, 1968-72.

General William Westmoreland became the Chief of Staff of the Army on July 3, 1968. While the first year of his 4-year tour was devoted to operations in Vietnam, he spent his last 3 years in office focused on rebuilding the post-war Army. The challenges and constraints he faced included the following: sustaining operations in Vietnam while withdrawing forces and drawing down the Army; managing a declining budget; dealing with delayed equipment modernization; responding to allegations of war crimes by U.S. soldiers in Vietnam and other ethical scandals; counteracting an increase in social problems in the Army in the areas of dissent, racial friction, and substance abuse; and transitioning to an all-volunteer Army at a time when popular support for the Army was low.⁹³

A primary means through which Westmoreland responded to these challenges was to commission various studies to identify problems within the Army and recommend solutions.⁹⁴ The transition to an all-volunteer force was a special priority given that the Army was the service most dependent on the draft for its manpower. The supply of this crucial resource would be threatened by an end to draft calls in 1973 unless actions were quickly taken. In addition to commis-

sioning studies in this area, Westmoreland created the Office of the Special Assistant for the Modern Volunteer Army (SAMVA), appointed a three-star general to serve as the SAMVA, and gave this office authority to coordinate necessary steps across all of the Army's staff sections. This office also had the authority to experiment with programs designed to increase service attractiveness.

The focus of Westmoreland's reforms was what he termed "professionalism," which he said involved "training, education, and individual and organizational competence."⁹⁵ Changes designed to enhance professionalism were also intended to promote the success of the all-volunteer Army. Since Westmoreland was not particularly a fan of the all-volunteer concept, the focus on professionalism allowed him to get behind this civilian policy decision while at the same time making organizational changes that he felt were essential anyway. Some of his more important reforms included: decentralizing training and making improvements in training techniques; putting into place the Officer Personnel Management System (OPMS); centralizing enlisted assignments and promotions at the grade of E-5 (Sergeant) and above; making minor improvements to the Officer Education System (OES); and, most importantly, establishing the Noncommissioned Officer Education System (NCOES).

Spurs to change came from several sources. The pressure that civilian policymakers placed on the Army by deciding to move to an all-volunteer force was the most significant external impetus for change. However, the need for these reforms was also made evident by internal Army studies. Westmoreland's program of reform achieved coherence when he was able to bring together the reforms internal studies had

identified as necessary and the external imperative to attract and retain volunteers. With regard to the argument here, the important point is that the specific characteristics of various reforms were determined within the Army.

These changes were significant. Adjustments to officer and enlisted personnel management policies decreased turbulence in the Army and facilitated the development of expertise. Changes in training philosophy and management were early precursors to the rise of performance-oriented training methods later in the decade. Finally, the most momentous change was the establishment of the NCOES. It would be difficult to overstate the importance of this reform. As explained by General Bruce Palmer, Jr., then the Vice Chief of Staff of the Army,

The key to our success and to the quality of our post-Vietnam force is the small-unit leader: the junior officer and noncommissioned officer, the people who have the closest, most direct contact with the soldier, the people who get the job done. . . . The Army is people— young people— some 54 percent are under 23 years of age. . . . In the final analysis, “face-to-face,” day-to-day leadership of these young soldiers will determine the success of our efforts to revitalize the Army and build a leaner, more professional, quality force.⁹⁶

To be able to conduct quality individual and small unit training, and to motivate volunteer soldiers, NCOs would need to have adequate tactical, technical, and leadership abilities. The competence of small unit leaders was essential in enabling the Army to be successful as it increasingly emphasized demanding, quality training throughout the 1970s and beyond. The same basic NCOES is still in existence today.

The Abrams/Weyand Period, 1972-76.

After a delay in his confirmation during which General Bruce Palmer, Jr., served as Chief of Staff, General Creighton Abrams became Chief of Staff of the Army on October 12, 1972. The challenges and constraints that Abrams faced included: articulating a role for the Army under the Nixon Doctrine; completing troop withdrawals from Vietnam; managing declining budgets and personnel downsizing; ensuring the successful achievement of end strength under the all-volunteer force; managing delayed equipment modernization; and improving generally low military readiness across the force with particular problems in the forces forward deployed in Europe. Although Abrams' tenure as Chief of Staff was cut short by a fatal bout with cancer in 1974, his successor, General Fred C. Weyand, continued to further Abrams' key initiatives.⁹⁷

A number of important reforms had their origin in the Abrams period. First, Abrams supported Westmoreland's earlier sanctioning of a plan to restructure the existing Continental Army Command (CONARC) and Combat Developments Command (CDC) into the Training and Doctrine Command (TRADOC) and Forces Command (FORSCOM). The creation of TRADOC gave one command (and its four-star commander) unified responsibility for training, teaching, and developing the Army in terms of equipment, doctrine, and force structure. Second, Abrams increased the number of divisions within the Army from 13 to 16 without an increase in end strength. This had the effect of increasing the "tooth-to-tail" ratio in the Army, and increasing reliance on the total force concept by mov-

ing critical functions to the reserves. Third, Abrams focused Army modernization on the “Big Five” weapon systems. The “Big Five” were the M1 Abrams Tank, the Bradley Fighting Vehicle, the *Apache* Helicopter, the *Blackhawk* Helicopter, and the Patriot Air Defense Missile. In an era of very constrained resources, this is perhaps best understood as an effort to focus limited research and development dollars on key systems. When resources became available in the 1980s, these programs then provided the focus for expanded procurement.

General Abrams’s key decisions can generally be understood as an effort to achieve stability in the Army’s resources so that an effective Army could be rebuilt. The decision to reorganize the Army in the continental United States was primarily driven by assessments that CONARC was an unwieldy organization whose broad span of control prevented it from doing any task well. However, this reorganization also enabled Abrams to establish himself as a sound manager of resources and enhanced the Army’s credibility with civilian policymakers through a reorganization that saved money and reduced headquarters personnel. The decision to increase the force structure to 16 divisions was also at least partially motivated by the impact it would have on the relationship between the Army and its political masters. First, this force structure change increased the “tooth-to-tail” ratio in the Army, which indicated greater efficiency to some civilian leaders at the time. In addition, 16 divisions was a hedge against additional cuts in force strength. The Army had been in a free fall in terms of end strength, dropping from 1.57 million in 1968 to 783,000 in 1974. Abrams negotiated an arrangement with Secretary of Defense James Schlesinger that the

Army could keep any efficiencies achieved under a constant end strength of 785,000.⁹⁸ Schlesinger would then defend this figure before Congress. This finally gave the Army some stability around which it could effectively plan.⁹⁹ Finally, a focus on the “Big Five” was a wise approach to prioritizing research and development during a time of extremely constrained resources. Nevertheless, during this period modernization continued to suffer.

One overarching commonality between the Westmoreland and Abrams and Weyand periods is that these three leaders all felt an imperative need to “save” an Army that was in trouble. Westmoreland placed his emphasis on personnel matters and on improving the Army’s professionalism. The single greatest challenge Westmoreland tackled was the transition to an all-volunteer manpower policy. While challenges in this area remained, Abrams and Weyand focused on achieving stability for the Army and ensuring that it was organized to be able to handle future challenges. In combination, the efforts of these leaders were complementary in aiding the Army’s recovery from the trauma associated with its rapid expansion and contraction, social problems, and other difficulties during the Vietnam War. In sum, these leaders laid the groundwork for future progress.

Training and Doctrine Command, 1973-82.

The first two commanders of TRADOC were General William E. DePuy (1973-77) and General Donn A. Starry (1977-81). Constraints during this period included the priority on achieving a 16-division force in the early years and constrained training resources throughout the period. Nevertheless, the key story

here is one of resources rather than constraints. TRADOC commanders had both the institutional charter and resources to develop new training philosophies, create new military doctrine, and ensure that training, doctrine, leader development, material, and the development of organizational structures received a new level of integration.

As its first commander, General DePuy played a vital role in interpreting TRADOC's responsibilities and setting priorities. DePuy particularly emphasized the following: the analytical function of TRADOC; partnership with the U.S. Air Force; liaison efforts with the German Army; and the relationship between TRADOC and FORSCOM. Imbued with a sense of urgency, DePuy played a strong, personal role in TRADOC's early reforms. As a result, his longstanding emphasis on the tactical competence of the Army's leaders received great attention.¹⁰⁰

DePuy's successor, General Starry, had worked closely with DePuy before becoming TRADOC's second commanding general. The two generals agreed on a broad range of issues, to include the importance of TRADOC's analytical work as well as the organization's relationships with outside entities. Perhaps the greatest difference was in the realm of doctrinal development. Whereas DePuy personally wrote portions of the capstone manual produced during his tenure—and closely supervised the rest—Starry deliberately exercised a greater degree of delegation. Starry believed that a more inclusive process would produce doctrine with a higher level of acceptance by the Army as a whole.¹⁰¹

Key reforms in the DePuy and Starry periods included an emphasis on using military doctrine to drive change in Army force development and op-

erations and a strong focus on performance-oriented individual and unit training. As General Starry later reflected, "I believe doctrine should drive everything else."¹⁰² Especially important was the linkage between doctrine and unit training forged by the Army Training and Evaluation Program (ARTEP). The ARTEP created incentives for units to become competent at executing Army doctrine.¹⁰³ The renewed emphasis on meaningful and challenging unit training was also evident in the development of combat training centers in which units could test their skills in realistic settings against skilled opposing forces.¹⁰⁴ The role that the training centers would eventually come to play in improving the Army's warfighting ability was particularly evident in the wake of the war against Iraq in 1991. As articulated in the DoD report to Congress on the conduct of the war, "many of the soldiers had been to the armored warfare training at Fort Irwin, California, which has been described as tougher than anything the troops ran into in Iraq."¹⁰⁵

In addition to what were probably the two most important areas of reform, doctrine and training, TRADOC played an essential role in the U.S. Army's post-Vietnam recovery by fulfilling its potential as an integrator of key developments. As recounted in a TRADOC official history:

What was new in the idea of a training and doctrine command was focus. The TRADOC-FORSCOM arrangement solved the span-of-control problem, put combat developments back into the schools, and focused the development of the Army's tactical organizations, weapons and equipment, doctrine, and the training of soldiers in that doctrine, in one command.¹⁰⁶

The span-of-control problem was solved in the sense that TRADOC was relieved of the responsibility that CONARC had held for operational readiness of active army and reserve component units within the United States. In addition, important functions which needed a unified approach were put under one commander. Key to TRADOC's effectiveness was the progress that it made in coherently linking developments in doctrine, training, leader development, materiel, and organizations.

The need for these reforms stemmed from a combination of problems identified through internal studies, the personal experiences of key leaders, and the observation of foreign military developments—particularly the Arab-Israeli War of 1973. Military leaders primarily determined the specific shapes that these reforms took. The reforms built upon earlier changes which reorganized the Army within the United States and gave it stability in end strength. TRADOC also built upon and integrated earlier reforms in the areas of personnel management, professional training and education, and equipment modernization.

The U.S. Army's reforms in the 1970s and early 1980s were mutually reinforcing and cumulative in their impact. The reforms of the Westmoreland and Abrams periods were important to the U.S. Army's recovery after Vietnam. During Westmoreland's tenure, the Army focused on professionalism issues, sought to reduce turbulence in the force, and took steps towards making the all-volunteer Army a success that had long term pay-offs. Two measures that were particularly important were early efforts to improve training, and the establishment of the NCOES. Abrams and Weyand, in their turn, stabilized the Army, organized it for the future, and planned for its modernization.

TRADOC, under its first two commanding generals, then built upon these reforms by transforming the U.S. Army's preparation for future conflict.

CONCLUSION

The experience of the Army in the 1970s and 1980s bears out several aspects of the argument made here about military reform. Though the particular factors which serve as a spur to military reform vary, the pattern that civilian decisionmakers provide the parameters within which military leaders craft their detailed reform programs holds. The second issue is the importance of a comprehensive, integrated, and critically analyzed program of reform. Crucial to the Army's successful change during this period was the existence of TRADOC as a single organizational entity capable of crafting a comprehensive program of reform and possessed of the authority to implement it. A final issue is that of time. The rebuilding of the Army after the Vietnam War and its transformation into an effective instrument of high intensity conflict took several decades to complete.

Before concluding, it is worth addressing two important criticisms that have been levied against the transformation of the U.S. Army in the 1970s and 1980s. The first is that the Army's leadership was professionally delinquent in failing to retain what it had learned about counterinsurgency warfare in Vietnam and in building a force that was overly optimized toward one threat scenario—major conventional warfare in Europe.¹⁰⁷ Though this charge has merit, the decision of the senior leaders of the Army at the time to focus on high intensity conflict is understandable. As General Starry later explained:

So, in the context of 1970-1973 – times of social, political and economic upheaval in our society – what did we see for our country and our Army as we tried to look ahead? We saw the possibility of two wars: mechanized war – such as we might have to fight in NATO [North Atlantic Treaty Organization] Europe – perhaps even in the Middle East; the other war – a Korea, a Vietnam, a Lebanon crisis, a Dominican Republic. Each war obviously would require different kinds of forces – mechanized on the one hand, light infantry on the other. . . . With the Nixon doctrine beginning to reaffirm our national interest in Western Europe, our military focus narrowed to NATO. . . . So, we decided to begin with developing operational concepts to cope with our most difficult problem, the mechanized war.¹⁰⁸

The decision to follow the guidance established by the country's political leaders to focus on Europe – a decision which also met many of the Army's institutional needs – was not unquestionably correct but it was certainly defensible given the context of the times. What may be more appropriately subject to criticism is the relatively slow adaptation of the U.S. Army in later periods – particularly after the end of the Cold War – given new strategic and operational realities in the 1990s.

A second major possible criticism is that the transformation of the 1970s and 1980s helped to produce an Army more capable of tactical and operational excellence, but also one that was deficient in strategic thinking; in other words, deficient in the intellectually challenging process of critically linking military means to policy ends.¹⁰⁹ Again, this critique has merit. As the first Commanding General of TRADOC, General William DePuy was focused on creating an Army able to

survive the first battle of the next war so that ultimate victory would be possible. A World War II veteran of a division that had suffered horrendous casualties, he was also determined to correct what he viewed as a longstanding deficiency in the technical and tactical competence of officers to fulfill their immediate responsibilities.¹¹⁰ That this focus on the immediate utility of professional training, and an emphasis on training versus education, was ameliorated somewhat after DePuy's tenure is best exemplified in the creation of the School for Advanced Military Studies (SAMS) at Fort Leavenworth in 1982. As the Army's capstone doctrine in the 1980s came to focus more on the operational level of war, SAMS was established explicitly to prepare officers to serve at this level.

While it is true that the Army emphasized tactical and operational excellence during this period, criticism of this focus has often been poorly directed. The reforms in training, education, and personnel policies were arguably necessary in an Army seeking to restore its professionalism and preparing to defend against a very real and capable conventional opponent in Europe. A better criticism may be that the Army did not adequately continue to build on its progress and come up with robust, explicit educational programs designed to foster a comparable level of talent for strategic thinking and an appreciation for the need to link military means to policy ends. In retrospect, it is hard to look back on the progress that was made in technical and tactical expertise and proficiency and argue that these gains were not beneficial. It may be better to acknowledge that they were simply not sufficient.

As of this writing, the U.S. Army is again in a period of uncertainty about its future. As its strategic

leaders strive to shape the future force, this study suggests several questions that may usefully guide the approach. What are the key constraints or parameters that civilian policymakers have established for uniformed military leaders? Do the political and uniformed leaders have a constructive relationship which facilitates the implementation of a coherent program of change? Is there an integrated approach that reaches into all key areas of force development and guides them in ways that are integrated and mutually reinforcing? Is there an organizational entity empowered and capable of being the focal point for establishing coherence in developments ranging from equipment modernization and doctrine to training and education? Knowing the answers to these questions would enable informed judgment about the prospects for success. The consequences, for good or for ill, could be quite significant in terms of resources, lives, and the national interest.

ENDNOTES

1. Haynes Johnson and George C. Wilson, *Army in Anguish*, New York: Pocket Books, 1972 (this book is a reprint of a *Washington Post* series published in September and October 1971); William L. Hauser, *America's Army in Crisis*, Baltimore, MD: The Johns Hopkins University Press, 1973; Richard A. Gabriel and Paul L. Savage, *Crisis in Command: Mismanagement in the Army*, New York: Hill and Wang, 1978; Stuart H. Loory, *Defeated*, New York: Random House, 1973; Edward L. King, *The Death of an Army: A Pre-Mortem*, New York: Saturday Review Press, 1972.

2. James F. Dunnigan and Raymond M. Macedonia, *Getting it Right: American Military Reforms After Vietnam to the Gulf War and Beyond*, New York: William, Morrow and Company, 1993; James Kitfield, *Prodigal Soldiers*, Washington, DC: Brassey's, 1995.

3. Dunnigan and Macedonia, *Getting it Right*, p. 24.

4. Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, trans. and eds., Princeton, NJ: Princeton University Press, 1976, p. 87.

5. *Ibid.*, p. 87.

6. *Ibid.*, pp. 515, 518, 591, 609. Clausewitz makes the further point that this change had its greatest impact when leveraged by Napoleon's organizational innovations.

7. Peter Paret, "Clausewitz," Peter Paret, ed., *Makers of Modern Strategy*, Princeton, NJ: Princeton University Press, 1986, pp. 208-209.

8. This sentence is a paraphrase of Huntington's argument that the core expertise of military officers is the "management of violence" — a phrase he attributes to Harold Lasswell. See Samuel P. Huntington, *The Soldier and the State*, Cambridge, MA: The Belknap Press of Harvard University Press, 1957, p. 11.

9. Graham Allison and Phillip Zelikow, *Essence of Decision*, 2nd Ed., New York: Addison-Wesley Educational Publishers, 1999, p. 175. "Organizational Process Model" is actually the term used in the first edition of Allison's book; in the second edition, Model II is called "Organizational Behavior."

10. *Ibid.*, p. 169.

11. Elizabeth Kier, *Imagining War: French and British Doctrine Between the Wars*, Princeton, NJ: Princeton University Press, 1997, p. 29.

12. Kier defines organizational culture as "the set of basic assumptions, values, norms, beliefs, and formal knowledge that shape collective understandings." *Ibid.*, p. 28.

13. Morton H. Halperin, *Bureaucratic Politics and Foreign Policy*, Washington, DC: The Brookings Institution, 1978, p. 28.

14. Andrew F. Krepinevich, Jr., *The Army and Vietnam*, Baltimore, MD: Johns Hopkins University Press, 1986, pp. 4-7.

15. Williamson Murray, "Innovation: Past and Future," in *Military Innovation in the Interwar Period*, Williamson Murray and Allan Millett, eds., Cambridge, UK: Cambridge University Press, 1996, pp. 312-318.

16. Barry R. Posen, *The Sources of Military Doctrine*, Ithaca, NY: Cornell University Press, 1984, p. 54.

17. Allison and Zelikow, *Essence of Decision*, p. 168.

18. Carl Builder, *The Masks of War: American Military Styles in Strategy and Analysis*, Baltimore, MD: The Johns Hopkins University Press, 1989, p. 6.

19. Allison and Zelikow, *Essence of Decision*, p. 145.

20. *Ibid.*, pp. 170-171.

21. Posen, *The Sources of Military Doctrine*, p. 55.

22. Jonathan Bendor and Thomas H. Hammond, "Rethinking Allison's Models," *The American Political Science Review*, Vol. 86, No. 2, June 1992, pp. 312-313.

23. James Q. Wilson, *Bureaucracy: What Government Agencies Do and Why They Do It*, New York: Basic Books, Inc., 1989, p. 115.

24. *Ibid.*, p. 181.

25. Richard A. Stubbins with Richard A. Mendel, *The Defense Game: An Insider Explores the Astonishing Realities of America's Defense Establishment*, New York: Harper & Row Publishers, 1986, p. xii.

26. *Ibid.*, p. 262.

27. Stephen Peter Rosen discusses the importance of the fact that militaries spend most of their time practicing essential tasks that they will only perform in time of war, and the potential importance of simulation, in *Winning the Next War*, Ithaca, NY: Cornell University Press, 1991, pp. 8, 69-71. Williamson Murray usefully summarizes the sources of uncertainty militaries face in time

of peace when preparing for a war, "1) that will occur at some indeterminate point in the future, 2) against an opponent who may not yet be identified, 3) in political conditions which one cannot accurately predict, and 4) in an arena of brutality and violence which one cannot replicate." See Murray, "Innovation: Past and Future," p. 301.

28. Kurt Lang, "Military Organizations," in *Handbook of Organizations*, ed. James G. March, Chicago, IL: Rand McNally & Company, 1965, p. 838.

29. Rosen, *Winning the Next War*, p. 7.

30. *Ibid.*, pp. 7, 20-21. Rosen's formulation is similar to James Q. Wilson's definition of innovation in that they both relate to core tasks. Wilson defines innovation as a program or technology that involves "the performance of new tasks or a significant alteration in the way in which existing tasks are performed." See Wilson, *Bureaucracy*, p. 222.

31. Murray, "Innovation: Past and Future," p. 309.

32. Wilson, *Bureaucracy*, p. 222.

33. Williamson Murray and Allan R. Millett, eds., *Military Innovation in the Interwar Period*, Cambridge, UK: Cambridge University Press, 1996, p. 5.

34. *Ibid.*, p. 3.

35. The innovations which are examined in the Millett and Murray volume include: armored warfare, amphibious warfare, strategic bombing, tactical bombing, submarine warfare, carrier aviation, and radar. See *Ibid.*

36. Rosen, *Winning the Next War*, p. 6.

37. Kimberly Marten Zisk, *Engaging the Enemy: Organization Theory and Soviet Military Innovation, 1955-1991*, Princeton, NJ: Princeton University Press, 1993.

38. See Douglas Porch, "Military 'Culture' and the Fall of France in 1940," *International Security*, Vol. 24, No. 4, Spring 2000, pp. 157-180. Porch criticizes Kier's notion that the British and French armies failed to adopt offensive doctrines because of culturally-conditioned conceptual limitations. Instead, he suggests that the allied forces had a vision he calls "methodical battle" which was ultimately successful after 1940. The problem of allied armies before 1940 was not a lack of vision, but rather the fact that they could not execute their vision (doctrine) well (see p. 165). Porch also argues that Kier's work confuses strategy and doctrine. "Strategy and policy determine a military organization's offensive or defensive posture, not its doctrine." He points out that "doctrine per se is neither offensive nor defensive. . . . Germany developed its mobile warfare doctrine in the 1920s in the context of the small professional force imposed on Berlin by Versailles and of a defensive strategy" (p. 168).

39. *Joint Publication (JP) 1-02, Department of Defense Dictionary of Military Terms*, as of December 19, 2001, available from www.dtic.mil/doctrine/jel/doddict/index.html.

40. See Kevin Patrick Sheehan, "Preparing for an Imaginary War? Examining Peacetime Functions and Changes of Army Doctrine," Ph.D. diss., Harvard University, 1988, especially Chaps 3, 4, and 5.

41. *Ibid.*, p. 3.

42. *Ibid.*, pp. 2-3.

43. Allan R. Millett argues that cooperation between civilian political leaders and military officers, as well as collaboration between the military and scientists, were important to innovation in the interwar period. See "Patterns of Military Innovation," in Williamson Murray and Allan Millett, eds., *Military Innovation in the Interwar Period*, especially pp. 359-367.

44. The strongest statement of this view is Barry Posen's in *The Sources of Military Doctrine*.

45. Deborah D. Avant, *Political Institutions and Military Change*, Ithaca, NY: Cornell University Press, 1994, especially pp. 9-18.

46. Peter D. Feaver, "Crisis as Shirking: An Agency Theory Explanation of the Souring of American Civil-Military Relations," *Armed Forces and Society*, Vol. 24, No. 3, Spring 1998, p. 421. For the discussion of a 1990s crisis in U.S. civil-military relations, see Richard H. Kohn, "Out of Control: The Crisis in Civil-Military Relations," *The National Interest*, Vol. 35, Spring 1994, pp. 3-17. See also Russell F. Weigley, "The American Military and the Principle of Civilian Control from McClellan to Powell," *The Journal of Military History*, Vol. 57, No. 5, October 1993, pp. 27-58; and A. J. Bacevich, "Tradition Abandoned: America's Military in a New Era," *The National Interest*, Vol. 48, Summer 1997, pp. 16-25. Avant examines this situation in "Are the Reluctant Warriors Out of Control? U.S. Military Reluctance to Respond to Post-Cold War Low-Level Threats," *Security Studies*, Vol. 6, No. 2, Winter 1996/97, pp. 51-90.

47. Peter D. Feaver, "Civil-Military Relations," *Annual Review of Political Science*, Vol. 2, 1999, p. 221.

48. Peter D. Feaver, *Armed Servants: Agency, Oversight and Civil-Military Relations*, Cambridge, MA: Harvard University Press, 2003.

49. See Rosen, *Winning the Next War*, pp. 100-105, for a discussion of this case.

50. William A. Owens, "The Emerging U.S. System of Systems," *Strategic Forum*, Vol. 63, February 1996, pp. 1-2. At the time he wrote this article, Admiral Owens was the Vice Chairman of the Joint Chiefs of Staff. For a discussion as to how information is changing the nature of power, see Joseph S. Nye, Jr., and William A. Owens, "America's Information Edge," *Foreign Affairs*, Vol. 75, No. 2, March/April 1996, pp. 20-36. For a perspective more purely focused on military affairs, see Eliot A. Cohen, "A Revolution in Warfare," *Foreign Affairs*, Vol. 75, No. 2, March/April 1996, pp. 37-54.

51. A. J. Bacevich, "Preserving the Well-Bred Horse," *The National Interest*, Fall 1994, p. 49.

52. Michael O'Hanlon, *Technological Change and the Future of Warfare*, Washington, DC: The Brookings Institution, 2000, pp. 2, 68-105.

53. *Ibid.*, p. 24.

54. For an example, see James R. Fitzsimonds and Jan M. Van Tol, "Revolutions in Military Affairs," *Joint Force Quarterly*, Spring 1994, pp. 25-26.

55. Alan Beyerchen, "From Radio to Radar," Williamson Murray and Allan Millett, eds., *Military Innovation in the Interwar Period*, p. 287. The sketch of this case is drawn from this chapter, pp. 265-299.

56. Bernard Brodie, "Technological Change, Strategic Doctrine, and Political Outcomes," Klaus Knorr, ed., *Historical Dimensions of National Security Problems*, Lawrence, KS: University Press of Kansas, 1976, p. 263.

57. Paul H. Herbert, *Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations*, Leavenworth Papers Number 16, Fort Leavenworth, KS: Combat Studies Institute, July 1988, p. 31.

58. See William J. Perry, "Desert Storm and Deterrence," *Foreign Affairs*, Vol. 70, No. 4, Fall 1991, pp. 66-82.

59. There are some exceptions to this. For example, it might be said that nuclear weapons introduced a profound change to the nature of warfare just by coming into existence. Integration of technologies such as this one would be less significant.

60. Posen sees "very little internally generated innovation in the three cases [he] examined." Posen, *The Sources of Military Doctrine*, p. 224.

61. *Ibid.*, pp. 57, 174-175.

62. Rosen, *Winning the Next War*, p. 12.

63. Kier, *Imagining War*, pp. 12, 27.

64. Avant, *Political Institutions and Military Change*, pp. 14-15. Kimberly Zisk's argument provides a contrast in that she suggests that civilian political leaders can play a key role by crafting coalitions.

tions that include both civilians and reform-minded military officers capable of instituting reforms. Her approach has the value of recognizing the limitations of civilian leaders—in terms of time, energy, and possibly expertise—in directly instituting change, and avoids the problematic assumption that senior military officers have monolithic preferences. See Zisk, *Engaging the Enemy*, pp. 4-5.

65. Kenneth N. Waltz, *Man, the State, and War*, New York: Columbia University Press, 1959, especially pp. 1-15.

66. Posen, *The Sources of Military Doctrine*, especially pp. 74-77.

67. For discussions of the role of civilians in military affairs, see Rosen, *Winning the Next War*, pp. 9-19; and Elizabeth Kier, *Imagining War*, pp. 21-25.

68. For historical precedent for the idea that strategic assessments can spur military change, see Millett's discussion of "The Importance of Strategic Calculations," in *Military Innovation in the Interwar Period*, pp. 336-342. Strategic calculations, in which civilians participate if not direct, may turn out to be faulty, yet nevertheless drive military organizations towards emphasizing particular capabilities over others.

69. Rosen, *Winning the Next War*, p. 57.

70. Zisk, *Engaging the Enemy*, pp. 2-3, 11-14.

71. Posen, *Sources of Military Doctrine*, p. 56.

72. Kier, *Imagining War*, pp. 21-24.

73. Avant, *Political Institutions and Military Change*, pp. 7-8.

74. James G. March and Herbert A. Simon, *Organizations*, New York: John Wiley & Sons, Inc., 1958, p. 183. According to the authors, "Initiation and innovation are present when change requires the devising and evaluation of new performance programs that have not previously been a part of the organization's repertory and cannot be introduced by a simple application of programmed switching rules." See pp. 174-175. Many of the reforms

discussed in this work meet Simon and March's definition as constituting instances of initiation or innovation.

75. W. Richard Scott, *Organizations: Rational, Natural, and Open Systems*, Englewood Cliffs, NJ: Prentice-Hall, Inc., 1981, p. 116.

76. Two exceptions Allison and Zelikow present to their general prediction of continuity in organizations are that organizations may innovate in times of either budgetary feast or extended budgetary famine. These predictions are different from that made here. Allison and Zelikow suggest that government leaders may use budgetary feast to get an organization to adopt a new core task, and that long-term budgetary famine may force organizations to cut back on certain programs. The resource dependence model ascribes a more active role to organizational leaders in instituting change than either of these ideas. See Allison and Zelikow, *Essence of Decision*, pp. 171-172.

77. See Jeffrey Pfeffer and Gerald R. Salancik, *The External Control of Organizations: A Resource Dependence Perspective*, New York: Harper & Row Publishers, 1978, especially pp. 43-60.

78. James D. Thompson, *Organizations in Action*, New York: McGraw-Hill Book Company, 1967, especially pp. 10-12. Thompson also discusses a third institutional level at which leaders are responsible for articulating the function and legitimacy of the organization within the broader society, and at which there is the greatest amount of uncertainty. It seems useful to think of military leaders as operating at the managerial level in this arrangement. According to Thompson, "if the organization must approach certainty at the technical level to satisfy its rationality criteria, but must remain flexible and adaptive to satisfy environmental requirements, we might expect the managerial level to mediate between them, ironing out some irregularities stemming from external sources, but also pressing the technical core for modifications as conditions alter." See also Scott, *Organizations: Rational, Natural, and Open Systems*, pp. 125-126.

79. Two scholars who attribute this preference to military organizations are Posen and Jack Snyder. See Posen, *The Sources of Military Doctrine*, pp. 47-49, 58; and Jack Snyder, *The Ideology of the Offensive*, Ithaca, NY: Cornell University Press, 1984, pp. 26-30.

Snyder's account differs from Posen's in that he argues that in some cases (though not those he examines) military biases may favor defensive doctrines.

80. Kier critiques the idea that offensive doctrines necessarily meet organizational needs in *Imaging War*, pp. 14-20. My analysis agrees with Kier on this point.

81. In addition to budgetary feast and extended budgetary famine, dramatic performance failure constitutes the third condition under which Allison and Zelikow see organizational change as being more likely. See *Essence of Decision*, pp. 171-172. For Posen's hypothesis on this point, see *The Sources of Military Doctrine*, p. 59.

82. Rosen, *Winning the Next War*, pp. 8-9.

83. This idea has been explicitly applied to the case of the U.S. Army in the 1970s. See Allison and Zelikow, *Essence of Decision*, p. 172.

84. March and Simon, *Organizations*, p. 183.

85. James G. March, "Footnotes to Organizational Change," *Administrative Science Quarterly*, Vol. 26, 1981, p. 564.

86. As one of many possible examples from the organization theory literature, Thompson discusses the importance of establishing the right incentives if organizations value discretionary behavior on the part of their members. Thompson, *Organizations in Action*, pp. 130-131.

87. Due to space constraints, only a sketch of the full study can be presented here. For the complete study as well as cases from different armies and different time periods, see Suzanne C. Nielsen, "Preparing the Army for War: The Dynamics of Peacetime Military Reform," Ph.D. diss., Harvard University, 2003.

88. For an early articulation of the Nixon Doctrine, see Richard M. Nixon, "Informal Remarks in Guam with Newsmen, July 25, 1969," *Public Papers, 1969*, pp. 553-554.

89. Henry Kissinger, *White House Years*, Boston: Little, Brown and Company, 1979, pp. 220-221.

90. See Stanley R. Resor, "Department of the Army Budget Estimates, FY 1972," Statement before the Department of Defense Subcommittee, Committee on Appropriations of the United States Senate, 92nd Cong., First Sess., Washington DC, Department of the Army, March 22, 1971, pp. I-1 to I-8.

91. A good source on changes in this period is James L. Sundquist, *The Decline and Resurgence of Congress*, Washington, DC: The Brookings Institution, 1981.

92. William C. Westmoreland, *Report of the Chief of Staff of the United States Army*, Washington, DC: U.S. Department of the Army, 1977, pp. 3, 5.

93. *Ibid.*, p. 3.

94. Four of the most important studies done in this period were the following: the career force study done to examine the impact of the all-volunteer force, discussed by Robert K. Griffith, *The U.S. Army's Transition to the All-Volunteer Force, 1968-1974*, Washington, DC: Center of Military History, 1997, p. 19; the professionalism study, U.S. Army War College, *Study on Military Professionalism*, Carlisle Barracks, PA: U.S. Army War College, June 30, 1970; the leadership study, U.S. Army War College, *Study on Leadership for the 1970's*, Carlisle Barracks, PA: U.S. Army War College, July 8, 1971; and the officer education study, Major General Frank W. Norris, *Review of Army Officer Educational System*, Vol. I, Washington, DC: Department of the Army, December 1, 1971. Though Westmoreland limited the circulation of several of these studies out of concern for the Army's image, they each were important in shaping the Army's reforms.

95. Westmoreland, *Report of the Chief of Staff*, p. 105.

96. Bruce Palmer, Jr., "The Vital Role of the Small Unit Leader," *Army*, Vol. 21, No. 10, October 1971, p. 23.

97. See, for example, "Gen. Weyand Carries On," *Army*, Vol. 24, No. 11, November 1974, p. 6.

98. James R. Schlesinger, *Annual Defense Department Report, FY 1976 and FY 1977*, Washington, DC: U.S. Government Printing Office, 1975, pp. III-41.

99. After shrinking by more than half between FY 1968 and FY 1974, from 1,570,000 to 783,000, the Army's size in terms of active duty personnel was fairly stable from 1974 to 1987. With a low of 758,000 in 1979, and a peak of 785,000 in 1975, the Army's end strength over these 13 years averaged approximately 778,000. Roger R. Trask and Alfred Goldberg, *The Department of Defense: 1947-1997*, Washington, DC: Historical Office, Office of the Secretary of Defense, 1997, pp. 171-172.

100. For a discussion of this concern, see William E. DePuy, oral history interview with Colonels Romie L. Brownlee and William J. Mullen III, 1979, conducted under the auspices of the U.S. Army Military History Institute and published by the U.S. Army Center for Military History as *Changing an Army*, Washington, DC: U.S. Government Printing Office, 1988, pp. 201-202.

101. Richard M. Swain, "Airland Battle," George F. Hofmann and Donn A. Starry, eds., *Camp Colt to Desert Storm: The History of U.S. Armored Forces*, Lexington, KY: The University Press of Kentucky, 1999, p. 382.

102. Donn A. Starry, oral history interview with John L. Romjue, March 19, 1993, Special Collections, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, p. 20.

103. Donn Starry as quoted by Paul H. Herbert, *Deciding What Has to Be Done: General William E. Depuy and the 1976 Edition of FM 100-5, Operations*, Leavenworth Papers, No. 16, Fort Leavenworth, KS: Combat Studies Institute, U.S. Army Command and General Staff College, July 1988, p. 114, fn. 4.

104. For a good official history of this development, see Anne W. Chapman, *The Origins and Development of the National Training Center 1976-1984*, Fort Monroe, VA: Historical Office, U.S. Army Training and Doctrine Command, 1997.

105. U.S. Department of Defense, *Final Report to Congress: Conduct of the Persian Gulf War*, Washington, DC: Government Print-

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106. John L. Romjue, Susan Canedy, and Anne W. Chapman, *Prepare the Army for War: A Historical Overview of the Training and Doctrine Command, 1973-1993*, Fort Monroe, VA: Office of the Command Historian, U.S. Army Training and Doctrine Command, 1993, p. 9.

107. This is one of the implications, for example, of Andrew F. Krepinevich's work, *The Army and Vietnam*. Baltimore, MD: Johns Hopkins University Press, 1986.

108. Donn A. Starry, "A Tactical Evolution—FM 100-5," *Military Review*, Vol. 58, No. 8, August 1978, p. 4.

109. For one statement of this critique, see Richard H. Kohn, "Tarnished Brass," *World Affairs*, Spring 2009, available from www.worldaffairsjournal.org/2009%20-%20Spring/full-Kohn.html.

110. William E. DePuy, oral history interview with Colonels Romie L. Brownlee and William J. Mullen III, 1979, conducted under the auspices of the U.S. Army Military History Institute and published by the U.S. Army Center for Military History as *Changing an Army*, Washington, DC: U.S. Government Printing Office, 1988, p. 202.

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